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

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

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

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

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

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

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

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

Air Monitoring Results

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

Air Sampling Results

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

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

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

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

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

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

Meteorological Summary

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

Quality Control Summary

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

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

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM_{10} Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a

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

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

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

Attachments

Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
June 6 through June 12, 2024
[Report Updated: August 1, 2024]

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

Notes:
$\mu g/m^3$ = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures

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

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

Notes:

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

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

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

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

Asbestos sample not analyzed by lab due to damage to filter

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

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

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

Appendix 1

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

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

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

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

Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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EMSL Order:	042411795
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Customer PO:	1207085
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Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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Customer PO:	1207085
Project ID:	N/A

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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Report Date:	06/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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Customer PO:	1207085
Project ID:	N/A

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Unable to analyze sample. Filter was received damaged.

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

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

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

Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

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

Project: **Maui Fires - Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411795

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

RECEIVED
24 JUN 12 AM10:09
EMSL
CINNAMINSON, NJ

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

Customer Information

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

Billing Information

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

Project Information

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

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

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

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

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

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

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

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

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

(21) 8

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411795

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

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

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

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

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

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EMSL
CINNAMINSON, NJ
24 JUN 12 AM 10:09

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

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

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

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

Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:

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

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

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

Report No: 42411795

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

Discrepancies:

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

Notes: None

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

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

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

Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

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

Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

Attn: **Chelsea Saber**
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Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

Attn: **Chelsea Saber**
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Received Date:	06/17/2024 10:00 AM
Analysis Date:	06/25/2024
Report Date:	06/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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Customer PO:	1207085
Project ID:	N/A

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

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

Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

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

Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

EMSL Analytical, Inc.
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http://www.EMSL.com / cinnasblab@EMSL.com

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

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

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

Project: **Maui Fires Lahaina**

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

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

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

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

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

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

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

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

OrderID: 042412163

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

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only: 042412163

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

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

Customer Information

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

Billing Information

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

Project Information

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

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

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

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

All samples received acceptable for analysis.

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

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

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

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

Page 1 of 2

150

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042412163

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

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

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

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

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

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

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

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

Discrepancies: None.

Notes: None.

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

June 25, 2024

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

Dear Ms. Chelsea Saber,

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

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

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

ANALYTICAL REPORT FOR SAMPLES

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

CERTIFICATE OF ANALYSIS

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

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

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508525 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508526 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508526 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508527 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508527 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508528 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508528 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508531 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508531 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508529 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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Tetra Tech, Inc.
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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

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

Comments: Q8508529 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508533 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508534 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508535 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508535 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508536 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508536 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508538 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508538 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508540 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508540 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508542 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508542 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508546 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508546 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508549 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508549 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508543 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508543 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508545 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508545 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508880 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508881 - Lot Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
SITE CODE: Lahaina fires

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

Comments: Q8508881 - Lot Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508879 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508879 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508877 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508877 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

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

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

Inorganics by Compendium Method IO-3.5

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

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

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

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

Comments: Q8508875 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

CERTIFICATE OF ANALYSIS

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

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

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

Comments: Q8508875 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508870 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508870 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508874 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508874 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508872 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508872 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508868 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508868 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508867 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508867 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508866 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508866 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508864 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508864 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508863 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508863 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

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

Comments: Q8508862 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508862 - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508857 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

Comments: Q8508857 - Field Blank - Received in good condition

Inorganics by Compendium Method IO-3.5

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

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

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

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

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

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

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

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

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AQS SITE CODE:
SITE CODE: Lahaina fires

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

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
SUBMITTED: 06/17/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406066 - B4F1808										
Initial Cal Blank (2406066-ICB1) Continu				Prepared & Analyzed: 06/18/24						
Selenium	6.36		ng/l							
Thallium	0.975		ng/l							
Vanadium	93.1		ng/l							
Zinc	-23.9		ng/l							U
Initial Cal Check (2406066-ICV1)				Prepared & Analyzed: 06/18/24						
Antimony	20000		ng/l	20000		99.9	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	48700		ng/l	50000		97.4	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Interference Check A (2406066-IFA1)				Prepared & Analyzed: 06/18/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	312000		ng/l	300000		104	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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

