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

November 7 through November 13, 2024

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

Particulate monitoring and air sampling occurred from November 7 through November 13, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location 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 November 7 through November 13 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

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

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 Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of equipment maintenance, the air monitoring period was interrupted for one hour on November 12 at Lahaina Recreational Center (AM07), and Opukea Townhomes (AM-05) resulting in the collection of 23 hours of PM_{10} data at each of the locations.
- Because of an equipment fault, the air monitoring period was interrupted at WW Pump Station #4 (AM-02) for three hours on November 13, resulting in the collection of 21 hours of PM_{10} data.

The equipment fault on November 13 was the result of a disruption during two sampling intervals within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation to 21-hours for that day.

None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

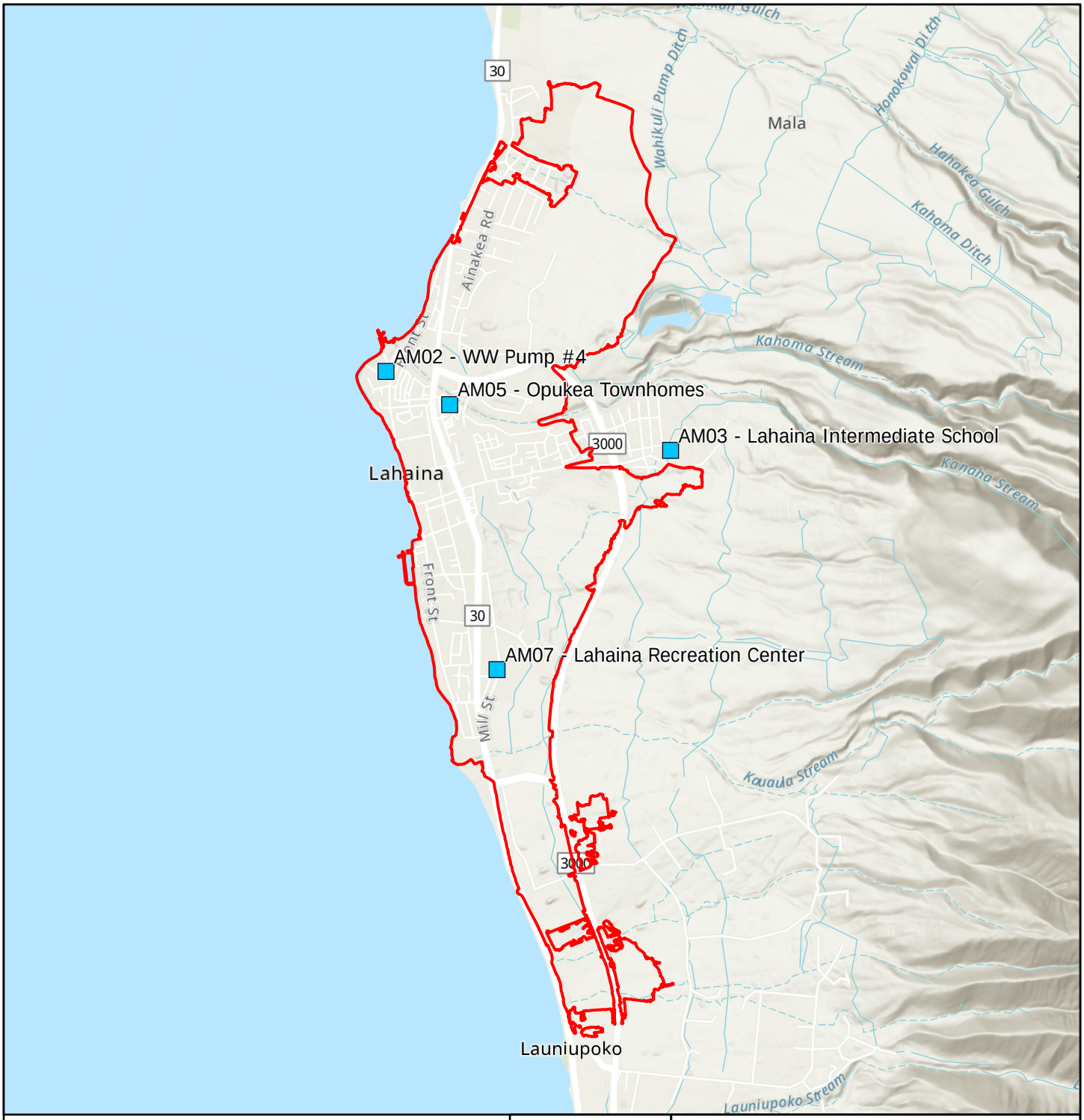
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring

- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (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 off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and 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
November 7 through November 13, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
11/7/2024	Opukea Townhomes (AM-05)	8.4
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	15
	Lahaina Recreation Center (AM-07)	5.3
11/8/2024	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	5.5
	Lahaina Recreation Center (AM-07)	4.8
11/9/2024	Opukea Townhomes (AM-05)	6.4
	WW Pump Station #4 (AM-02)	5.5
	Lahaina Intermediate School (AM-03)	11
	Lahaina Recreation Center (AM-07)	3.0
11/10/2024	Opukea Townhomes (AM-05)	7.9
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	5.3
	Lahaina Recreation Center (AM-07)	5.0
11/11/2024	Opukea Townhomes (AM-05)	7.9
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Recreation Center (AM-07)	5.0
11/12/2024	Opukea Townhomes (AM-05)	8.7*
	WW Pump Station #4 (AM-02)	8.5
	Lahaina Intermediate School (AM-03)	6.8
	Lahaina Recreation Center (AM-07)	7.0*
11/13/2024	Opukea Townhomes (AM-05)	8.0
	WW Pump Station #4 (AM-02)	7.0**
	Lahaina Intermediate School (AM-03)	7.5
	Lahaina Recreation Center (AM-07)	7.8

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided were from a reduced (23-hr) TWA calculation because of equipment maintenance
** Data provided were from a reduced (21-hr) TWA calculation because of an equipment fault

