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

June 20 through June 26, 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 20 through June 26, 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 micrometers (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 20 through June 26 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 µm per cubic meter (µm/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 µm/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. 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**.

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 in a generally 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.

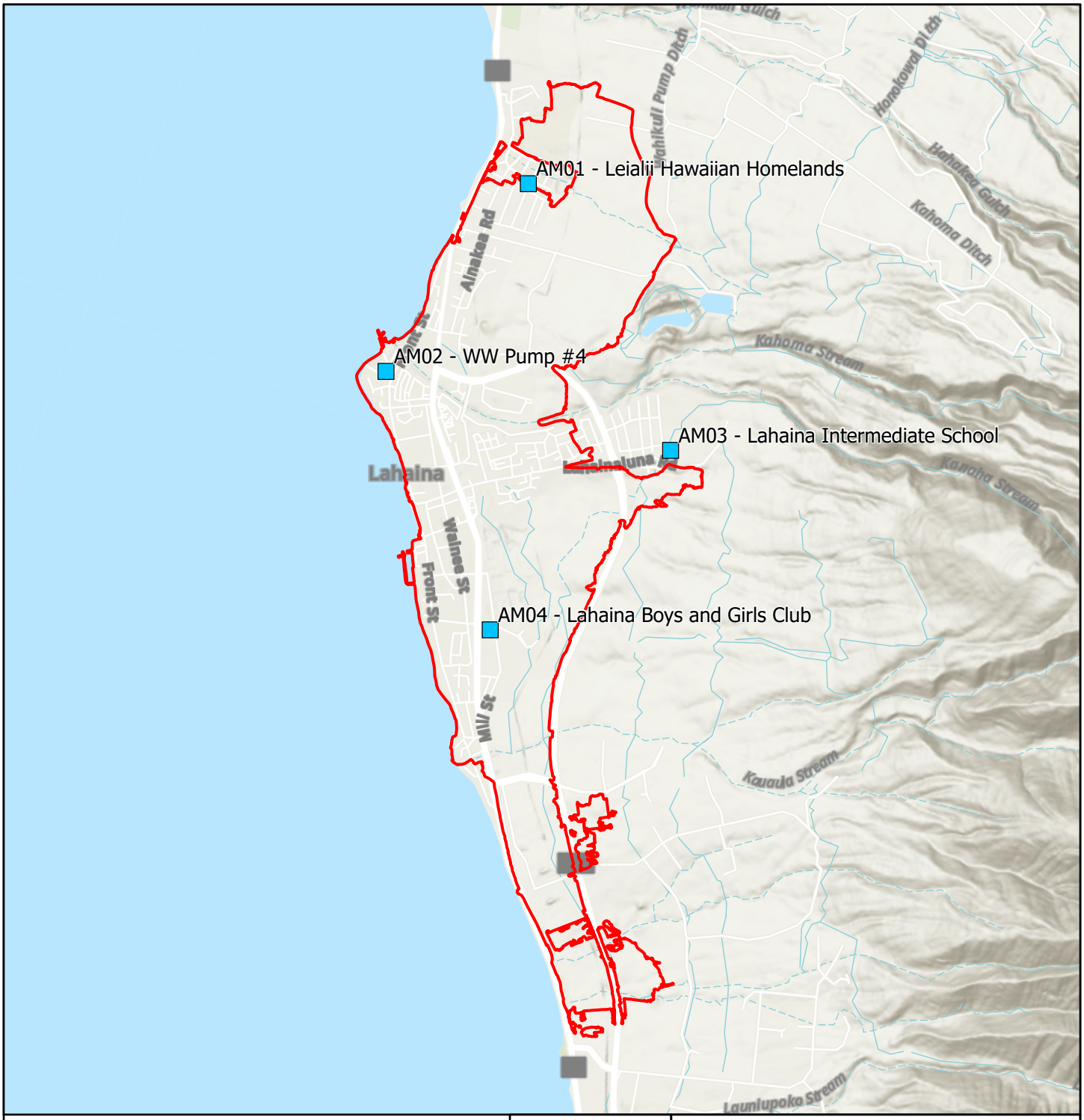
Metals samples are collected with Tisch Environmental High Volume Air Samplers, or equivalent. Air samples for metals are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 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 20 through June 26, 2024

Screening Level		TWA Results ($\mu g/m^{3)}$
6/20/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	6.1
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	6.0
6/21/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	4.8
6/22/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	9.4
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Boys & Girls Club (AM-04)	6.2
6/23/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	9.0
	Lahaina Boys & Girls Club (AM-04)	4.9
6/24/2024	Leialii Hawaiian Homelands (AM-01)	9.7
	WW Pump Station #4 (AM-02)	8.4
	Lahaina Intermediate School (AM-03)	5.8
	Lahaina Boys & Girls Club (AM-04)	4.2
6/25/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	6.9
6/26/2024	Leialii Hawaiian Homelands (AM-01)	7.1
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	14
	Lahaina Boys & Girls Club (AM-04)	8.1

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
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 20 through June 26, 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
Site Screening Action 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
6/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000137	0.00329	0.00922	0.0000362	ND	0.00695	0.00127	0.149	0.00130	0.0322	0.00646	0.00383	0.000251	0.00000263	0.00388	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000117	0.000507	0.00510	0.0000168	ND	0.00282	0.000539	0.0535	0.00106	0.0161	0.00219	0.00193	0.000203	0.00000209	0.00184	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000102	0.000735	0.0104	0.000160	ND	0.00956	0.00228	0.0726	0.00111	0.0507	0.00293	0.00541	0.000407	0.00000348	0.00537	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000112	0.000587	0.00599	0.0000192	ND	0.00340	0.000619	0.0472	0.00217	0.0205	0.00136	0.00199	0.000213	0.00000202	0.00180	ND
6/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000237	0.0134	0.0183	0.0000547	0.0000787	0.0115	0.00195	0.156	0.00247	0.0544	0.00539	0.00522	0.000294	0.00000273	0.00563	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000191	0.00121	0.0152	0.0000648	0.0000808	0.00629	0.00160	0.0718	0.00443	0.0627	0.00222	0.00391	0.000377	0.00000415	0.00564	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000100	0.000811	0.00768	0.0000819	ND	0.00596	0.00129	0.0736	0.00236	0.0309	0.00315	0.00330	0.000261	0.00000218	0.00316	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000273	0.000819	0.00644	0.0000214	ND	0.00400	0.000700	0.0365	0.00203	0.0217	0.00147	0.00220	0.000189	0.00000147	0.00187	ND
6/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000296	0.00881	0.0126	0.0000314	0.000100	0.00842	0.00121	0.129	0.00119	0.0321	0.00468	0.00378	0.000179	0.00000163	0.00359	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000102	0.00117	0.0145	0.0000645	0.000177	0.0114	0.00290	0.0514	0.00211	0.0695	0.00169	0.00806	0.000322	0.00000278	0.00828	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000507	0.000400	0.00362	0.0000229	ND	0.00295	0.000447	0.0668	0.000533	0.0122	0.00271	0.00146	0.000120	0.00000103	0.00124	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000115	0.000719	0.00636	0.0000269	ND	0.00455	0.000884	0.0460	0.00202	0.0267	0.00119	0.00256	0.000178	0.00000139	0.00233	ND
6/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000615	0.00148	0.0110	0.0000229	0.0000633	0.00781	0.00114	0.105	0.000711	0.0277	0.00471	0.00390	0.000191	0.00000168	0.00331	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000159	0.00107	0.00928	0.0000404	ND	0.00634	0.00145	0.0780	0.00245	0.0384	0.00262	0.00434	0.000253	0.00000215	0.00418	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000544	0.000418	0.00252	0.00000974	ND	0.00236	0.000268	0.0679	0.000458	0.00631	0.00277	0.00119	0.000127	0.000000846	0.000699	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000865	0.000352	0.00353	0.0000122	ND	0.00253	0.000395	0.0275	0.000652	0.0122	0.00148	0.00130	0.000159	0.00000110	0.00103	ND
6/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000257	0.00731	0.0122	0.0000398	ND	0.00823	0.00168	0.124	0.000769	0.0467	0.00400	0.00373	0.000266	0.00000222	0.00474	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000157	0.000878	0.00890	0.0000388	0.0000908	0.00648	0.00118	0.0886	0.00226	0.0344	0.00217	0.00388	0.000241	0.00000176	0.00383	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000573	0.000320	0.00362	0.0000448	ND	0.00339	0.000604	0.0748	0.000460	0.0133	0.00300	0.00181	0.000176	0.000000846	0.00162	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000120	0.000705	0.00535	0.0000229	0.000287	0.00409	0.000784	0.0333	0.00132	0.0232	0.00143	0.00224	0.000169	0.00000140	0.00196	ND
6/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000335	0.00879	0.0162	0.0000433	0.000123	0.00937	0.00171	0.143	0.000807	0.0487	0.00470	0.00431	0.000276	0.00000237	0.00485	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000177	0.00106	0.0103	0.0000390	ND	0.00691	0.00149	0.0897	0.00272	0.0384	0.00250	0.00497	0.000246	0.00000237	0.00445	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000457	0.000272	0.00298	0.0000241	ND	0.00265	0.000420	0.0874	0.000406	0.00960	0.00315	0.00142	0.000139	0.000000788	0.00104	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000879	0.000462	0.00469	0.0000137	ND	0.00308	0.000523	0.0377	0.00108	0.0168	0.00156	0.00173	0.000162	0.00000104	0.00138	ND
6/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000859	0.00157	0.0125	0.0000464	ND	0.00686	0.00173	0.138	0.00122	0.0499	0.00494	0.00395	0.000299	0.00000245	0.00476	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000132	0.000618	0.00503	0.0000146	ND	0.00250	0.000475	0.0963	0.000949	0.0141	0.00318	0.00165	0.000199	0.000000970	0.00156	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000837	0.000354	0.00425	0.0000423	ND	0.00310	0.000624	0.0896	0.000664	0.0161	0.00276	0.00191	0.000205	0.000000996	0.00178	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000151	0.000865	0.00690	0.0000263	ND	0.00409	0.000856	0.0445	0.00184	0.0289	0.00147	0.00243	0.000230	0.00000147	0.00235	ND
95% Upper Confidence Limit[2]		NA	0.000200	0.00306	0.0105	0.0000490	0.000193	0.00683	0.00142	0.0981	0.00193	0.0396	0.00349	0.00383	0.000250	0.00000220	0.00411	NA

Notes:

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

[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 presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
June 20 through June 26, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
6/20/2024	AM-01	Leialii Hawaiian Homelands	1.4	ESE	81	58	760.9
6/20/2024	AM-02	WW Pump Station #4	1.3	SSE	80	62	762.9
6/20/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	60	753.6
6/20/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	79	62	762.4
6/21/2024	AM-01	Leialii Hawaiian Homelands	1.3	ESE	82	57	760.8
6/21/2024	AM-02	WW Pump Station #4	1.3	SSE	80	64	762.8
6/21/2024	AM-03	Lahaina Intermediate School	1.3	SE	79	60	753.6
6/21/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	64	762.4
6/22/2024	AM-01	Leialii Hawaiian Homelands	2.4	E	80	62	760.5
6/22/2024	AM-02	WW Pump Station #4	1.6	ESE	81	62	762.4
6/22/2024	AM-03	Lahaina Intermediate School	1.7	E	80	61	753.2
6/22/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	80	63	762.0
6/23/2024	AM-01	Leialii Hawaiian Homelands	1.9	ESE	81	57	761.1
6/23/2024	AM-02	WW Pump Station #4	1.6	SE	80	61	763.0
6/23/2024	AM-03	Lahaina Intermediate School	1.5	E	80	58	753.8
6/23/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	79	62	762.6
6/24/2024	AM-01	Leialii Hawaiian Homelands	1.9	SE	81	57	761.2
6/24/2024	AM-02	WW Pump Station #4	1.5	SE	81	62	762.8
6/24/2024	AM-03	Lahaina Intermediate School	1.3	ESE	79	59	753.9
6/24/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	62	762.7
6/25/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	82	54	760.9
6/25/2024	AM-02	WW Pump Station #4	1.3	SSE	80	62	762.9
6/25/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	59	753.7
6/25/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	63	762.5
6/26/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	82	59	761.6
6/26/2024	AM-02	WW Pump Station #4	1.2	SSE	80	67	763.6
6/26/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	65	754.4
6/26/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	66	763.2

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

Appendix 1

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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062024-AB**		**Sample Description:**	**DL248495**
EMSL Sample Number:	042413056-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.8
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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: 042413056
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: 042413056-0001 **Customer Sample:** MFL-AM01-062024-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	A5	None Detected									
B2	C8	None Detected									
B2	G8	None Detected									
B3	B9	None Detected									
B3	F4	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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062024-AB**		**Sample Description:**	**DL248424**
EMSL Sample Number:	042413056-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.5
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0002 **Customer Sample:** MFL-AM02-062024-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	B3	None Detected									
B5	D6	None Detected									
B5	G5	None Detected									
B6	F3	None Detected									
B6	I5	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:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062024-AB**		**Sample Description:**	**DL248412**
EMSL Sample Number:	042413056-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7310.6
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0003 **Customer Sample:** MFL-AM03-062024-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					
C2	J6	None Detected									
C2	G8	None Detected									
C2	C4	None Detected									
C3	I5	None Detected									
C3	C5	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:	042413056
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Customer PO:	1207085
Project ID:	N/A

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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062024-AB**		**Sample Description:**	**DL248406**
EMSL Sample Number:	042413056-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7268.7
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID:	**042413056**
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: 042413056-0004 **Customer Sample:** MFL-AM04-062024-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	J2	None Detected									
C5	H4	None Detected									
C5	C2	None Detected									
C6	I3	None Detected									
C6	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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062024-AB** **Sample Description: DL248525**