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

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

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

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

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SITE CODE: Lahaina fires

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

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/25/24 15:08
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1808 - ICP-MS Extraction										
Duplicate (B4F1808-DUP4) Continued		**Source: 4061725-32**		Prepared: 06/18/24 Analyzed: 06/19/24						
Molybdenum	1.58	0.346	ng/m³ Air		1.55			1.89	10	
Nickel	3.48	0.628	ng/m³ Air		3.48			0.221	10	
Selenium	0.302	0.00863	ng/m³ Air		0.297			1.66	10	
Thallium	0.00268	5.68E-4	ng/m³ Air		0.00269			0.255	10	QB-04
Vanadium	3.55	0.0510	ng/m³ Air		3.56			0.258	10	
Zinc	ND	74.0	ng/m³ Air		ND				10	GC-BS, QB-01 U
Duplicate (B4F1808-DUP5)		**Source: 4061725-11R**		Prepared: 06/18/24 Analyzed: 06/20/24						
Barium	3.76	0.892	ng/m³ Air		3.64			3.11	10	
Beryllium	0.0106	0.00267	ng/m³ Air		0.0109			2.57	10	
Chromium	2.20	1.84	ng/m³ Air		2.14			2.79	10	
Molybdenum	2.83	0.299	ng/m³ Air		2.77			2.26	10	
Zinc	ND	64.0	ng/m³ Air		ND				10	U
Duplicate (B4F1808-DUP6)		**Source: 4061725-32R**		Prepared: 06/18/24 Analyzed: 06/20/24						
Barium	8.36	1.03	ng/m³ Air		8.48			1.39	10	
Beryllium	0.0382	0.00308	ng/m³ Air		0.0379			0.689	10	
Chromium	6.46	2.13	ng/m³ Air		6.52			0.936	10	
Molybdenum	1.55	0.346	ng/m³ Air		1.57			1.49	10	
Zinc	ND	74.0	ng/m³ Air		ND				10	U
Matrix Spike (B4F1808-MS1)		**Source: 4061725-22**		Prepared & Analyzed: 06/18/24						
Antimony	0.700	0.0318	ng/m³ Air	1.1410	0.0823	54.1	80-120			SL
Arsenic	2.57	0.00773	ng/m³ Air	2.2820	0.416	94.6	80-120			
Barium	26.6	0.883	ng/m³ Air	22.820	4.48	97.1	80-120			
Beryllium	1.23	0.00264	ng/m³ Air	1.1410	0.0411	104	80-120			
Cadmium	1.11	0.0611	ng/m³ Air	1.1410	ND	96.9	80-120			
Chromium	14.0	1.82	ng/m³ Air	11.410	2.91	97.6	80-120			
Cobalt	1.64	0.0360	ng/m³ Air	1.1410	0.550	95.7	80-120			
Copper	66.4	2.17	ng/m³ Air	22.820	43.7	99.8	80-120			
Lead	12.2	0.177	ng/m³ Air	11.410	0.566	102	80-120			
Manganese	20.9	1.56	ng/m³ Air	6.8461	14.6	93.0	80-120			
Molybdenum	4.34	0.296	ng/m³ Air	1.1410	3.20	100	80-120			
Nickel	3.69	0.538	ng/m³ Air	2.2820	1.51	95.7	80-120			
Selenium	2.45	0.00739	ng/m³ Air	2.2820	0.273	95.4	80-120			
Thallium	0.114	4.86E-4	ng/m³ Air	0.11410	0.00515	95.3	80-120			
Vanadium	3.79	0.0436	ng/m³ Air	2.2820	1.65	93.7	80-120			
Zinc	89.5	63.4	ng/m³ Air	68.461	ND	131	80-120			GC-BS, QB-01
Matrix Spike (B4F1808-MS2)		**Source: 4061725-01**		Prepared & Analyzed: 06/18/24						
Antimony	0.899	0.0333	ng/m³ Air	1.1918	0.189	59.5	80-120			SL

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

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

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

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

CERTIFICATE OF ANALYSIS

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

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

Notes and Definitions

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

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

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

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

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

Discrepancies:

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

Notes: None.