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
November 7 through November 13, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
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
11/7/2024	Opukea Townhomes (AM-05)	<0.0024	0.000127	0.000695	0.0137	0.0000585	ND	0.0114	0.00278	0.0724	0.00104	0.0619	0.00377	0.00801	0.000282	0.00000345	0.00787	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000162	0.000682	0.0118	0.0000417	0.000155	0.00707	0.00162	0.0436	0.00231	0.0430	0.00203	0.00497	0.000245	0.00000272	0.00492	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000540	0.000200	0.00456	0.0000499	ND	0.00483	0.000924	0.0343	0.000441	0.0210	0.00179	0.00262	0.000197	0.00000210	0.00231	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000988	0.000658	0.00562	0.0000303	ND	0.00433	0.00101	0.0181	0.000768	0.0350	0.00100	0.00236	0.000210	0.00000240	0.00261	ND
11/8/2024	Opukea Townhomes (AM-05)	<0.0024	0.000129	0.000412	0.00667	0.0000185	ND	0.00377	0.000812	0.0220	0.00143	0.0206	0.00121	0.00253	0.000147	0.00000124	0.00234	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000163	0.000481	0.00700	0.0000186	ND	0.00353	0.000706	0.0402	0.00132	0.0193	0.00218	0.00216	0.000146	0.00000118	0.00210	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000561	0.000114	0.00274	0.0000184	ND	0.00212	0.000359	0.0319	0.000345	0.00893	0.00171	0.00120	0.000112	0.000000698	0.000826	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000876	0.000270	0.00339	0.0000111	ND	0.00213	0.000369	0.0281	0.000609	0.0121	0.00125	0.00117	0.000133	0.000000792	0.00106	ND
11/9/2024	Opukea Townhomes (AM-05)	<0.0024	0.000130	0.000316	0.00463	0.0000103	ND	0.00227	0.000442	0.0200	0.000810	0.0118	0.00115	0.00143	0.000183	0.00000108	0.00128	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000201	0.000568	0.00622	0.0000150	ND	0.00286	0.000513	0.0386	0.00103	0.0153	0.00195	0.00182	0.000196	0.00000130	0.00161	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000389	0.000707	0.0155	0.000315	ND	0.0163	0.00411	0.0412	0.000875	0.0956	0.00199	0.00832	0.000663	0.00000541	0.0114	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000819	0.000246	0.00289	0.00000818	ND	0.00230	0.000315	0.0220	0.000285	0.00964	0.00128	0.00127	0.000166	0.000000968	0.000854	ND
11/10/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000978	0.000222	0.00355	0.00000833	ND	ND	0.000259	0.0221	0.000541	0.00859	0.00137	0.000998	0.000177	0.000000932	0.000832	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000145	0.000503	0.00523	0.00000996	ND	0.00260	0.000354	0.0473	0.000933	0.0104	0.00220	0.00152	0.000189	0.000000817	0.00110	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000418	0.0000999	0.00212	0.00000886	ND	ND	0.000180	0.0401	0.000227	0.00467	0.00222	0.000837	0.000162	0.000000648	0.000532	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000837	0.000148	0.00248	0.00000539	ND	0.00228	0.000219	0.0195	0.000198	0.00635	0.00116	0.00140	0.000158	0.000000597	0.000687	ND
11/11/2024	Opukea Townhomes (AM-05)	<0.0024	0.000122	0.000264	0.00495	0.00000785	ND	0.00209	0.000307	0.0268	0.000566	0.00955	0.00170	0.00118	0.000185	0.00000106	0.00120	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000196	0.000584	0.00764	0.0000143	ND	0.00292	0.000578	0.0437	0.00129	0.0176	0.00225	0.00186	0.000215	0.00000117	0.00204	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000500	0.0000963	0.00278	0.00000786	ND	ND	0.000220	0.0392	0.000244	0.00591	0.00237	0.000980	0.000162	0.00000102	0.000803	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000836	0.0000970	0.00402	0.00000504	ND	ND	0.000150	0.0191	0.000196	0.00523	0.00130	0.000782	0.000156	0.000000761	0.000724	ND
11/12/2024	Opukea Townhomes (AM-05)	<0.0024	0.000155	0.000282	0.00619	0.0000128	ND	0.00258	0.000461	0.0331	0.000731	0.0133	0.00190	0.00180	0.000248	0.00000136	0.00166	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000249	0.000789	0.00779	0.0000191	ND	0.00305	0.000606	0.0484	0.00142	0.0183	0.00224	0.00207	0.000269	0.00000145	0.00216	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000567	0.000170	0.00362	0.0000177	ND	0.00245	0.000462	0.0491	0.000342	0.0120	0.00285	0.00158	0.000241	0.00000122	0.00143	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000994	0.000655	0.00638	0.0000278	ND	0.00475	0.000970	0.0212	0.000597	0.0325	0.00126	0.00254	0.000294	0.00000193	0.00282	ND
11/13/2024	Opukea Townhomes (AM-05)	<0.0024	0.000107	0.000268	0.00490	0.0000110	ND	0.00269	0.000424	0.0279	0.000844	0.0120	0.00161	0.00170	0.000172	0.000000944	0.00133	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.00105	0.00676	0.0146	0.0000270	0.0000584	0.00608	0.00113	0.0700	0.0179	0.0294	0.00216	0.00320	0.000217	0.00000168	0.00270	0.0770
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000618	0.000139	0.00372	0.0000170	ND	0.00244	0.000425	0.0458	0.000402	0.0106	0.00276	0.00155	0.000165	0.000000903	0.00104	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000107	0.000661	0.00569	0.0000252	ND	0.00397	0.000868	0.0174	0.000439	0.0313	0.00114	0.00213	0.000217	0.00000165	0.00247	ND
95% Upper Confidence Limit[2]		NA	0.000170	0.000770	0.00740	0.0000350	NA	0.00509	0.00102	0.0407	0.00157	0.0276	0.00208	0.00278	0.000230	0.00000180	0.00288	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
Averaged Meteorological Data
Maui Wildfires, Lahaina
November 7, through November 13, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
11/7/2024	AM-02	WW Pump Station #4	1.2	SSE	80	67	762.4
11/7/2024	AM-03	Lahaina Intermediate School	1.3	SE	79	62	753.0
11/7/2024	AM-05	Opukea Townhomes	1.7	ESE	80	63	761.9
11/7/2024	AM-07	Lahaina Recreational Center	1.3	SSE	81	65	761.7
11/8/2024	AM-02	WW Pump Station #4	1.0	S	79	65	763.1
11/8/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	63	753.8
11/8/2024	AM-05	Opukea Townhomes	1.2	SE	80	61	762.7
11/8/2024	AM-07	Lahaina Recreational Center	1.3	SSE	80	66	762.4
11/9/2024	AM-02	WW Pump Station #4	1.1	SSE	79	64	763.8
11/9/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	62	754.4
11/9/2024	AM-05	Opukea Townhomes	1.3	ESE	80	60	763.3
11/9/2024	AM-07	Lahaina Recreational Center	1.2	SSE	80	66	763.0
11/10/2024	AM-02	WW Pump Station #4	1.0	SSE	79	63	763.8
11/10/2024	AM-03	Lahaina Intermediate School	0.9	ESE	78	61	754.4
11/10/2024	AM-05	Opukea Townhomes	1.1	SSE	80	58	763.3
11/10/2024	AM-07	Lahaina Recreational Center	1.5	SSE	79	64	763.1
11/11/2024	AM-02	WW Pump Station #4	0.8	S	79	66	763.8
11/11/2024	AM-03	Lahaina Intermediate School	0.9	SE	78	64	754.5
11/11/2024	AM-05	Opukea Townhomes	0.9	SE	79	62	763.4
11/11/2024	AM-07	Lahaina Recreational Center	1.1	SSE	79	67	763.1
11/12/2024	AM-02	WW Pump Station #4	1.0	SSE	80	66	763.9
11/12/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	63	754.6
11/12/2024	AM-05	Opukea Townhomes	1.2	SE	80	62	763.4
11/12/2024	AM-07	Lahaina Recreational Center	1.3	SSE	79	68	763.2
11/13/2024	AM-02	WW Pump Station #4	1.6	SE	81	65	763.3
11/13/2024	AM-03	Lahaina Intermediate School	1.4	SE	78	66	754.1
11/13/2024	AM-05	Opukea Townhomes	1.5	ESE	80	62	762.8
11/13/2024	AM-07	Lahaina Recreational Center	1.5	S	79	65	762.6