EMSL Sample Number:	042413056-0005		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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Order ID: 042413056
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: 042413056-0005 **Customer Sample:** MFL-FB01-062024-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					
D2	A5	None Detected									
D2	C7	None Detected									
D2	E3	None Detected									
D2	G6	None Detected									
D2	I7	None Detected									
D3	J10	None Detected									
D3	H10	None Detected									
D3	F8	None Detected									
D3	D6	None Detected									
D3	B4	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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062124-AB**		**Sample Description:**	**DL248383**
EMSL Sample Number:	042413056-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7201.6
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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: 042413056
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: 042413056-0006 **Customer Sample:** MFL-AM01-062124-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	J5	None Detected									
D5	G1	None Detected									
D5	D6	None Detected									
D6	G5	None Detected									
D6	B7	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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-062124-AB** **Sample Description: DL248487**

EMSL Sample Number:	042413056-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	5880.9
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
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**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 38.33**	**< 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**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 38.33	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.33**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0007 **Customer Sample:** MFL-AM02-062124-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	H2	None Detected									
E1	F3	None Detected									
E1	C7	None Detected									
E2	J7	None Detected									
E2	H7	None Detected									
E2	A8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062124-AB**		**Sample Description:**	**DL248433**
EMSL Sample Number:	042413056-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7236.2
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0008 **Customer Sample:** MFL-AM03-062124-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	J10	None Detected									
E5	G8	None Detected									
E5	C8	None Detected									
E6	B5	None Detected									
E6	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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EMSL Order:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062124-AB**		**Sample Description:**	**DL248393**
EMSL Sample Number:	042413056-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7071.4
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0009 **Customer Sample:** MFL-AM04-062124-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					
F2	J5	None Detected									
F2	G1	None Detected									
F2	D3	None Detected									
F3	H5	None Detected									
F3	C6	None Detected									

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

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Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062124-AB** **Sample Description: DL248422**

EMSL Sample Number:	042413056-0010		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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

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: 042413056-0010 **Customer Sample:** MFL-FB01-062124-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	A6	None Detected									
F5	C10	None Detected									
F5	E8	None Detected									
F5	G3	None Detected									
F5	I6	None Detected									
F6	A5	None Detected									
F6	C3	None Detected									
F6	E9	None Detected									
F6	G9	None Detected									
F6	I3	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062224-AB**		**Sample Description:**	**DL248390**
EMSL Sample Number:	042413056-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7124.6
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):	0.0130
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 %:	4			
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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

EMSL Order ID: 042413056
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: 042413056-0011 **Customer Sample:** MFL-AM01-062224-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	A7	None Detected									
G1	E5	None Detected									
G1	I3	None Detected									
G2	C4	None Detected									
G2	G8	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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-062224-AB** **Sample Description: DL248420**

EMSL Sample Number:	042413056-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7206.0
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):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0012 **Customer Sample:** MFL-AM02-062224-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	I4	None Detected									
G5	F7	None Detected									
G5	B9	None Detected									
G6	H8	None Detected									
G6	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:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-062224-AB** **Sample Description: DL248421**

EMSL Sample Number:	042413056-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7111.9
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):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0013 **Customer Sample:** MFL-AM03-062224-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	A6	None Detected									
H1	E9	None Detected									
H1	J5	None Detected									
H2	G4	None Detected									
H2	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:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062224-AB**		**Sample Description:**	**DL248509**
EMSL Sample Number:	042413056-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7131.2
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):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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: 042413056-0014 **Customer Sample:** MFL-AM04-062224-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	J6	None Detected									
H5	F7	None Detected									
H5	B3	None Detected									
H6	D9	None Detected									
H6	H7	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:	042413056
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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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062224-AB** **Sample Description: DL248409**

EMSL Sample Number:	042413056-0015		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):	0.0130
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 %:	3			
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Order ID: 042413056
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: 042413056-0015 **Customer Sample:** MFL-FB01-062224-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					
I2	J9	None Detected									
I2	H5	None Detected									
I2	F3	None Detected									
I2	C6	None Detected									
I3	D3	None Detected									
I3	E7	None Detected									
I3	G6	None Detected									
I4	A4	None Detected									
I4	D8	None Detected									
I4	I5	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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062324-AB**		**Sample Description:**	**DL248391**
EMSL Sample Number:	042413056-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7135.3
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):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042413056
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: 042413056-0016 **Customer Sample:** MFL-AM01-062324-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					
I7	J5	None Detected									
I7	G7	None Detected									
I7	C4	None Detected									
I8	H3	None Detected									
I8	D7	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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-062324-AB** **Sample Description: DL248399**

EMSL Sample Number:	042413056-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7120.8
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):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0017 **Customer Sample:** MFL-AM02-062324-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	I9	None Detected									
J1	H4	None Detected									
J1	D6	None Detected									
J2	J3	None Detected									
J2	E4	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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Project: **Maui Fires - Lahaina**

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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062324-AB**		**Sample Description:**	**DL248427**
EMSL Sample Number:	042413056-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7259.8
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):	0.0130
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 %:	N/A			
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0018 **Customer Sample:** MFL-AM03-062324-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	H8	None Detected									
J5	F8	None Detected									
J5	A9	None Detected									
J6	J5	None Detected									
J6	D3	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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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-062324-AB** **Sample Description: DL248407**

EMSL Sample Number:	042413056-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7124.7
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):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413056
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: 042413056-0019 **Customer Sample:** MFL-AM04-062324-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	A8	None Detected									
K1	E5	None Detected									
K1	I7	None Detected									
K2	I5	None Detected									
K2	C5	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:	042413056
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:	06/26/2024 09:40 AM
Analysis Date:	07/05/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062324-AB** **Sample Description:** **DL248402**

EMSL Sample Number:	042413056-0020		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):	0.0130
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment


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EMSL Order ID: 042413056
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: 042413056-0020 **Customer Sample:** MFL-FB01-062324-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					
K5	J8	None Detected									
K5	H3	None Detected									
K5	E5	None Detected									
K5	A6	None Detected									
K6	I2	None Detected									
K6	F7	None Detected									
K6	B5	None Detected									
K7	B4	None Detected									
K7	C8	None Detected									
K7	G6	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:	042413056
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	06/26/2024 09:40 AM
Analysis Date:	07/02/2024
Report Date:	07/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042413056-0021		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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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: 042413056
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: 042413056-0021 **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	A3	None Detected									
A1	C5	None Detected									
A1	E1	None Detected									
A1	G4	None Detected									
A1	I4	None Detected									
A2	I9	None Detected									
A2	G7	None Detected									
A2	E8	None Detected									
A2	C5	None Detected									
A2	A3	None Detected									

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

OrderID: 042413056

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042413056

RECEIVED EMSL CINNAMINSON, NJ
24 JUN 26 PM 1:27

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

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

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202 Country: USA	City, State, Zip:	Country:
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	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: E. Kaoyse Saldaña
Sampled By Signature: [signature]
No. of Samples in Shipment: 20 [initials]

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-AM01-062024-AB	DL248495	7,159.824	06/20/24 1101
MFL-AM02-062024-AB	DL248424	7,168.464	06/20/24 1115
MFL-AM03-062024-AB	DL248412	7,310.594	06/20/24 1310
MFL-AM04-062024-AB	DL248406	7,268.688	06/20/24 1332
MFL-FB01-062024-AB	DL248525	0	06/20/24 1200
MFL-AM01-062124-AB	DL248383	7,201.613	06/21/24 1104
* MFL-AM02-062124-AB	DL248487	5,880.919	06/21/24 1122
MFL-AM03-062124-AB	DL248433	7,236.246	06/21/24 1302

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

* Note: MFL-AM02-062124-AB has a lower volume due to equipment issues & a shorter sample run time. Contact Chelsea Saber before running analysis.

All samples received acceptable for analysis.

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 06/24/24 1100	Received by: KM FX	Date/Time 6/26/24 940
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.)

OrderID: 042413056

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042413056

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-AM04-062124-AB	DL248393	7,071.442	06/21/24 1323
MFL-FB01-062124-AB	DL248422	0	06/21/24 1200
MFL-AM01-062224-AB	DL248390	7,124.583	06/22/24 1054
MFL-AM02-062224-AB	DL248420	7,205.972	06/22/24 1136
MFL-AM03-062224-AB	DL248421	7,111.883	06/22/24 1253
MFL-AM04-062224-AB	DL~~248~~ 248509 (EMS)	7,131.168	06/22/24 1327
MFL-FB01-062224-AB	DL248409	0	06/22/24 1200
MFL-AM01-062324-AB	DL~~248~~ 248391 (EMS)	7,135.344	06/23/24 1058
MFL-AM02-062324-AB	DL248399	7,120.781	06/23/24 1118
MFL-AM03-062324-AB	DL248427	7,259.760	06/23/24 1258
MFL-AM04-062324-AB	DL248407	7,124.676	06/23/24 1322
MFL-FB01-062324-AB	DL248402	0	06/23/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUN 26 PM 1:27

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 06/24/24 1400	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.

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:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062424-AB**		**Sample Description:**	**DL248396**
EMSL Sample Number:	042413456-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.3
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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: 042413456
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: 042413456-0001 **Customer Sample:** MFL-AM01-062424-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	C5	None Detected									
A5	D4	None Detected									
A6	J7	None Detected									
A6	I6	None Detected									
A7	B3	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:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062424-AB**		**Sample Description:**	**DL248395**
EMSL Sample Number:	042413456-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7267.4
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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: 042413456
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: 042413456-0002 **Customer Sample:** MFL-AM02-062424-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	J7	None Detected									
B1	H6	None Detected									
B2	G3	None Detected									
B2	F4	None Detected									
B3	A8	None Detected									

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

EMSL Analytical, Inc.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-062424-AB** **Sample Description: DL248414**

EMSL Sample Number:	042413456-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7279.0
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042413456
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: 042413456-0003 **Customer Sample:** MFL-AM03-062424-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	J6	None Detected									
B5	I7	None Detected									
B6	C3	None Detected									
B6	D4	None Detected									
B7	F10	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:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062424-AB**		**Sample Description:**	**DL248511**
EMSL Sample Number:	042413456-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7183.8
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042413456
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: 042413456-0004 **Customer Sample:** MFL-AM04-062424-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	J9	None Detected									
C1	I8	None Detected									
C2	H5	None Detected									
C2	G4	None Detected									
C3	B6	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:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062424-AB** **Sample Description:** **DL248387**

EMSL Sample Number:	042413456-0005		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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment


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EMSL Order ID:	**042413456**
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: 042413456-0005 **Customer Sample:** MFL-FB01-062424-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	H7	None Detected									
C5	G6	None Detected									
C6	A3	None Detected									
C6	B4	None Detected									
C7	D2	None Detected									
C7	D4	None Detected									
C8	J10	None Detected									
C8	J8	None Detected									
C8	I9	None Detected									
C8	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:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-062524-AB** **Sample Description: DL248386**

EMSL Sample Number:	042413456-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7269.2
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413456
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: 042413456-0006 **Customer Sample:** MFL-AM01-062524-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	I7	None Detected									
D1	H6	None Detected									
D2	C8	None Detected									
D2	B9	None Detected									
D3	E5	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:	042413456
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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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-062524-AB** **Sample Description: DL248380**

EMSL Sample Number:	042413456-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7241.9
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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413456
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: 042413456-0007 **Customer Sample:** MFL-AM02-062524-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	B8	None Detected									
D5	C9	None Detected									
D6	A10	None Detected									
D6	E9	None Detected									
D7	J4	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:	042413456
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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Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-062524-AB** **Sample Description: DL248499**

EMSL Sample Number:	042413456-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7214.7
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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042413456
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: 042413456-0008 **Customer Sample:** MFL-AM03-062524-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	H6	None Detected									
E1	E5	None Detected									
E1	C7	None Detected									
E2	B4	None Detected									
E2	G3	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

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-062524-AB** **Sample Description: DL248480**

EMSL Sample Number:	042413456-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7283.4
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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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: 042413456-0009 **Customer Sample:** MFL-AM04-062524-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	B5	None Detected									
E5	E3	None Detected									
E6	G8	None Detected									
E6	D7	None Detected									
E6	A6	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:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-062524-AB** **Sample Description: DL248497**

EMSL Sample Number:	042413456-0010		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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042413456
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: 042413456-0010 **Customer Sample:** MFL-FB01-062524-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	I7	None Detected									
F1	G8	None Detected									
F1	F4	None Detected									
F1	D5	None Detected									
F1	B7	None Detected									
F2	C4	None Detected									
F2	E7	None Detected									
F2	F9	None Detected									
F2	I7	None Detected									
F2	I4	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:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-062624-AB**	**Sample Description:**	**DL248384**
EMSL Sample Number:	042413456-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7126.3
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):	0.0129
Chi² Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413456
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: 042413456-0011 **Customer Sample:** MFL-AM01-062624-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	G7	None Detected									
F5	D9	None Detected									
F5	B6	None Detected									
F6	B5	None Detected									
F6	H6	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:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-062624-AB**		**Sample Description:**	**DL248381**
EMSL Sample Number:	042413456-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.2
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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042413456
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: 042413456-0012 **Customer Sample:** MFL-AM02-062624-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	C7	None Detected									
G1	D4	None Detected									
G1	I4	None Detected									
G2	J7	None Detected									
G2	H6	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:	042413456
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-062624-AB**		**Sample Description:**	**DL248512**
EMSL Sample Number:	042413456-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.5
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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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: 042413456
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: 042413456-0013 **Customer Sample:** MFL-AM03-062624-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	I7	None Detected									
G5	F8	None Detected									
G5	B7	None Detected									
G6	B3	None Detected									
G6	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
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-062624-AB**		**Sample Description:**	**DL248516**
EMSL Sample Number:	042413456-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7171.2
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:	A. Burke
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

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: 042413456
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: 042413456-0014 **Customer Sample:** MFL-AM04-062624-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	B6	None Detected									
H1	D3	None Detected									
H1	H2	None Detected									
H2	C4	None Detected									
H2	H5	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:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-062624-AB**		**Sample Description:**	**DL248529**
EMSL Sample Number:	042413456-0015		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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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: 042413456
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: 042413456-0015 **Customer Sample:** MFL-FB01-062624-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	A5	None Detected									
H5	D5	None Detected									
H5	G3	None Detected									
H5	G1	None Detected									
H5	H6	None Detected									
H6	J5	None Detected									
H6	H8	None Detected									
H6	F4	None Detected									
H6	D7	None Detected									
H6	D9	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:	042413456
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:	07/01/2024 10:00 AM
Analysis Date:	07/08/2024
Report Date:	07/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042413456-0016		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):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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: 042413456
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: 042413456-0016 **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	B3	None Detected									
A1	B5	None Detected									
A1	C4	None Detected									
A2	D6	None Detected									
A2	D8	None Detected									
A2	E9	None Detected									
A3	J5	None Detected									
A3	I7	None Detected									
A4	H3	None Detected									
A4	I2	None Detected									

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

OrderID: 042413456

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042413456

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

RECEIVED EMSL CINNAMINSON, NJ 24 JUL -1 AM 10:55

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: 703-489-2674
Email(s) for Report:

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: E. Langston Saldaña
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-AM01-062424-AB3	DL248396	7,163.280	06/24/24 1058
MFL-AM02-062424-AB3	DL248395	7,267.414	06/24/24 1117
MFL-AM03-062424-AB3	DL248414	7,279.040	06/24/24 1256
MFL-AM04-062424-AB3	DL248511	7,183.840	06/24/24 1313
MFL-FB01-062424-AB3	DL248387	0	06/24/24 1200
MFL-AM01-062524-AB3	DL248386	7,269.208	06/25/24 1058
MFL-AM02-062524-AB3	DL248380	7,241.862	06/25/24 1111
MFL-AM03-062524-AB3	DL248499	7,214.673	06/25/24 1251

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

All samples received acceptable for analysis.

15gk

Method of Shipment: FedEx
Relinquished by: Date/Time: 06/27/24 1600
Relinquished by: Date/Time:
Sample Condition Upon Receipt:
Received by: Date/Time 6a 7-1-24
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.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042413456

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@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-AM04-062524-AIB	DL248480	7,283.366	06/25/24 1309
MFL-FB01-062524-AIB	DL248497	0	06/25/24 1200
MFL-AM01-062624-AIB	DL248384	7,126.263	06/26/24 1055
MFL-AM02-062624-AIB	DL248381	7,168.225	06/26/24 1113
MFL-AM03-062624-AIB	DL248512	7,122.528	06/26/24 1255
MFL-AM04-062624-AIB	DL248516	7,171.200	06/26/24 1312
MFL-FB01-062624-AIB	DL248529	0	06/26/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 06/27/24 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.

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

July 09, 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 07/01/24 15:07.

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-062024-HM	4070134-01	Air	06/20/24 23:59	07/01/24 15:07
MFL-AM02-062024-HM	4070134-02	Air	06/20/24 23:59	07/01/24 15:07
MFL-AM03-062024-HM	4070134-03	Air	06/20/24 23:59	07/01/24 15:07
MFL-AM04-062024-HM	4070134-04	Air	06/20/24 23:59	07/01/24 15:07
MFL-FB01-062024-HM	4070134-05	Air	06/20/24 00:00	07/01/24 15:07
MFL-AM01-062124-HM	4070134-06	Air	06/21/24 23:59	07/01/24 15:07
MFL-AM02-062124-HM	4070134-07	Air	06/21/24 23:59	07/01/24 15:07
MFL-AM03-062124-HM	4070134-08	Air	06/21/24 23:59	07/01/24 15:07
MFL-AM04-062124-HM	4070134-09	Air	06/21/24 23:59	07/01/24 15:07
MFL-AM01-062224-HM	4070134-10	Air	06/22/24 23:59	07/01/24 15:07
MFL-AM02-062224-HM	4070134-11	Air	06/22/24 23:59	07/01/24 15:07
MFL-AM03-062224-HM	4070134-12	Air	06/22/24 23:59	07/01/24 15:07
MFL-AM04-062224-HM	4070134-13	Air	06/22/24 23:59	07/01/24 15:07
MFL-FB01-062224-HM	4070134-14	Air	06/22/24 00:00	07/01/24 15:07
MFL-AM01-062324-HM	4070134-15	Air	06/23/24 23:59	07/01/24 15:07
MFL-AM02-062324-HM	4070134-16	Air	06/23/24 23:59	07/01/24 15:07
MFL-AM03-062324-HM	4070134-17	Air	06/23/24 23:59	07/01/24 15:07
MFL-AM04-062324-HM	4070134-18	Air	06/23/24 23:59	07/01/24 15:07
MFL-AM01-062424-HM	4070134-19	Air	06/24/24 23:59	07/01/24 15:07
MFL-AM02-062424-HM	4070134-20	Air	06/24/24 23:59	07/01/24 15:07
MFL-AM03-062424-HM	4070134-21	Air	06/24/24 23:59	07/01/24 15:07

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-062424-HM	4070134-22	Air	06/24/24 23:59	07/01/24 15:07
MFL-FB01-062424-HM	4070134-23	Air	06/24/24 00:00	07/01/24 15:07
MFL-AM01-062524-HM	4070134-24	Air	06/25/24 23:59	07/01/24 15:07
MFL-AM02-062524-HM	4070134-25	Air	06/25/24 23:59	07/01/24 15:07
MFL-AM03-062524-HM	4070134-26	Air	06/25/24 23:59	07/01/24 15:07
MFL-AM04-062524-HM	4070134-27	Air	06/25/24 23:59	07/01/24 15:07
MFL-AM01-062624-HM	4070134-28	Air	06/26/24 23:59	07/01/24 15:07
MFL-AM02-062624-HM	4070134-29	Air	06/26/24 23:59	07/01/24 15:07
MFL-AM03-062624-HM	4070134-30	Air	06/26/24 23:59	07/01/24 15:07
MFL-AM04-062624-HM	4070134-31	Air	06/26/24 23:59	07/01/24 15:07
MFL-FB01-062624-HM	4070134-32	Air	06/26/24 00:00	07/01/24 15:07
MFL-LB01-062624-HM	4070134-33	Air	06/26/24 00:00	07/01/24 15:07

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062024-HM
Matrix: Air
Lab ID: 4070134-01
Sample Volume: 2024.163 m³
Filter ID:
Sampled: 06/20/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 03:40

Comments: Q8504312 - 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**	**0.137**	SL	**0.0310**
Arsenic	**7440-38-2**	**3.29**		**0.00753**
Barium	**7440-39-3**	**9.22**		**0.860**
Beryllium	**7440-41-7**	**0.0362**		**0.00257**
Cadmium	7440-43-9	0.0299	U	0.0596
Chromium	**7440-47-3**	**6.95**		**1.78**
Cobalt	**7440-48-4**	**1.27**		**0.0350**
Copper	**7440-50-8**	**149**		**2.11**
Lead	**7439-92-1**	**1.30**		**0.172**
Manganese	**7439-96-5**	**32.2**		**1.52**
Molybdenum	**7439-98-7**	**6.46**		**0.289**
Nickel	**7440-02-0**	**3.83**		**0.524**
Selenium	**7782-49-2**	**0.251**	LJ, QX	**0.00720**
Thallium	**7440-28-0**	**0.00263**		**4.73E-4**
Vanadium	**7440-62-2**	**3.88**		**0.0425**
Zinc	7440-66-6	21.0	U	61.7

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062024-HM
Matrix: Air
Lab ID: 4070134-02
Sample Volume: 2110.652 m³
Filter ID:
Sampled: 06/20/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 04:00

Comments: Q8504311 - 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**	**0.117**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.507**		**0.00722**
Barium	**7440-39-3**	**5.10**		**0.825**
Beryllium	**7440-41-7**	**0.0168**		**0.00247**
Cadmium	7440-43-9	0.0167	U	0.0571
Chromium	**7440-47-3**	**2.82**		**1.70**
Cobalt	**7440-48-4**	**0.539**		**0.0336**
Copper	**7440-50-8**	**53.5**		**2.03**
Lead	**7439-92-1**	**1.06**		**0.165**
Manganese	**7439-96-5**	**16.1**		**1.46**
Molybdenum	**7439-98-7**	**2.19**		**0.277**
Nickel	**7440-02-0**	**1.93**		**0.503**
Selenium	**7782-49-2**	**0.203**	LJ, QX	**0.00691**
Thallium	**7440-28-0**	**0.00209**		**4.54E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0408**
Zinc	7440-66-6	14.2	U	59.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062024-HM
Matrix: Air
Lab ID: 4070134-03
Sample Volume: 1980.21 m³
Filter ID:
Sampled: 06/20/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 04:20

Comments: Q8504310 - 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	**0.0317**
Arsenic	**7440-38-2**	**0.735**		**0.00770**
Barium	**7440-39-3**	**10.4**		**0.879**
Beryllium	**7440-41-7**	**0.160**		**0.00263**
Cadmium	7440-43-9	0.0310	U	0.0609
Chromium	**7440-47-3**	**9.56**		**1.82**
Cobalt	**7440-48-4**	**2.28**		**0.0358**
Copper	**7440-50-8**	**72.6**		**2.16**
Lead	**7439-92-1**	**1.11**		**0.176**
Manganese	**7439-96-5**	**50.7**		**1.55**
Molybdenum	**7439-98-7**	**2.93**		**0.295**
Nickel	**7440-02-0**	**5.41**		**0.536**
Selenium	**7782-49-2**	**0.407**	LJ, QX	**0.00736**
Thallium	**7440-28-0**	**0.00348**		**4.84E-4**
Vanadium	**7440-62-2**	**5.37**		**0.0435**
Zinc	7440-66-6	31.0	U	63.1

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062024-HM
Matrix: Air
Lab ID: 4070134-04
Sample Volume: 1769.249 m³
Filter ID:
Sampled: 06/20/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 04:40

Comments: Q8504340 - 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**	**0.112**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.587**		**0.00862**
Barium	**7440-39-3**	**5.99**		**0.984**
Beryllium	**7440-41-7**	**0.0192**		**0.00294**
Cadmium	7440-43-9	0.0197	U	0.0681
Chromium	**7440-47-3**	**3.40**		**2.03**
Cobalt	**7440-48-4**	**0.619**		**0.0401**
Copper	**7440-50-8**	**47.2**		**2.42**
Lead	**7439-92-1**	**2.17**		**0.197**
Manganese	**7439-96-5**	**20.5**		**1.74**
Molybdenum	**7439-98-7**	**1.36**		**0.330**
Nickel	**7440-02-0**	**1.99**		**0.600**
Selenium	**7782-49-2**	**0.213**	LJ, QX	**0.00824**
Thallium	**7440-28-0**	**0.00202**		**5.42E-4**
Vanadium	**7440-62-2**	**1.80**		**0.0486**
Zinc	7440-66-6	31.1	U	70.6

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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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062024-HM
Matrix: Air
Lab ID: 4070134-05
Sample Volume: 2024.163 m³
Filter ID:
Sampled: 06/20/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 05:00

Comments: Q8504332 - 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	0.0149	U, SL	0.0310
Arsenic	7440-38-2	0.00512	U	0.00753
Barium	**7440-39-3**	**0.952**	FB-01	**0.860**
Beryllium	7440-41-7	ND	U	0.00257
Cadmium	7440-43-9	6.87E-4	U	0.0596
Chromium	7440-47-3	1.01	U	1.78
Cobalt	7440-48-4	0.00982	U	0.0350
Copper	7440-50-8	0.388	U	2.11
Lead	7439-92-1	0.0265	U	0.172
Manganese	7439-96-5	0.172	U	1.52
Molybdenum	7439-98-7	0.160	U	0.289
Nickel	7440-02-0	0.394	U	0.524
Selenium	7782-49-2	0.00297	LJ, QX, U	0.00720
Thallium	7440-28-0	1.14E-4	U	4.73E-4
Vanadium	7440-62-2	0.0148	U	0.0425
Zinc	7440-66-6	3.14	U	61.7

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062124-HM
Matrix: Air
Lab ID: 4070134-06
Sample Volume: 2005.647 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 00:47

Comments: Q8504339 - 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**	**0.237**	SL	**0.0313**
Barium	**7440-39-3**	**18.3**		**0.868**
Beryllium	**7440-41-7**	**0.0547**		**0.00260**
Cadmium	**7440-43-9**	**0.0787**		**0.0601**
Chromium	**7440-47-3**	**11.5**		**1.79**
Cobalt	**7440-48-4**	**1.95**		**0.0354**
Copper	**7440-50-8**	**156**		**2.13**
Lead	**7439-92-1**	**2.47**		**0.174**
Manganese	**7439-96-5**	**54.4**		**1.53**
Molybdenum	**7439-98-7**	**5.39**	QM-4X	**0.291**
Nickel	**7440-02-0**	**5.22**		**0.529**
Selenium	**7782-49-2**	**0.294**	LJ, QX, SRD-01	**0.00727**
Thallium	**7440-28-0**	**0.00273**		**4.78E-4**
Vanadium	**7440-62-2**	**5.63**		**0.0429**
Zinc	7440-66-6	39.4	U	62.3

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062124-HM
Matrix: Air
Lab ID: 4070134-06RE1
Sample Volume: 2005.647 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 17:02

Comments: Q8504339 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**13.4**	D, QM-4X	**0.0152**

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062124-HM
Matrix: Air
Lab ID: 4070134-07
Sample Volume: 2089.734 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 05:14

Comments: Q8504337 - 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**	**0.191**	SL	**0.0301**
Arsenic	**7440-38-2**	**1.21**		**0.00730**
Barium	**7440-39-3**	**15.2**		**0.833**
Beryllium	**7440-41-7**	**0.0648**		**0.00249**
Cadmium	**7440-43-9**	**0.0808**		**0.0577**
Chromium	**7440-47-3**	**6.29**		**1.72**
Cobalt	**7440-48-4**	**1.60**		**0.0339**
Copper	**7440-50-8**	**71.8**		**2.05**
Lead	**7439-92-1**	**4.43**		**0.167**
Manganese	**7439-96-5**	**62.7**		**1.47**
Molybdenum	**7439-98-7**	**2.22**		**0.280**
Nickel	**7440-02-0**	**3.91**		**0.508**
Selenium	**7782-49-2**	**0.377**	LJ, QX	**0.00698**
Thallium	**7440-28-0**	**0.00415**		**4.59E-4**
Vanadium	**7440-62-2**	**5.64**		**0.0412**
Zinc	7440-66-6	39.4	U	59.8