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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110724-AB**	**Sample Description:**	**DL264128**
EMSL Sample Number:	042423403-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7221.4
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

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: 042423403
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: 042423403-0001 **Customer Sample:** MFL-AM05-110724-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	J3	None Detected									
A5	F1	None Detected									
A5	B5	None Detected									
A6	C8	None Detected									
A6	H8	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110724-AB**	**Sample Description:**	**DL264131**
EMSL Sample Number:	042423403-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7227.8
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

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: 042423403
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: 042423403-0002 **Customer Sample:** MFL-AM02-110724-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	F10	None Detected									
B1	G7	None Detected									
B1	H4	None Detected									
B2	I4	None Detected									
B2	D3	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110724-AB**	**Sample Description:**	**DL264127**
EMSL Sample Number:	042423403-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7159.0
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:	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: 042423403
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: 042423403-0003 **Customer Sample:** MFL-AM03-110724-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	J3	None Detected									
B5	G4	None Detected									
B5	C7	None Detected									
B6	A5	None Detected									
B6	G7	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110724-AB**	**Sample Description:**	**DL264190**
EMSL Sample Number:	042423403-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7212.7
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 %:	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: 042423403
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: 042423403-0004 **Customer Sample:** MFL-AM07-110724-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	G7	None Detected									
C1	E9	None Detected									
C1	B7	None Detected									
C2	J7	None Detected									
C2	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-110724-AB**		**Sample Description:**	**DL264139**
EMSL Sample Number:	042423403-0005		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

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: 042423403
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: 042423403-0005 **Customer Sample:** MFL-FB01-110724-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	A3	None Detected									
C5	C7	None Detected									
C5	E7	None Detected									
C5	G5	None Detected									
C5	I8	None Detected									
C6	A1	None Detected									
C6	C3	None Detected									
C6	E2	None Detected									
C6	G1	None Detected									
C6	I2	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-110724-AB**		**Sample Description:**	**DL264147**
EMSL Sample Number:	042423403-0006		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: 042423403
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: 042423403-0006 **Customer Sample:** MFL-LB01-110724-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	A3	None Detected									
D1	C9	None Detected									
D1	D5	None Detected									
D1	E1	None Detected									
D1	I3	None Detected									
D2	A3	None Detected									
D2	B9	None Detected									
D2	D8	None Detected									
D2	E3	None Detected									
D2	G7	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110824-AB**	**Sample Description:**	**DL264189**
EMSL Sample Number:	042423403-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7163.0
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:	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: 042423403
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: 042423403-0007 **Customer Sample:** MFL-AM05-110824-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	A8	None Detected									
D5	D7	None Detected									
D5	G10	None Detected									
D6	D8	None Detected									
D6	G6	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110824-AB**		**Sample Description:**	**DL264129**
EMSL Sample Number:	042423403-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6722.5
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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