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062124-HM
Matrix: Air
Lab ID: 4070134-08
Sample Volume: 1966.124 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 05:34

Comments: Q8504334 - 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**	**0.100**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.811**		**0.00775**
Barium	**7440-39-3**	**7.68**		**0.885**
Beryllium	**7440-41-7**	**0.0819**		**0.00265**
Cadmium	7440-43-9	0.0212	U	0.0613
Chromium	**7440-47-3**	**5.96**		**1.83**
Cobalt	**7440-48-4**	**1.29**		**0.0361**
Copper	**7440-50-8**	**73.6**		**2.18**
Lead	**7439-92-1**	**2.36**		**0.177**
Manganese	**7439-96-5**	**30.9**		**1.56**
Molybdenum	**7439-98-7**	**3.15**		**0.297**
Nickel	**7440-02-0**	**3.30**		**0.540**
Selenium	**7782-49-2**	**0.261**	LJ, QX	**0.00741**
Thallium	**7440-28-0**	**0.00218**		**4.87E-4**
Vanadium	**7440-62-2**	**3.16**		**0.0438**
Zinc	7440-66-6	25.4	U	63.6

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062124-HM
Matrix: Air
Lab ID: 4070134-09
Sample Volume: 1720.875 m³
Filter ID:
Sampled: 06/21/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 05:53

Comments: Q8504333 - 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**	**0.273**	SL	**0.0365**
Arsenic	**7440-38-2**	**0.819**		**0.00886**
Barium	**7440-39-3**	**6.44**		**1.01**
Beryllium	**7440-41-7**	**0.0214**		**0.00303**
Cadmium	7440-43-9	0.0293	U	0.0701
Chromium	**7440-47-3**	**4.00**		**2.09**
Cobalt	**7440-48-4**	**0.700**		**0.0412**
Copper	**7440-50-8**	**36.5**		**2.49**
Lead	**7439-92-1**	**2.03**		**0.202**
Manganese	**7439-96-5**	**21.7**		**1.79**
Molybdenum	**7439-98-7**	**1.47**		**0.339**
Nickel	**7440-02-0**	**2.20**		**0.616**
Selenium	**7782-49-2**	**0.189**	LJ, QX	**0.00847**
Thallium	**7440-28-0**	**0.00147**		**5.57E-4**
Vanadium	**7440-62-2**	**1.87**		**0.0500**
Zinc	7440-66-6	29.0	U	72.6

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062224-HM
Matrix: Air
Lab ID: 4070134-10
Sample Volume: 1991.339 m³
Filter ID:
Sampled: 06/22/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 06:13

Comments: Q8504331 - 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**	**0.296**	SL	**0.0315**
Arsenic	**7440-38-2**	**8.81**		**0.00766**
Barium	**7440-39-3**	**12.6**		**0.874**
Beryllium	**7440-41-7**	**0.0314**		**0.00261**
Cadmium	**7440-43-9**	**0.100**		**0.0605**
Chromium	**7440-47-3**	**8.42**		**1.81**
Cobalt	**7440-48-4**	**1.21**		**0.0356**
Copper	**7440-50-8**	**129**		**2.15**
Lead	**7439-92-1**	**1.19**		**0.175**
Manganese	**7439-96-5**	**32.1**		**1.54**
Molybdenum	**7439-98-7**	**4.68**		**0.293**
Nickel	**7440-02-0**	**3.78**		**0.533**
Selenium	**7782-49-2**	**0.179**	LJ, QX	**0.00732**
Thallium	**7440-28-0**	**0.00163**		**4.81E-4**
Vanadium	**7440-62-2**	**3.59**		**0.0432**
Zinc	7440-66-6	42.6	U	62.7

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062224-HM
Matrix: Air
Lab ID: 4070134-11
Sample Volume: 2099.304 m³
Filter ID:
Sampled: 06/22/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 06:33

Comments: Q8504330 - 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	**0.0299**
Arsenic	**7440-38-2**	**1.17**		**0.00726**
Barium	**7440-39-3**	**14.5**		**0.829**
Beryllium	**7440-41-7**	**0.0645**		**0.00248**
Cadmium	**7440-43-9**	**0.177**		**0.0574**
Chromium	**7440-47-3**	**11.4**		**1.71**
Cobalt	**7440-48-4**	**2.90**		**0.0338**
Copper	**7440-50-8**	**51.4**		**2.04**
Lead	**7439-92-1**	**2.11**		**0.166**
Manganese	**7439-96-5**	**69.5**		**1.46**
Molybdenum	**7439-98-7**	**1.69**		**0.278**
Nickel	**7440-02-0**	**8.06**		**0.505**
Selenium	**7782-49-2**	**0.322**	LJ, QX	**0.00694**
Thallium	**7440-28-0**	**0.00278**		**4.56E-4**
Vanadium	**7440-62-2**	**8.28**		**0.0410**
Zinc	7440-66-6	33.0	U	59.5

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062224-HM
Matrix: Air
Lab ID: 4070134-12
Sample Volume: 1847.426 m³
Filter ID:
Sampled: 06/22/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 07:48

Comments: Q8504329 - 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**	**0.0507**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.400**		**0.00825**
Barium	**7440-39-3**	**3.62**		**0.942**
Beryllium	**7440-41-7**	**0.0229**		**0.00282**
Cadmium	7440-43-9	0.00952	U	0.0653
Chromium	**7440-47-3**	**2.95**		**1.95**
Cobalt	**7440-48-4**	**0.447**		**0.0384**
Copper	**7440-50-8**	**66.8**		**2.32**
Lead	**7439-92-1**	**0.533**		**0.188**
Manganese	**7439-96-5**	**12.2**		**1.66**
Molybdenum	**7439-98-7**	**2.71**		**0.316**
Nickel	**7440-02-0**	**1.46**		**0.574**
Selenium	**7782-49-2**	**0.120**	LJ, QX	**0.00789**
Thallium	**7440-28-0**	**0.00103**		**5.19E-4**
Vanadium	**7440-62-2**	**1.24**		**0.0466**
Zinc	7440-66-6	12.5	U	67.6

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062224-HM
Matrix: Air
Lab ID: 4070134-13
Sample Volume: 1792.187 m³
Filter ID:
Sampled: 06/22/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 08:04

Comments: Q8504346 - 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**	**0.115**	SL	**0.0350**
Arsenic	**7440-38-2**	**0.719**		**0.00851**
Barium	**7440-39-3**	**6.36**		**0.971**
Beryllium	**7440-41-7**	**0.0269**		**0.00291**
Cadmium	7440-43-9	0.0208	U	0.0673
Chromium	**7440-47-3**	**4.55**		**2.01**
Cobalt	**7440-48-4**	**0.884**		**0.0396**
Copper	**7440-50-8**	**46.0**		**2.39**
Lead	**7439-92-1**	**2.02**		**0.194**
Manganese	**7439-96-5**	**26.7**		**1.72**
Molybdenum	**7439-98-7**	**1.19**		**0.326**
Nickel	**7440-02-0**	**2.56**		**0.592**
Selenium	**7782-49-2**	**0.178**	LJ, QX	**0.00813**
Thallium	**7440-28-0**	**0.00139**		**5.35E-4**
Vanadium	**7440-62-2**	**2.33**		**0.0480**
Zinc	7440-66-6	30.4	U	69.7

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062224-HM
Matrix: Air
Lab ID: 4070134-14
Sample Volume: 1991.339 m³
Filter ID:
Sampled: 06/22/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 08:23

Comments: Q8504345 - 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	0.0199	SL, U	0.0315
Arsenic	**7440-38-2**	**0.0437**	FB-01	**0.00766**
Barium	**7440-39-3**	**1.02**	FB-01	**0.874**
Beryllium	7440-41-7	5.69E-6	U	0.00261
Cadmium	7440-43-9	0.00151	U	0.0605
Chromium	7440-47-3	1.09	U	1.81
Cobalt	7440-48-4	0.0199	U	0.0356
Copper	7440-50-8	0.721	U	2.15
Lead	7439-92-1	0.0400	U	0.175
Manganese	7439-96-5	0.372	U	1.54
Molybdenum	7439-98-7	0.154	U	0.293
Nickel	7440-02-0	0.420	U	0.533
Selenium	7782-49-2	0.00297	LJ, QX, U	0.00732
Thallium	7440-28-0	1.75E-4	U	4.81E-4
Vanadium	**7440-62-2**	**0.0468**	FB-01	**0.0432**
Zinc	7440-66-6	13.7	U	62.7

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062324-HM
Matrix: Air
Lab ID: 4070134-15
Sample Volume: 1959.803 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 08:38

Comments: Q8504343 - 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**	**0.615**	SL	**0.0320**
Barium	**7440-39-3**	**11.0**		**0.888**
Beryllium	**7440-41-7**	**0.0229**		**0.00266**
Cadmium	**7440-43-9**	**0.0633**		**0.0615**
Chromium	**7440-47-3**	**7.81**		**1.83**
Cobalt	**7440-48-4**	**1.14**		**0.0362**
Copper	**7440-50-8**	**105**		**2.18**
Lead	**7439-92-1**	**0.711**		**0.178**
Manganese	**7439-96-5**	**27.7**		**1.57**
Molybdenum	**7439-98-7**	**4.71**		**0.298**
Nickel	**7440-02-0**	**3.90**		**0.541**
Selenium	**7782-49-2**	**0.191**	LJ, QX	**0.00744**
Thallium	**7440-28-0**	**0.00168**		**4.89E-4**
Vanadium	**7440-62-2**	**3.31**		**0.0439**
Zinc	7440-66-6	27.6	U	63.8

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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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062324-HM
Matrix: Air
Lab ID: 4070134-15RE1
Sample Volume: 1959.803 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 19:02

Comments: Q8504343 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**1.48**	D	**0.0156**

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062324-HM
Matrix: Air
Lab ID: 4070134-16
Sample Volume: 1985.748 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 08:58

Comments: Q8504342 - 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**	**0.159**	SL	**0.0316**
Arsenic	**7440-38-2**	**1.07**		**0.00768**
Barium	**7440-39-3**	**9.28**		**0.877**
Beryllium	**7440-41-7**	**0.0404**		**0.00262**
Cadmium	7440-43-9	0.0282	U	0.0607
Chromium	**7440-47-3**	**6.34**		**1.81**
Cobalt	**7440-48-4**	**1.45**		**0.0357**
Copper	**7440-50-8**	**78.0**		**2.15**
Lead	**7439-92-1**	**2.45**		**0.175**
Manganese	**7439-96-5**	**38.4**		**1.55**
Molybdenum	**7439-98-7**	**2.62**		**0.294**
Nickel	**7440-02-0**	**4.34**		**0.534**
Selenium	**7782-49-2**	**0.253**	LJ, QX	**0.00734**
Thallium	**7440-28-0**	**0.00215**		**4.83E-4**
Vanadium	**7440-62-2**	**4.18**		**0.0433**
Zinc	7440-66-6	34.4	U	62.9

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062324-HM
Matrix: Air
Lab ID: 4070134-17
Sample Volume: 2009.181 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 09:15

Comments: Q8504341 - 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**	**0.0544**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.418**		**0.00759**
Barium	**7440-39-3**	**2.52**		**0.866**
Beryllium	**7440-41-7**	**0.00974**		**0.00259**
Cadmium	7440-43-9	0.00688	U	0.0600
Chromium	**7440-47-3**	**2.36**		**1.79**
Cobalt	**7440-48-4**	**0.268**		**0.0353**
Copper	**7440-50-8**	**67.9**		**2.13**
Lead	**7439-92-1**	**0.458**		**0.173**
Manganese	**7439-96-5**	**6.31**		**1.53**
Molybdenum	**7439-98-7**	**2.77**		**0.291**
Nickel	**7440-02-0**	**1.19**		**0.528**
Selenium	**7782-49-2**	**0.127**	LJ, QX	**0.00726**
Thallium	**7440-28-0**	**8.46E-4**		**4.77E-4**
Vanadium	**7440-62-2**	**0.699**		**0.0428**
Zinc	7440-66-6	10.1	U	62.2

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062324-HM
Matrix: Air
Lab ID: 4070134-18
Sample Volume: 1739.005 m³
Filter ID:
Sampled: 06/23/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/02/24 20:48

Comments: Q8520670 - 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**	**0.0865**	SL	**0.0361**
Arsenic	**7440-38-2**	**0.352**		**0.00877**
Barium	**7440-39-3**	**3.53**		**1.00**
Beryllium	**7440-41-7**	**0.0122**		**0.00299**
Cadmium	7440-43-9	0.00923	U	0.0693
Chromium	**7440-47-3**	**2.53**		**2.07**
Cobalt	**7440-48-4**	**0.395**		**0.0408**
Copper	**7440-50-8**	**27.5**		**2.46**
Lead	**7439-92-1**	**0.652**		**0.200**
Manganese	**7439-96-5**	**12.2**		**1.77**
Molybdenum	**7439-98-7**	**1.48**		**0.336**
Nickel	**7440-02-0**	**1.30**		**0.610**
Selenium	**7782-49-2**	**0.159**	LJ, QX	**0.00838**
Thallium	**7440-28-0**	**0.00110**		**5.51E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0495**
Zinc	7440-66-6	15.7	U	71.9

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062424-HM
Matrix: Air
Lab ID: 4070134-19
Sample Volume: 1938.175 m³
Filter ID:
Sampled: 06/24/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 09:31

Comments: Q8520667 - 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**	**0.257**	SL	**0.0324**
Arsenic	**7440-38-2**	**7.31**		**0.00787**
Barium	**7440-39-3**	**12.2**		**0.898**
Beryllium	**7440-41-7**	**0.0398**		**0.00269**
Cadmium	7440-43-9	0.0612	U	0.0622
Chromium	**7440-47-3**	**8.23**		**1.86**
Cobalt	**7440-48-4**	**1.68**		**0.0366**
Copper	**7440-50-8**	**124**		**2.21**
Lead	**7439-92-1**	**0.769**		**0.180**
Manganese	**7439-96-5**	**46.7**		**1.59**
Molybdenum	**7439-98-7**	**4.00**		**0.301**
Nickel	**7440-02-0**	**3.73**		**0.547**
Selenium	**7782-49-2**	**0.266**	LJ, QX	**0.00752**
Thallium	**7440-28-0**	**0.00222**		**4.94E-4**
Vanadium	**7440-62-2**	**4.74**		**0.0444**
Zinc	7440-66-6	36.2	U	64.5

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062424-HM
Matrix: Air
Lab ID: 4070134-20
Sample Volume: 1975.429 m³
Filter ID:
Sampled: 06/24/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 09:50

Comments: Q8520666 - 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**	**0.157**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.878**		**0.00772**
Barium	**7440-39-3**	**8.90**		**0.881**
Beryllium	**7440-41-7**	**0.0388**		**0.00264**
Cadmium	**7440-43-9**	**0.0908**		**0.0610**
Chromium	**7440-47-3**	**6.48**		**1.82**
Cobalt	**7440-48-4**	**1.18**		**0.0359**
Copper	**7440-50-8**	**88.6**		**2.17**
Lead	**7439-92-1**	**2.26**		**0.176**
Manganese	**7439-96-5**	**34.4**		**1.56**
Molybdenum	**7439-98-7**	**2.17**		**0.296**
Nickel	**7440-02-0**	**3.88**		**0.537**
Selenium	**7782-49-2**	**0.241**	LJ, QX	**0.00738**
Thallium	**7440-28-0**	**0.00176**		**4.85E-4**
Vanadium	**7440-62-2**	**3.83**		**0.0436**
Zinc	7440-66-6	39.9	U	63.3

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062424-HM
Matrix: Air
Lab ID: 4070134-21
Sample Volume: 2004.133 m³
Filter ID:
Sampled: 06/24/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 10:10

Comments: Q8520665 - 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**	**0.0573**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.320**		**0.00761**
Barium	**7440-39-3**	**3.62**		**0.869**
Beryllium	**7440-41-7**	**0.0448**		**0.00260**
Cadmium	7440-43-9	0.00931	U	0.0602
Chromium	**7440-47-3**	**3.39**		**1.79**
Cobalt	**7440-48-4**	**0.604**		**0.0354**
Copper	**7440-50-8**	**74.8**		**2.14**
Lead	**7439-92-1**	**0.460**		**0.174**
Manganese	**7439-96-5**	**13.3**		**1.53**
Molybdenum	**7439-98-7**	**3.00**		**0.291**
Nickel	**7440-02-0**	**1.81**		**0.529**
Selenium	**7782-49-2**	**0.176**	LJ, QX	**0.00727**
Thallium	**7440-28-0**	**8.46E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**1.62**		**0.0429**
Zinc	7440-66-6	12.0	U	62.3

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062424-HM
Matrix: Air
Lab ID: 4070134-22
Sample Volume: 1765.702 m³
Filter ID:
Sampled: 06/24/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 11:41

Comments: Q8520664 - 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**	**0.120**	SL	**0.0356**
Arsenic	**7440-38-2**	**0.705**		**0.00863**
Barium	**7440-39-3**	**5.35**		**0.986**
Beryllium	**7440-41-7**	**0.0229**		**0.00295**
Cadmium	**7440-43-9**	**0.287**		**0.0683**
Chromium	**7440-47-3**	**4.09**		**2.04**
Cobalt	**7440-48-4**	**0.784**		**0.0402**
Copper	**7440-50-8**	**33.3**		**2.42**
Lead	**7439-92-1**	**1.32**		**0.197**
Manganese	**7439-96-5**	**23.2**		**1.74**
Molybdenum	**7439-98-7**	**1.43**		**0.331**
Nickel	**7440-02-0**	**2.24**		**0.601**
Selenium	**7782-49-2**	**0.169**	LJ, QX	**0.00826**
Thallium	**7440-28-0**	**0.00140**	QB-04	**5.43E-4**
Vanadium	**7440-62-2**	**1.96**		**0.0487**
Zinc	7440-66-6	20.8	U	70.8

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062424-HM
Matrix: Air
Lab ID: 4070134-23
Sample Volume: 1938.175 m³
Filter ID:
Sampled: 06/24/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 12:01

Comments: Q8504353 - 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	0.0164	SL, U	0.0324
Arsenic	7440-38-2	0.00785	U	0.00787
Barium	**7440-39-3**	**0.975**	FB-01	**0.898**
Beryllium	7440-41-7	ND	U	0.00269
Cadmium	7440-43-9	7.21E-4	U	0.0622
Chromium	7440-47-3	1.06	U	1.86
Cobalt	7440-48-4	0.0105	U	0.0366
Copper	7440-50-8	0.761	U	2.21
Lead	7439-92-1	0.0274	U	0.180
Manganese	7439-96-5	0.182	U	1.59
Molybdenum	7439-98-7	0.201	U	0.301
Nickel	7440-02-0	0.424	U	0.547
Selenium	7782-49-2	0.00232	LJ, QX, U	0.00752
Thallium	7440-28-0	1.34E-4	QB-04, U	4.94E-4
Vanadium	7440-62-2	0.0189	U	0.0444
Zinc	7440-66-6	6.24	U	64.5

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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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062524-HM
Matrix: Air
Lab ID: 4070134-24
Sample Volume: 1974.712 m³
Filter ID:
Sampled: 06/25/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 12:17

Comments: Q8504355 - 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**	**0.335**	SL	**0.0318**
Arsenic	**7440-38-2**	**8.79**		**0.00772**
Barium	**7440-39-3**	**16.2**		**0.882**
Beryllium	**7440-41-7**	**0.0433**		**0.00264**
Cadmium	**7440-43-9**	**0.123**		**0.0611**
Chromium	**7440-47-3**	**9.37**		**1.82**
Cobalt	**7440-48-4**	**1.71**		**0.0359**
Copper	**7440-50-8**	**143**		**2.17**
Lead	**7439-92-1**	**0.807**		**0.176**
Manganese	**7439-96-5**	**48.7**		**1.56**
Molybdenum	**7439-98-7**	**4.70**		**0.296**
Nickel	**7440-02-0**	**4.31**		**0.537**
Selenium	**7782-49-2**	**0.276**	LJ, QX	**0.00738**
Thallium	**7440-28-0**	**0.00237**	QB-04	**4.85E-4**
Vanadium	**7440-62-2**	**4.85**		**0.0436**
Zinc	7440-66-6	56.0	U	63.3

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062524-HM
Matrix: Air
Lab ID: 4070134-25
Sample Volume: 2067.21 m³
Filter ID:
Sampled: 06/25/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 12:37

Comments: Q8504354 - 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**	**0.177**	SL	**0.0304**
Arsenic	**7440-38-2**	**1.06**		**0.00737**
Barium	**7440-39-3**	**10.3**		**0.842**
Beryllium	**7440-41-7**	**0.0390**		**0.00252**
Cadmium	7440-43-9	0.0449	U	0.0583
Chromium	**7440-47-3**	**6.91**		**1.74**
Cobalt	**7440-48-4**	**1.49**		**0.0343**
Copper	**7440-50-8**	**89.7**		**2.07**
Lead	**7439-92-1**	**2.72**		**0.168**
Manganese	**7439-96-5**	**38.4**		**1.49**
Molybdenum	**7439-98-7**	**2.50**		**0.283**
Nickel	**7440-02-0**	**4.97**		**0.513**
Selenium	**7782-49-2**	**0.246**	LJ, QX	**0.00705**
Thallium	**7440-28-0**	**0.00237**	QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**4.45**		**0.0416**
Zinc	7440-66-6	38.1	U	60.4

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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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062524-HM
Matrix: Air
Lab ID: 4070134-26
Sample Volume: 2051.895 m³
Filter ID:
Sampled: 06/25/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 12:57

Comments: Q8504351 - 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**	**0.0457**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.272**		**0.00743**
Barium	**7440-39-3**	**2.98**		**0.848**
Beryllium	**7440-41-7**	**0.0241**		**0.00254**
Cadmium	7440-43-9	0.00771	U	0.0588
Chromium	**7440-47-3**	**2.65**		**1.75**
Cobalt	**7440-48-4**	**0.420**		**0.0346**
Copper	**7440-50-8**	**87.4**		**2.09**
Lead	**7439-92-1**	**0.406**		**0.170**
Manganese	**7439-96-5**	**9.60**		**1.50**
Molybdenum	**7439-98-7**	**3.15**		**0.285**
Nickel	**7440-02-0**	**1.42**		**0.517**
Selenium	**7782-49-2**	**0.139**	LJ, QX	**0.00710**
Thallium	**7440-28-0**	**7.88E-4**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0419**
Zinc	7440-66-6	17.9	U	60.9

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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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062524-HM
Matrix: Air
Lab ID: 4070134-27
Sample Volume: 1790.733 m³
Filter ID:
Sampled: 06/25/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 13:14

Comments: Q8504348 - 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**	**0.0879**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.462**		**0.00851**
Barium	**7440-39-3**	**4.69**		**0.972**
Beryllium	**7440-41-7**	**0.0137**		**0.00291**
Cadmium	7440-43-9	0.0168	U	0.0673
Chromium	**7440-47-3**	**3.08**		**2.01**
Cobalt	**7440-48-4**	**0.523**		**0.0396**
Copper	**7440-50-8**	**37.7**		**2.39**
Lead	**7439-92-1**	**1.08**		**0.194**
Manganese	**7439-96-5**	**16.8**		**1.72**
Molybdenum	**7439-98-7**	**1.56**		**0.326**
Nickel	**7440-02-0**	**1.73**		**0.592**
Selenium	**7782-49-2**	**0.162**	LJ, QX	**0.00814**
Thallium	**7440-28-0**	**0.00104**	QB-04	**5.35E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0481**
Zinc	7440-66-6	23.2	U	69.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-062624-HM
Matrix: Air
Lab ID: 4070134-28
Sample Volume: 1980.511 m³
Filter ID:
Sampled: 06/26/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 13:34

Comments: Q8504347 - 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**	**0.0859**	SL	**0.0317**
Arsenic	**7440-38-2**	**1.57**		**0.00770**
Barium	**7440-39-3**	**12.5**		**0.879**
Beryllium	**7440-41-7**	**0.0464**		**0.00263**
Cadmium	7440-43-9	0.0270	U	0.0609
Chromium	**7440-47-3**	**6.86**		**1.82**
Cobalt	**7440-48-4**	**1.73**		**0.0358**
Copper	**7440-50-8**	**138**		**2.16**
Lead	**7439-92-1**	**1.22**		**0.176**
Manganese	**7439-96-5**	**49.9**		**1.55**
Molybdenum	**7439-98-7**	**4.94**		**0.295**
Nickel	**7440-02-0**	**3.95**		**0.536**
Selenium	**7782-49-2**	**0.299**	LJ, QX	**0.00736**
Thallium	**7440-28-0**	**0.00245**	QB-04	**4.84E-4**
Vanadium	**7440-62-2**	**4.76**		**0.0435**
Zinc	7440-66-6	18.3	U	63.1

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-062624-HM
Matrix: Air
Lab ID: 4070134-29
Sample Volume: 2013.069 m³
Filter ID:
Sampled: 06/26/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 13:53

Comments: Q8520661 - 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	**0.0312**
Arsenic	**7440-38-2**	**0.618**		**0.00757**
Barium	**7440-39-3**	**5.03**		**0.865**
Beryllium	**7440-41-7**	**0.0146**		**0.00259**
Cadmium	7440-43-9	0.0187	U	0.0599
Chromium	**7440-47-3**	**2.50**		**1.79**
Cobalt	**7440-48-4**	**0.475**		**0.0352**
Copper	**7440-50-8**	**96.3**		**2.13**
Lead	**7439-92-1**	**0.949**		**0.173**
Manganese	**7439-96-5**	**14.1**		**1.53**
Molybdenum	**7439-98-7**	**3.18**		**0.290**
Nickel	**7440-02-0**	**1.65**		**0.527**
Selenium	**7782-49-2**	**0.199**	LJ, QX	**0.00724**
Thallium	**7440-28-0**	**9.70E-4**	QB-04	**4.76E-4**
Vanadium	**7440-62-2**	**1.56**		**0.0428**
Zinc	7440-66-6	15.5	U	62.1

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-062624-HM
Matrix: Air
Lab ID: 4070134-30
Sample Volume: 2002.699 m³
Filter ID:
Sampled: 06/26/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 14:32

Comments: Q8520655 - 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**	**0.0837**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.354**		**0.00761**
Barium	**7440-39-3**	**4.25**		**0.869**
Beryllium	**7440-41-7**	**0.0423**		**0.00260**
Cadmium	7440-43-9	0.00874	U	0.0602
Chromium	**7440-47-3**	**3.10**		**1.80**
Cobalt	**7440-48-4**	**0.624**		**0.0354**
Copper	**7440-50-8**	**89.6**		**2.14**
Lead	**7439-92-1**	**0.664**		**0.174**
Manganese	**7439-96-5**	**16.1**		**1.54**
Molybdenum	**7439-98-7**	**2.76**		**0.292**
Nickel	**7440-02-0**	**1.91**		**0.530**
Selenium	**7782-49-2**	**0.205**	LJ, QX	**0.00728**
Thallium	**7440-28-0**	**9.96E-4**	QB-04	**4.79E-4**
Vanadium	**7440-62-2**	**1.78**		**0.0430**
Zinc	7440-66-6	13.7	U	62.4

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-062624-HM
Matrix: Air
Lab ID: 4070134-31
Sample Volume: 1743.188 m³
Filter ID:
Sampled: 06/26/24 23:59
Received: 07/01/24 15:07
Analysis Date: 07/03/24 16:11