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: 042423403
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: 042423403-0008 **Customer Sample:** MFL-AM02-110824-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	I3	None Detected									
E1	F7	None Detected									
E1	C9	None Detected									
E2	H7	None Detected									
E2	C9	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110824-AB**		**Sample Description:**	**DL264135**
EMSL Sample Number:	042423403-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7214.3
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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
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: 042423403
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: 042423403-0009 **Customer Sample:** MFL-AM03-110824-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	J8	None Detected									
E5	G5	None Detected									
E5	D4	None Detected									
E6	D7	None Detected									
E6	G10	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110824-AB**	**Sample Description:**	**DL264199**
EMSL Sample Number:	042423403-0010	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):	0.0130
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 %:	2		
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: 042423403
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: 042423403-0010 **Customer Sample:** MFL-AM07-110824-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	C8	None Detected									
F2	D4	None Detected									
F2	G9	None Detected									
F3	C9	None Detected									
F3	H10	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110824-AB** **Sample Description: DL264107**

EMSL Sample Number:	042423403-0011		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:	**042423403**
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: 042423403-0011 **Customer Sample:** MFL-FB01-110824-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	A9	None Detected									
F5	C5	None Detected									
F5	E9	None Detected									
F5	G10	None Detected									
F5	J5	None Detected									
F7	J4	None Detected									
F7	H2	None Detected									
F7	F1	None Detected									
F7	D5	None Detected									
F7	B7	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110924-AB**	**Sample Description:**	**DL264124**
EMSL Sample Number:	042423403-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7143.7
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

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: 042423403
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: 042423403-0012 **Customer Sample:** MFL-AM05-110924-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	A6	None Detected									
G1	D10	None Detected									
G1	F7	None Detected									
G2	J4	None Detected									
G2	D5	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110924-AB**		**Sample Description:**	**DL264136**
EMSL Sample Number:	042423403-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6888.6
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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

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: 042423403
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: 042423403-0013 **Customer Sample:** MFL-AM02-110924-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	A6	None Detected									
G5	D5	None Detected									
G5	G5	None Detected									
G6	J4	None Detected									
G6	D1	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110924-AB**		**Sample Description:**	**DL264137**
EMSL Sample Number:	042423403-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7135.6
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 %:	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: 042423403
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: 042423403-0014 **Customer Sample:** MFL-AM03-110924-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	J4	None Detected									
H1	H6	None Detected									
H1	E10	None Detected									
H2	J8	None Detected									
H2	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110924-AB**	**Sample Description:**	**DL264144**
EMSL Sample Number:	042423403-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7238.8
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 %:	2		
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: 042423403
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: 042423403-0015 **Customer Sample:** MFL-AM07-110924-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	C3	None Detected									
H5	F2	None Detected									
H5	H1	None Detected									
H6	J8	None Detected									
H6	C7	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-110924-AB**		**Sample Description:**	**DL264115**
EMSL Sample Number:	042423403-0016		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:	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: 042423403
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: 042423403-0016 **Customer Sample:** MFL-FB01-110924-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	A8	None Detected									
I2	C10	None Detected									
I2	E4	None Detected									
I2	G6	None Detected									
I2	I4	None Detected									
I3	A8	None Detected									
I3	C10	None Detected									
I3	E10	None Detected									
I3	G7	None Detected									
I3	I10	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-111024-AB**	**Sample Description:**	**DL264106**
EMSL Sample Number:	042423403-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7179.9
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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
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: 042423403
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: 042423403-0017 **Customer Sample:** MFL-AM05-111024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J4	None Detected									
I5	G2	None Detected									
I5	C3	None Detected									
I6	J6	None Detected									
I6	C4	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-111024-AB**		**Sample Description:**	**DL264117**
EMSL Sample Number:	042423403-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6556.6
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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