Comments: Q8520653 - 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**	**0.151**	SL	**0.0360**
Arsenic	**7440-38-2**	**0.865**		**0.00875**
Barium	**7440-39-3**	**6.90**		**0.999**
Beryllium	**7440-41-7**	**0.0263**		**0.00299**
Cadmium	7440-43-9	0.0207	U	0.0692
Chromium	**7440-47-3**	**4.09**		**2.06**
Cobalt	**7440-48-4**	**0.856**		**0.0407**
Copper	**7440-50-8**	**44.5**	LJ, QX	**2.45**
Lead	**7439-92-1**	**1.84**		**0.200**
Manganese	**7439-96-5**	**28.9**		**1.76**
Molybdenum	**7439-98-7**	**1.47**		**0.335**
Nickel	**7440-02-0**	**2.43**		**0.609**
Selenium	**7782-49-2**	**0.230**	LJ, QX	**0.00836**
Thallium	**7440-28-0**	**0.00147**	QB-04	**5.50E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0494**
Zinc	7440-66-6	23.5	U	71.7

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-062624-HM
Matrix: Air
Lab ID: 4070134-32
Sample Volume: 1980.511 m³
Filter ID:
Sampled: 06/26/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 16:30

Comments: Q8520647 - 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	0.0196	SL, U	0.0317
Arsenic	7440-38-2	0.00608	U	0.00770
Barium	7440-39-3	0.798	U	0.879
Beryllium	7440-41-7	ND	U	0.00263
Cadmium	7440-43-9	8.07E-4	U	0.0609
Chromium	7440-47-3	0.829	U	1.82
Cobalt	7440-48-4	0.0104	U	0.0358
Copper	7440-50-8	1.03	LJ, QX, U	2.16
Lead	7439-92-1	0.0476	U	0.176
Manganese	7439-96-5	0.193	U	1.55
Molybdenum	7439-98-7	0.160	U	0.295
Nickel	7440-02-0	0.381	U	0.536
Selenium	7782-49-2	9.37E-4	LJ, QX, U	0.00736
Thallium	7440-28-0	1.51E-4	QB-04, U	4.84E-4
Vanadium	7440-62-2	0.0132	U	0.0435
Zinc	7440-66-6	3.66	U	63.1

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: 07/09/24 14:35
SUBMITTED: 07/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-062624-HM
Matrix: Air
Lab ID: 4070134-33
Sample Volume: 1980.511 m³
Filter ID:
Sampled: 06/26/24 00:00
Received: 07/01/24 15:07
Analysis Date: 07/03/24 16:47

Comments: Q8520643 - 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	0.0197	SL, U	0.0317
Arsenic	**7440-38-2**	**0.00800**	FB-01	**0.00770**
Barium	7440-39-3	0.767	U	0.879
Beryllium	7440-41-7	ND	U	0.00263
Cadmium	7440-43-9	5.81E-4	U	0.0609
Chromium	7440-47-3	0.835	U	1.82
Cobalt	7440-48-4	0.0103	U	0.0358
Copper	7440-50-8	0.353	LJ, QX, U	2.16
Lead	7439-92-1	0.0236	U	0.176
Manganese	7439-96-5	0.162	U	1.55
Molybdenum	7439-98-7	0.152	U	0.295
Nickel	7440-02-0	0.379	U	0.536
Selenium	7782-49-2	0.00122	LJ, QX, U	0.00736
Thallium	7440-28-0	1.26E-4	QB-04, U	4.84E-4
Vanadium	7440-62-2	0.0141	U	0.0435
Zinc	7440-66-6	4.33	U	63.1

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: 07/09/24 14:35
SUBMITTED: 07/01/24
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 2407015 - B4G0205										
Calibration Blank (2407015-CCB1)				Prepared & Analyzed: 07/02/24						
Antimony	0.397		ng/l							
Arsenic	1.26		ng/l							
Barium	2.48		ng/l							
Beryllium	-2.73		ng/l							U
Cadmium	0.328		ng/l							
Chromium	1.70		ng/l							
Cobalt	0.439		ng/l							
Copper	71.5		ng/l							
Lead	4.54		ng/l							
Manganese	7.05		ng/l							
Molybdenum	24.4		ng/l							
Nickel	-3.20		ng/l							U
Selenium	-4.86		ng/l							LJ, QX, U
Thallium	1.02		ng/l							
Vanadium	30.6		ng/l							
Zinc	-53.2		ng/l							U
Calibration Blank (2407015-CCB2)				Prepared & Analyzed: 07/02/24						
Antimony	0.147		ng/l							
Arsenic	-0.553		ng/l							U
Barium	1.38		ng/l							
Beryllium	-3.58		ng/l							U
Cadmium	0.0862		ng/l							
Chromium	0.0157		ng/l							
Cobalt	0.186		ng/l							
Copper	66.8		ng/l							
Lead	1.57		ng/l							
Manganese	2.95		ng/l							
Molybdenum	3.77		ng/l							
Nickel	-3.03		ng/l							U
Selenium	-1.87		ng/l							LJ, QX, U
Thallium	0.785		ng/l							
Vanadium	19.6		ng/l							
Zinc	-41.9		ng/l							U
Calibration Blank (2407015-CCB3)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.157		ng/l							
Arsenic	4.10		ng/l							
Barium	2.54		ng/l							
Beryllium	-3.66		ng/l							U

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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 2407015 - B4G0205										
Calibration Blank (2407015-CCB3) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Cadmium	0.0736		ng/l							
Chromium	2.61		ng/l							
Cobalt	0.382		ng/l							
Copper	86.8		ng/l							
Lead	2.48		ng/l							
Manganese	4.83		ng/l							
Molybdenum	5.93		ng/l							
Nickel	-0.335		ng/l							U
Selenium	-1.64		ng/l							LJ, QX, U
Thallium	1.26		ng/l							
Vanadium	11.1		ng/l							
Zinc	-51.3		ng/l							U
Calibration Blank (2407015-CCB4)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	-0.0191		ng/l							U
Arsenic	6.79		ng/l							
Barium	2.09		ng/l							
Beryllium	-4.19		ng/l							U
Cadmium	0.0989		ng/l							
Chromium	1.79		ng/l							
Cobalt	0.294		ng/l							
Copper	74.6		ng/l							
Lead	1.95		ng/l							
Manganese	4.35		ng/l							
Molybdenum	6.45		ng/l							
Nickel	0.136		ng/l							
Selenium	-8.82		ng/l							LJ, QX, U
Thallium	0.810		ng/l							
Vanadium	-4.79		ng/l							U
Zinc	-52.4		ng/l							U
Calibration Blank (2407015-CCB5)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.189		ng/l							
Arsenic	-0.0274		ng/l							U
Barium	2.40		ng/l							
Beryllium	-4.13		ng/l							U
Cadmium	0.223		ng/l							
Chromium	1.89		ng/l							
Cobalt	0.396		ng/l							
Copper	69.9		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Blank (2407015-CCB5) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Lead	2.03		ng/l							
Manganese	3.66		ng/l							
Molybdenum	5.69		ng/l							
Nickel	-3.20		ng/l							U
Selenium	0.152		ng/l							LJ, QX
Thallium	0.934		ng/l							
Vanadium	-28.3		ng/l							U
Zinc	37.2		ng/l							
Calibration Blank (2407015-CCB6)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.516		ng/l							
Arsenic	-2.03		ng/l							U
Barium	5.24		ng/l							
Beryllium	-4.61		ng/l							U
Cadmium	0.339		ng/l							
Chromium	4.08		ng/l							
Cobalt	0.894		ng/l							
Copper	139		ng/l							
Lead	4.46		ng/l							
Manganese	11.3		ng/l							
Molybdenum	10.8		ng/l							
Nickel	1.28		ng/l							
Selenium	-2.45		ng/l							LJ, QX, U
Thallium	1.41		ng/l							QB-04
Vanadium	-40.8		ng/l							U
Zinc	-41.1		ng/l							U
Calibration Blank (2407015-CCB7)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.424		ng/l							
Arsenic	0.485		ng/l							
Barium	4.91		ng/l							
Beryllium	-4.14		ng/l							U
Cadmium	0.389		ng/l							
Chromium	2.90		ng/l							
Cobalt	0.805		ng/l							
Copper	106		ng/l							
Lead	3.84		ng/l							
Manganese	8.93		ng/l							
Molybdenum	9.73		ng/l							
Nickel	-1.73		ng/l							U

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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 2407015 - B4G0205										
Calibration Blank (2407015-CCB7) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Selenium	11.3		ng/l							LJ, QX
Thallium	1.56		ng/l							QB-04
Vanadium	-49.7		ng/l							U
Zinc	-38.1		ng/l							U
Calibration Check (2407015-CCV1)				Prepared & Analyzed: 07/02/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19800		ng/l	20000		99.1	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2407015-CCV2)				Prepared & Analyzed: 07/02/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			LJ, QX
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	515000		ng/l	500000		103	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Check (2407015-CCV3)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	51700		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19800		ng/l	20000		99.2	90-110			LJ, QX
Thallium	489		ng/l	500.00		97.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2407015-CCV4)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	52400		ng/l	50000		105	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		101	90-110			LJ, QX
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2407015-CCV5)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5250		ng/l	5000.0		105	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 2407015 - B4G0205										
Calibration Check (2407015-CCV5) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	525000		ng/l	500000		105	90-110			
Molybdenum	53500		ng/l	50000		107	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	473		ng/l	500.00		94.6	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2407015-CCV6)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	257000		ng/l	240000		107	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.21E6		ng/l	2.0000E6		110	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	536000		ng/l	500000		107	90-110			
Molybdenum	54300		ng/l	50000		109	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20600		ng/l	20000		103	90-110			LJ, QX
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	21000		ng/l	20000		105	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Calibration Check (2407015-CCV7)				Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		105	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	258000		ng/l	240000		108	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.22E6		ng/l	2.0000E6		111	90-110			LJ, QX

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Calibration Check (2407015-CCV7) Contin				Prepared: 07/02/24 Analyzed: 07/03/24						
Lead	208000		ng/l	200000		104	90-110			
Manganese	529000		ng/l	500000		106	90-110			
Molybdenum	54900		ng/l	50000		110	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20800		ng/l	20000		104	90-110			LJ, QX
Thallium	477		ng/l	500.00		95.4	90-110			
Vanadium	21100		ng/l	20000		106	90-110			
Zinc	540000		ng/l	500000		108	90-110			
High Cal Check (2407015-HCV1)				Prepared & Analyzed: 07/02/24						
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	40200		ng/l	40000		100	95-105			
Barium	399000		ng/l	400000		99.8	95-105			
Beryllium	9910		ng/l	10000		99.1	95-105			
Cadmium	40300		ng/l	40000		101	95-105			
Chromium	488000		ng/l	480000		102	95-105			
Cobalt	100000		ng/l	100000		100	95-105			
Copper	4.00E6		ng/l	4.0000E6		100	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	241000		ng/l	240000		101	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			LJ, QX
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	40600		ng/l	40000		102	95-105			
Zinc	1.00E6		ng/l	1.0000E6		100	95-105			
Initial Cal Blank (2407015-ICB1)				Prepared & Analyzed: 07/02/24						
Antimony	0.308		ng/l							
Arsenic	-3.65		ng/l							U
Barium	1.02		ng/l							
Beryllium	-2.18		ng/l							U
Cadmium	0.138		ng/l							
Chromium	-0.0522		ng/l							U
Cobalt	0.155		ng/l							
Copper	159		ng/l							
Lead	2.23		ng/l							
Manganese	7.80		ng/l							
Molybdenum	7.85		ng/l							
Nickel	-4.51		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407015 - B4G0205										
Initial Cal Blank (2407015-ICB1) Continu				Prepared & Analyzed: 07/02/24						
Selenium	9.11		ng/l							LJ, QX
Thallium	0.878		ng/l							
Vanadium	46.2		ng/l							
Zinc	-54.6		ng/l							U
Initial Cal Check (2407015-ICV1)				Prepared & Analyzed: 07/02/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19400		ng/l	20000		97.0	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	5170		ng/l	5000.0		103	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	48700		ng/l	50000		97.3	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	496000		ng/l	500000		99.2	90-110			
Molybdenum	49700		ng/l	50000		99.5	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	500		ng/l	500.00		99.9	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Interference Check A (2407015-IFA1)				Prepared & Analyzed: 07/02/24						
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	320000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, 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

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: 07/09/24 14:35
SUBMITTED: 07/01/24
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 2407015 - B4G0205										
Interference Check B (2407015-IFB1)				Prepared & Analyzed: 07/02/24						
Antimony	20300		ng/l	20000		102	80-120			
Arsenic	20300		ng/l	20000		101	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4940		ng/l	5000.0		98.8	80-120			
Cadmium	19900		ng/l	20000		99.4	80-120			
Chromium	235000		ng/l	240000		97.9	80-120			
Cobalt	49200		ng/l	50000		98.4	80-120			
Copper	1.90E6		ng/l	2.0000E6		95.2	80-120			
Lead	209000		ng/l	200000		104	80-120			
Manganese	514000		ng/l	500000		103	80-120			
Molybdenum	372000		ng/l	350000		106	80-120			
Nickel	117000		ng/l	120000		97.1	80-120			
Selenium	18800		ng/l	20000		94.0	80-120			LJ, QX
Thallium	521		ng/l	500.00		104	80-120			
Vanadium	19500		ng/l	20000		97.3	80-120			
Zinc	469000		ng/l	500000		93.8	80-120			
Batch B4G0205 - ICP-MS Extraction										
Blank (B4G0205-BLK1)				Prepared & Analyzed: 07/02/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
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							LJ, QX, 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							U
LCS (B4G0205-BS1)				Prepared & Analyzed: 07/02/24						
Antimony	0.642	0.0386	ng/m³ Air	1.3829		46.4	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.9	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			

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 B4G0205 - ICP-MS Extraction										
LCS (B4G0205-BS1) Continued					Prepared & Analyzed: 07/02/24					
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	28.9	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		97.2	80-120			
Manganese	8.35	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.59	0.359	ng/m³ Air	1.3829		115	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.64	0.00896	ng/m³ Air	2.7658		95.5	80-120			LJ, QX
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		96.1	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	96.0	76.8	ng/m³ Air	82.975		116	80-120			
LCS (B4G0205-BS2)					Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	0.652	0.0386	ng/m³ Air	1.3829		47.2	80-120			SL
Arsenic	2.73	0.00937	ng/m³ Air	2.7658		98.6	80-120			
Barium	29.0	1.07	ng/m³ Air	27.658		105	80-120			
Beryllium	1.36	0.00320	ng/m³ Air	1.3829		98.6	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	15.8	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.3	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		98.9	80-120			
Manganese	8.50	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.63	0.359	ng/m³ Air	1.3829		118	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.68	0.00896	ng/m³ Air	2.7658		96.9	80-120			LJ, QX
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.0	80-120			
Vanadium	2.82	0.0529	ng/m³ Air	2.7658		102	80-120			
Zinc	95.1	76.8	ng/m³ Air	82.975		115	80-120			
Duplicate (B4G0205-DUP1)		**Source: 4070134-18**			Prepared & Analyzed: 07/02/24					
Antimony	0.108	0.0361	ng/m³ Air		0.0865			22.5	10	SL
Arsenic	0.342	0.00877	ng/m³ Air		0.352			2.71	10	
Barium	3.72	1.00	ng/m³ Air		3.53			5.09	10	
Beryllium	0.0122	0.00299	ng/m³ Air		0.0122			0.0353	10	
Cadmium	ND	0.0693	ng/m³ Air		ND				10	U
Chromium	2.51	2.07	ng/m³ Air		2.53			0.607	10	
Cobalt	0.406	0.0408	ng/m³ Air		0.395			2.85	10	

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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 B4G0205 - ICP-MS Extraction										
Duplicate (B4G0205-DUP1) Continued			**Source: 4070134-18**		Prepared & Analyzed: 07/02/24					
Copper	30.7	2.46	ng/m³ Air		27.5			11.0	10	
Lead	0.783	0.200	ng/m³ Air		0.652			18.3	10	
Manganese	12.7	1.77	ng/m³ Air		12.2			3.68	10	
Molybdenum	1.45	0.336	ng/m³ Air		1.48			2.61	10	
Nickel	1.32	0.610	ng/m³ Air		1.30			1.98	10	
Selenium	0.144	0.00838	ng/m³ Air		0.159			9.77	10	LJ, QX
Thallium	0.00103	5.51E-4	ng/m³ Air		0.00110			6.98	10	
Vanadium	1.04	0.0495	ng/m³ Air		1.03			0.734	10	
Zinc	ND	71.9	ng/m³ Air		ND				10	U
Duplicate (B4G0205-DUP3)			**Source: 4070134-21**		Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	0.0565	0.0313	ng/m³ Air		0.0573			1.39	10	SL
Arsenic	0.318	0.00761	ng/m³ Air		0.320			0.798	10	
Barium	3.61	0.869	ng/m³ Air		3.62			0.370	10	
Beryllium	0.0465	0.00260	ng/m³ Air		0.0448			3.74	10	
Cadmium	ND	0.0602	ng/m³ Air		ND				10	U
Chromium	3.39	1.79	ng/m³ Air		3.39			0.232	10	
Cobalt	0.602	0.0354	ng/m³ Air		0.604			0.328	10	
Copper	74.6	2.14	ng/m³ Air		74.8			0.310	10	
Lead	0.461	0.174	ng/m³ Air		0.460			0.232	10	
Manganese	13.2	1.53	ng/m³ Air		13.3			0.161	10	
Molybdenum	3.01	0.291	ng/m³ Air		3.00			0.414	10	
Nickel	1.79	0.529	ng/m³ Air		1.81			0.614	10	
Selenium	0.163	0.00727	ng/m³ Air		0.176			8.10	10	LJ, QX
Thallium	9.60E-4	4.78E-4	ng/m³ Air		8.46E-4			12.6	10	
Vanadium	1.61	0.0429	ng/m³ Air		1.62			0.288	10	
Zinc	ND	62.3	ng/m³ Air		ND				10	U
Duplicate (B4G0205-DUP4)			**Source: 4070134-29**		Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	0.133	0.0312	ng/m³ Air		0.132			0.982	10	SL
Arsenic	0.618	0.00757	ng/m³ Air		0.618			0.00746	10	
Barium	5.11	0.865	ng/m³ Air		5.03			1.71	10	
Beryllium	0.0145	0.00259	ng/m³ Air		0.0146			0.652	10	
Cadmium	ND	0.0599	ng/m³ Air		ND				10	U
Chromium	2.49	1.79	ng/m³ Air		2.50			0.0516	10	
Cobalt	0.475	0.0352	ng/m³ Air		0.475			0.0571	10	
Copper	96.6	2.13	ng/m³ Air		96.3			0.372	10	
Lead	0.956	0.173	ng/m³ Air		0.949			0.707	10	
Manganese	14.1	1.53	ng/m³ Air		14.1			0.139	10	
Molybdenum	3.20	0.290	ng/m³ Air		3.18			0.671	10	

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FILE #: 4205.00.003.001
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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 B4G0205 - ICP-MS Extraction										
Duplicate (B4G0205-DUP4) Continued		**Source: 4070134-29**		Prepared: 07/02/24 Analyzed: 07/03/24						
Nickel	1.65	0.527	ng/m³ Air		1.65			0.0660	10	
Selenium	0.207	0.00724	ng/m³ Air		0.199			3.60	10	LJ, QX
Thallium	9.86E-4	4.76E-4	ng/m³ Air		9.70E-4			1.65	10	QB-04
Vanadium	1.57	0.0428	ng/m³ Air		1.56			0.513	10	
Zinc	ND	62.1	ng/m³ Air		ND				10	U
Duplicate (B4G0205-DUP5)		**Source: 4070134-06R**		Prepared: 07/02/24 Analyzed: 07/03/24						
Antimony	0.217	0.0626	ng/m³ Air		0.237			8.91	10	D, SL
Arsenic	13.3	0.0152	ng/m³ Air		13.4			0.757	10	D
Barium	16.7	1.74	ng/m³ Air		18.3			8.82	10	D
Beryllium	0.0545	0.00519	ng/m³ Air		0.0535			1.74	10	D
Cadmium	ND	0.120	ng/m³ Air		ND				10	D, U
Chromium	11.3	3.59	ng/m³ Air		11.9			5.62	10	D
Cobalt	2.00	0.0707	ng/m³ Air		2.01			0.266	10	D
Copper	169	4.27	ng/m³ Air		166			2.16	10	D, LJ, QX
Lead	2.17	0.347	ng/m³ Air		2.37			8.70	10	D
Manganese	54.1	3.07	ng/m³ Air		54.7			1.18	10	D
Molybdenum	6.10	0.582	ng/m³ Air		5.82			4.73	10	D
Nickel	5.20	1.06	ng/m³ Air		5.36			3.01	10	D
Selenium	0.312	0.0145	ng/m³ Air		0.312			0.168	10	D, LJ, QX
Thallium	0.00247	9.56E-4	ng/m³ Air		0.00269			8.40	10	D, QB-04
Vanadium	5.61	0.0858	ng/m³ Air		5.78			3.07	10	D
Zinc	ND	125	ng/m³ Air		ND				10	D, U
Matrix Spike (B4G0205-MS1)		**Source: 4070134-18**		Prepared & Analyzed: 07/02/24						
Antimony	0.848	0.0361	ng/m³ Air	1.2938	0.0865	58.9	80-120			SL
Arsenic	2.80	0.00877	ng/m³ Air	2.5877	0.352	94.6	80-120			
Barium	29.8	1.00	ng/m³ Air	25.877	3.53	101	80-120			
Beryllium	1.28	0.00299	ng/m³ Air	1.2938	0.0122	98.3	80-120			
Cadmium	1.32	0.0693	ng/m³ Air	1.2938	ND	102	80-120			
Chromium	15.5	2.07	ng/m³ Air	12.938	2.53	100	80-120			
Cobalt	1.67	0.0408	ng/m³ Air	1.2938	0.395	98.3	80-120			
Copper	53.3	2.46	ng/m³ Air	25.877	27.5	99.7	80-120			
Lead	13.7	0.200	ng/m³ Air	12.938	0.652	101	80-120			
Manganese	19.7	1.77	ng/m³ Air	7.7631	12.2	96.7	80-120			
Molybdenum	2.65	0.336	ng/m³ Air	1.2938	1.48	90.5	80-120			
Nickel	4.00	0.610	ng/m³ Air	2.5877	1.30	104	80-120			
Selenium	2.64	0.00838	ng/m³ Air	2.5877	0.159	96.0	80-120			LJ, QX
Thallium	0.126	5.51E-4	ng/m³ Air	0.12938	0.00110	96.5	80-120			
Vanadium	3.60	0.0495	ng/m³ Air	2.5877	1.03	99.3	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Matrix Spike (B4G0205-MS1) Continued Source: 4070134-18 Prepared & Analyzed: 07/02/24										
Zinc	94.8	71.9	ng/m³ Air	77.631	ND	122	80-120			
Matrix Spike (B4G0205-MS2) Source: 4070134-06 Prepared: 07/02/24 Analyzed: 07/03/24										
Antimony	0.672	0.0313	ng/m³ Air	1.1218	0.237	38.8	80-120			SL
Arsenic	15.9	0.00760	ng/m³ Air	2.2437	13.1	124	80-120			
Barium	38.9	0.868	ng/m³ Air	22.437	18.3	91.8	80-120			
Beryllium	1.16	0.00260	ng/m³ Air	1.1218	0.0547	98.1	80-120			
Cadmium	1.15	0.0601	ng/m³ Air	1.1218	0.0787	95.8	80-120			
Chromium	22.1	1.79	ng/m³ Air	11.218	11.5	95.1	80-120			
Cobalt	3.10	0.0354	ng/m³ Air	1.1218	1.95	102	80-120			
Copper	179	2.13	ng/m³ Air	22.437	156	106	80-120			
Lead	13.1	0.174	ng/m³ Air	11.218	2.47	95.2	80-120			
Manganese	62.2	1.53	ng/m³ Air	6.7310	54.4	116	80-120			
Molybdenum	6.66	0.291	ng/m³ Air	1.1218	5.39	113	80-120			
Nickel	7.35	0.529	ng/m³ Air	2.2437	5.22	95.0	80-120			
Selenium	2.35	0.00727	ng/m³ Air	2.2437	0.294	91.6	80-120			LJ, QX
Thallium	0.102	4.78E-4	ng/m³ Air	0.11218	0.00273	88.1	80-120			
Vanadium	7.75	0.0429	ng/m³ Air	2.2437	5.63	94.7	80-120			
Zinc	102	62.3	ng/m³ Air	67.310	ND	152	80-120			
Matrix Spike (B4G0205-MS3) Source: 4070134-06R Prepared: 07/02/24 Analyzed: 07/03/24										
Antimony	0.667	0.0626	ng/m³ Air	1.1218	0.237	38.3	80-120			D, SL
Arsenic	16.4	0.0152	ng/m³ Air	2.2437	13.4	133	80-120			D, QM-4X
Barium	38.8	1.74	ng/m³ Air	22.437	18.3	91.5	80-120			D
Beryllium	1.16	0.00519	ng/m³ Air	1.1218	0.0535	98.7	80-120			D
Cadmium	1.20	0.120	ng/m³ Air	1.1218	ND	107	80-120			D
Chromium	23.2	3.59	ng/m³ Air	11.218	11.9	100	80-120			D
Cobalt	3.19	0.0707	ng/m³ Air	1.1218	2.01	105	80-120			D
Copper	193	4.27	ng/m³ Air	22.437	166	120	80-120			D, LJ, QX
Lead	12.3	0.347	ng/m³ Air	11.218	2.37	88.1	80-120			D
Manganese	63.4	3.07	ng/m³ Air	6.7310	54.7	129	80-120			D
Molybdenum	7.14	0.582	ng/m³ Air	1.1218	5.82	118	80-120			D
Nickel	7.63	1.06	ng/m³ Air	2.2437	5.36	101	80-120			D
Selenium	2.45	0.0145	ng/m³ Air	2.2437	0.312	95.5	80-120			D, LJ, QX
Thallium	0.0984	9.56E-4	ng/m³ Air	0.11218	0.00269	85.4	80-120			D, QB-04
Vanadium	7.99	0.0858	ng/m³ Air	2.2437	5.78	98.5	80-120			D
Zinc	ND	125	ng/m³ Air	67.310	ND		80-120			D, U
Matrix Spike Dup (B4G0205-MSD1) Source: 4070134-18 Prepared & Analyzed: 07/02/24										
Antimony	0.809	0.0361	ng/m³ Air	1.2938	0.0865	55.9	80-120	4.66	20	SL
Arsenic	2.68	0.00877	ng/m³ Air	2.5877	0.352	89.8	80-120	4.54	20	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G0205 - ICP-MS Extraction										
Matrix Spike Dup (B4G0205-MSD1) Conti				**Source: 4070134-18**		Prepared & Analyzed: 07/02/24				
Barium	28.2	1.00	ng/m³ Air	25.877	3.53	95.2	80-120	5.52	20	
Beryllium	1.23	0.00299	ng/m³ Air	1.2938	0.0122	94.2	80-120	4.17	20	
Cadmium	1.25	0.0693	ng/m³ Air	1.2938	ND	96.8	80-120	5.60	20	
Chromium	14.7	2.07	ng/m³ Air	12.938	2.53	94.4	80-120	5.19	20	
Cobalt	1.60	0.0408	ng/m³ Air	1.2938	0.395	93.5	80-120	3.78	20	
Copper	52.3	2.46	ng/m³ Air	25.877	27.5	95.6	80-120	1.99	20	
Lead	12.7	0.200	ng/m³ Air	12.938	0.652	93.1	80-120	7.59	20	
Manganese	19.7	1.77	ng/m³ Air	7.7631	12.2	96.5	80-120	0.110	20	
Molybdenum	2.60	0.336	ng/m³ Air	1.2938	1.48	86.6	80-120	1.90	20	
Nickel	3.73	0.610	ng/m³ Air	2.5877	1.30	93.9	80-120	6.99	20	
Selenium	2.54	0.00838	ng/m³ Air	2.5877	0.159	92.1	80-120	3.86	20	LJ, QX
Thallium	0.119	5.51E-4	ng/m³ Air	0.12938	0.00110	91.0	80-120	5.80	20	
Vanadium	3.45	0.0495	ng/m³ Air	2.5877	1.03	93.6	80-120	4.14	20	
Zinc	87.6	71.9	ng/m³ Air	77.631	ND	113	80-120	7.91	20	
Matrix Spike Dup (B4G0205-MSD2)				**Source: 4070134-06**		Prepared: 07/02/24	Analyzed: 07/03/24			
Antimony	0.657	0.0313	ng/m³ Air	1.1218	0.237	37.5	80-120	2.24	20	SL
Arsenic	14.9	0.00760	ng/m³ Air	2.2437	13.1	82.6	80-120	6.07	20	
Barium	39.1	0.868	ng/m³ Air	22.437	18.3	92.6	80-120	0.447	20	
Beryllium	1.19	0.00260	ng/m³ Air	1.1218	0.0547	101	80-120	2.68	20	
Cadmium	1.14	0.0601	ng/m³ Air	1.1218	0.0787	94.8	80-120	0.938	20	
Chromium	22.1	1.79	ng/m³ Air	11.218	11.5	94.5	80-120	0.305	20	
Cobalt	3.11	0.0354	ng/m³ Air	1.1218	1.95	103	80-120	0.254	20	
Copper	181	2.13	ng/m³ Air	22.437	156	113	80-120	0.886	20	
Lead	13.2	0.174	ng/m³ Air	11.218	2.47	95.6	80-120	0.329	20	
Manganese	62.4	1.53	ng/m³ Air	6.7310	54.4	118	80-120	0.255	20	
Molybdenum	6.78	0.291	ng/m³ Air	1.1218	5.39	124	80-120	1.76	20	QM-4X
Nickel	7.35	0.529	ng/m³ Air	2.2437	5.22	95.1	80-120	0.0399	20	
Selenium	2.30	0.00727	ng/m³ Air	2.2437	0.294	89.2	80-120	2.33	20	LJ, QX
Thallium	0.102	4.78E-4	ng/m³ Air	0.11218	0.00273	88.2	80-120	0.0941	20	
Vanadium	7.83	0.0429	ng/m³ Air	2.2437	5.63	98.0	80-120	0.966	20	
Zinc	99.3	62.3	ng/m³ Air	67.310	ND	148	80-120	2.83	20	
Matrix Spike Dup (B4G0205-MSD3)				**Source: 4070134-06R**		Prepared: 07/02/24	Analyzed: 07/03/24			
Antimony	0.658	0.0626	ng/m³ Air	1.1218	0.237	37.5	80-120	1.39	20	D, SL
Arsenic	15.6	0.0152	ng/m³ Air	2.2437	13.4	96.7	80-120	5.14	20	D
Barium	39.2	1.74	ng/m³ Air	22.437	18.3	93.3	80-120	0.985	20	D
Beryllium	1.17	0.00519	ng/m³ Air	1.1218	0.0535	99.7	80-120	1.01	20	D
Cadmium	1.21	0.120	ng/m³ Air	1.1218	ND	108	80-120	0.781	20	D
Chromium	23.2	3.59	ng/m³ Air	11.218	11.9	100	80-120	0.00660	20	D

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 14:35
SUBMITTED: 07/01/24
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 B4G0205 - ICP-MS Extraction										
Matrix Spike Dup (B4G0205-MSD3) Conti			**Source: 4070134-06R**			Prepared: 07/02/24		Analyzed: 07/03/24		
Cobalt	3.23	0.0707	ng/m³ Air	1.1218	2.01	109	80-120	1.19	20	D
Copper	197	4.27	ng/m³ Air	22.437	166	140	80-120	2.32	20	D, LJ, QX
Lead	12.3	0.347	ng/m³ Air	11.218	2.37	88.8	80-120	0.620	20	D
Manganese	64.2	3.07	ng/m³ Air	6.7310	54.7	141	80-120	1.22	20	D
Molybdenum	7.39	0.582	ng/m³ Air	1.1218	5.82	141	80-120	3.53	20	D
Nickel	7.71	1.06	ng/m³ Air	2.2437	5.36	105	80-120	1.12	20	D
Selenium	2.45	0.0145	ng/m³ Air	2.2437	0.312	95.4	80-120	0.102	20	D, LJ, QX
Thallium	0.0969	9.56E-4	ng/m³ Air	0.11218	0.00269	84.0	80-120	1.59	20	D, QB-04
Vanadium	8.10	0.0858	ng/m³ Air	2.2437	5.78	103	80-120	1.33	20	D
Zinc	ND	125	ng/m³ Air	67.310	ND		80-120		20	D, U
Post Spike (B4G0205-PS1)			**Source: 4070134-18**			Prepared & Analyzed: 07/02/24				
Antimony	0.344	0.0361	ng/m³ Air	0.25877	0.0865	99.5	75-125			SL
Arsenic	1.59	0.00877	ng/m³ Air	1.2938	0.352	95.7	75-125			
Barium	6.11	1.00	ng/m³ Air	2.5877	3.53	99.5	75-125			
Beryllium	0.268	0.00299	ng/m³ Air	0.25877	0.0122	98.9	75-125			
Cadmium	0.139	0.0693	ng/m³ Air	0.12938	ND	108	75-125			
Chromium	3.84	2.07	ng/m³ Air	1.2938	2.53	102	75-125			
Cobalt	0.641	0.0408	ng/m³ Air	0.25877	0.395	95.1	75-125			
Copper	40.9	2.46	ng/m³ Air	12.938	27.5	103	75-125			
Lead	26.8	0.200	ng/m³ Air	25.877	0.652	101	75-125			
Manganese	14.8	1.77	ng/m³ Air	2.5877	12.2	100	75-125			
Molybdenum	2.74	0.336	ng/m³ Air	1.2938	1.48	97.4	75-125			
Nickel	3.92	0.610	ng/m³ Air	2.5877	1.30	102	75-125			
Selenium	1.35	0.00838	ng/m³ Air	1.2938	0.159	92.2	75-125			LJ, QX
Thallium	0.0647	5.51E-4	ng/m³ Air	6.4692E-2	0.00110	98.3	75-125			
Vanadium	2.31	0.0495	ng/m³ Air	1.2938	1.03	98.9	75-125			
Zinc	ND	71.9	ng/m³ Air	25.877	ND		75-125			U
Post Spike (B4G0205-PS2)			**Source: 4070134-06**			Prepared: 07/02/24		Analyzed: 07/03/24		
Antimony	0.467	0.0313	ng/m³ Air	0.22437	0.237	103	75-125			SL
Arsenic	14.2	0.00760	ng/m³ Air	1.1218	13.1	96.0	75-125			
Barium	20.5	0.868	ng/m³ Air	2.2437	18.3	98.0	75-125			
Beryllium	0.283	0.00260	ng/m³ Air	0.22437	0.0547	102	75-125			
Cadmium	0.191	0.0601	ng/m³ Air	0.11218	0.0787	101	75-125			
Chromium	12.6	1.79	ng/m³ Air	1.1218	11.5	100	75-125			
Cobalt	2.17	0.0354	ng/m³ Air	0.22437	1.95	97.5	75-125			
Copper	168	2.13	ng/m³ Air	11.218	156	112	75-125			
Lead	25.3	0.174	ng/m³ Air	22.437	2.47	102	75-125			
Manganese	56.4	1.53	ng/m³ Air	2.2437	54.4	85.9	75-125			

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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 B4G0205 - ICP-MS Extraction										
Post Spike (B4G0205-PS2) Continued		**Source: 4070134-06**		Prepared: 07/02/24		Analyzed: 07/03/24				
Molybdenum	6.42	0.291	ng/m³ Air	1.1218	5.39	91.8	75-125			
Nickel	7.49	0.529	ng/m³ Air	2.2437	5.22	101	75-125			
Selenium	1.31	0.00727	ng/m³ Air	1.1218	0.294	90.8	75-125			LJ, QX
Thallium	0.0552	4.78E-4	ng/m³ Air	5.6092E-2	0.00273	93.6	75-125			
Vanadium	6.73	0.0429	ng/m³ Air	1.1218	5.63	97.9	75-125			
Zinc	ND	62.3	ng/m³ Air	22.437	ND		75-125			U
Post Spike (B4G0205-PS3)		**Source: 4070134-06R**		Prepared: 07/02/24		Analyzed: 07/03/24				
Antimony	0.460	0.0626	ng/m³ Air	0.22437	0.237	99.2	75-125			D, SL
Arsenic	14.6	0.0152	ng/m³ Air	1.1218	13.4	102	75-125			D
Barium	20.4	1.74	ng/m³ Air	2.2437	18.3	92.5	75-125			D
Beryllium	0.277	0.00519	ng/m³ Air	0.22437	0.0535	99.8	75-125			D
Cadmium	0.198	0.120	ng/m³ Air	0.11218	ND	176	75-125			D
Chromium	13.0	3.59	ng/m³ Air	1.1218	11.9	99.6	75-125			D
Cobalt	2.23	0.0707	ng/m³ Air	0.22437	2.01	102	75-125			D
Copper	180	4.27	ng/m³ Air	11.218	166	126	75-125			QX, D, LJ
Lead	24.4	0.347	ng/m³ Air	22.437	2.37	98.1	75-125			D
Manganese	57.4	3.07	ng/m³ Air	2.2437	54.7	121	75-125			D
Molybdenum	6.94	0.582	ng/m³ Air	1.1218	5.82	99.9	75-125			D
Nickel	7.68	1.06	ng/m³ Air	2.2437	5.36	103	75-125			D
Selenium	1.37	0.0145	ng/m³ Air	1.1218	0.312	94.7	75-125			D, LJ, QX
Thallium	0.0523	9.56E-4	ng/m³ Air	5.6092E-2	0.00269	88.5	75-125			D, QB-04
Vanadium	6.89	0.0858	ng/m³ Air	1.1218	5.78	98.6	75-125			D
Zinc	ND	125	ng/m³ Air	22.437	ND		75-125			D, U
Dilution Check (B4G0205-SRL1)		**Source: 4070134-18**		Prepared & Analyzed: 07/02/24						
Antimony	ND	0.181	ng/m³ Air		ND				10	SL, U
Arsenic	0.360	0.0438	ng/m³ Air		0.352			2.26	10	
Barium	ND	5.01	ng/m³ Air		ND				10	U
Beryllium	ND	0.0150	ng/m³ Air		ND				10	U
Cadmium	ND	0.347	ng/m³ Air		ND				10	U
Chromium	ND	10.3	ng/m³ Air		ND				10	U
Cobalt	0.401	0.204	ng/m³ Air		0.395			1.60	10	
Copper	28.3	12.3	ng/m³ Air		27.5			2.79	10	
Lead	ND	1.00	ng/m³ Air		ND				10	U
Manganese	12.5	8.84	ng/m³ Air		12.2			2.45	10	
Molybdenum	ND	1.68	ng/m³ Air		ND				10	U
Nickel	ND	3.05	ng/m³ Air		ND				10	U
Selenium	0.149	0.0419	ng/m³ Air		0.159			6.07	10	LJ, QX
Thallium	ND	0.00276	ng/m³ Air		ND				10	U

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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 B4G0205 - ICP-MS Extraction										
Dilution Check (B4G0205-SRL1) Continue			**Source: 4070134-18**		Prepared & Analyzed: 07/02/24					
Vanadium	1.08	0.247	ng/m³ Air		1.03			4.35	10	
Zinc	ND	359	ng/m³ Air		ND				10	U
Dilution Check (B4G0205-SRL2)			**Source: 4070134-06**		Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	0.237	0.157	ng/m³ Air		0.237			0.0434	10	SL
Arsenic	13.4	0.0380	ng/m³ Air		13.1			2.47	10	
Barium	18.4	4.34	ng/m³ Air		18.3			0.214	10	
Beryllium	0.0516	0.0130	ng/m³ Air		0.0547			5.83	10	
Cadmium	ND	0.301	ng/m³ Air		ND				10	U
Chromium	11.9	8.96	ng/m³ Air		11.5			3.52	10	
Cobalt	2.03	0.177	ng/m³ Air		1.95			3.65	10	
Copper	159	10.7	ng/m³ Air		156			2.11	10	
Lead	2.43	0.868	ng/m³ Air		2.47			1.36	10	
Manganese	55.7	7.67	ng/m³ Air		54.4			2.23	10	
Molybdenum	5.74	1.46	ng/m³ Air		5.39			6.28	10	
Nickel	5.46	2.64	ng/m³ Air		5.22			4.56	10	
Selenium	0.327	0.0363	ng/m³ Air		0.294			10.6	10	LJ, QX, SRD-01
Thallium	0.00596	0.00239	ng/m³ Air		0.00273			74.3	10	
Vanadium	5.74	0.215	ng/m³ Air		5.63			2.03	10	
Zinc	ND	312	ng/m³ Air		ND				10	U
Dilution Check (B4G0205-SRL3)			**Source: 4070134-06R**		Prepared: 07/02/24 Analyzed: 07/03/24					
Antimony	ND	0.313	ng/m³ Air		ND				10	D, SL, U
Arsenic	12.7	0.0760	ng/m³ Air		13.4			5.54	10	D
Barium	17.0	8.68	ng/m³ Air		18.3			7.04	10	D
Beryllium	0.0438	0.0260	ng/m³ Air		0.0535			19.9	10	D
Cadmium	ND	0.601	ng/m³ Air		ND				10	D, U
Chromium	ND	17.9	ng/m³ Air		ND				10	D, U
Cobalt	1.90	0.354	ng/m³ Air		2.01			5.58	10	D
Copper	151	21.3	ng/m³ Air		166			9.41	10	D, LJ, QX
Lead	2.16	1.74	ng/m³ Air		2.37			9.20	10	D
Manganese	52.1	15.3	ng/m³ Air		54.7			4.95	10	D
Molybdenum	5.60	2.91	ng/m³ Air		5.82			3.81	10	D
Nickel	ND	5.29	ng/m³ Air		5.36				10	D, U
Selenium	0.286	0.0727	ng/m³ Air		0.312			8.69	10	D, LJ, QX
Thallium	0.00688	0.00478	ng/m³ Air		ND			87.7	10	D, QB-04
Vanadium	5.44	0.429	ng/m³ Air		5.78			6.03	10	D
Zinc	ND	623	ng/m³ Air		ND				10	D, U

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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.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
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.