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: 042423403
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: 042423403-0018 **Customer Sample:** MFL-AM02-111024-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	J8	None Detected									
J1	G6	None Detected									
J1	E2	None Detected									
J2	H5	None Detected									
J2	D8	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-111024-AB**	**Sample Description:**	**DL264170**
EMSL Sample Number:	042423403-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7188.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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 %:	2		
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: 042423403
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: 042423403-0019 **Customer Sample:** MFL-AM03-111024-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	A4	None Detected									
J5	D7	None Detected									
J5	H9	None Detected									
J6	C8	None Detected									
J6	E10	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-111024-AB**	**Sample Description:**	**DL264146**
EMSL Sample Number:	042423403-0020	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7138.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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: 042423403
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: 042423403-0020 **Customer Sample:** MFL-AM07-111024-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	H3	None Detected									
K1	E4	None Detected									
K1	D8	None Detected									
K2	B3	None Detected									
K2	H4	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/18/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-111024-AB**		**Sample Description:**	**DL264126**
EMSL Sample Number:	042423403-0021		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: 042423403
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: 042423403-0021 **Customer Sample:** MFL-FB01-111024-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	B5	None Detected									
K5	D1	None Detected									
K5	F2	None Detected									
K5	H3	None Detected									
K5	J5	None Detected									
K6	J8	None Detected									
K6	H10	None Detected									
K6	F7	None Detected									
K6	B7	None Detected									
K6	A4	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:	042423403
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:	11/13/2024 09:20 AM
Analysis Date:	11/15/2024
Report Date:	11/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042423403-0022		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
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

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: 042423403
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: 042423403-0022 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	I7	None Detected									
A1	G5	None Detected									
A1	E8	None Detected									
A1	C3	None Detected									
A1	A1	None Detected									
A2	J1	None Detected									
A2	H4	None Detected									
A2	F1	None Detected									
A2	D5	None Detected									
A2	B3	None Detected									

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

OrderID: 042423403

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042423403

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

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

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: chelsea.saber@tetratech.com

RECEIVED EMSL CINNAMINSON, NJ 2024 NOV 13 AM 11:39

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: Shana Epstein
Sampled By Signature:
No. of Samples in Shipment 21

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-110724-AB	DL264128	7,221.406	11/07/24 1057
MFL-AM02-110724-AB	DL264131	7,227.792	11/07/24 1114
MFL-AM03-110724-AB	DL264127	7,158.963	11/07/24 1252
MFL-AM07-110724-AB	DL264190	7,212.720	11/07/24 1314
MFL-FB01-110724-AB	DL264139	0	11/07/24 1200
MFL-LB01-110724-AB	DL264147	0	11/07/24 1200
MFL-AM05-110824-AB	DL264189	7,162.966	11/08/24 1058
MFL-AM02-110824-AB	DL264129	6,722.462	11/08/24 1116

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

All samples received acceptable for analysis.

Method of Shipment: Fedex
Sample Condition Upon Receipt:
Relinquished by: Date/Time: 11/11/24 1100
Received by: FX Date/Time: 11/13/24 920
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.

2 BD

OrderID: 042423403

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042423403

RECEIVED EMSL CINNAMINSON, NJ 2024 NOV 13 A 11:39

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-AM03-110824-AB	DL264135	7,214,283	11/08/24 1254
MFL-AM07-110824-AB	DL264199	7,214.741	11/08/24 1322
MFL-FB01-110824-AB	DL264107	0	11/08/24 1200
MFL-AM05-110924-AB	DL264124	7,143.700	11/09/24 1100
MFL-AM02-110924-AB	DL264136	6,888.600	11/09/24 1114
MFL-AM03-110924-AB	DL264137	7,135.572	11/09/24 1256
MFL-AM07-110924-AB	DL264144	7,238.785	11/09/24 1317
MFL-FB01-110924-AB	DL264115	0	11/09/24 1200
MFL-AM05-111024-AB	DL264106	7,179.899	11/10/24 1055
MFL-AM02-111024-AB	DL264117	6,556.553	11/10/24 1111
MFL-AM03-111024-AB	DL264170	7,188.233	11/10/24 1256
MFL-AM07-111024-AB	DL264146	7,138.069	11/10/24 1317
MFL-FB01-111024-AB	DL264126	0	11/10/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/11/24 1100	Received by: FX	Date/Time: 11/13/24 920a
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.

21/30

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/19/2024 and Shanna Vasser 11/20/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/7/2024 – 11/10/2024
Report No: 42423403

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

Discrepancies: None.

Notes: None.

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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-111124-AB** **Sample Description: DL264114**

EMSL Sample Number:	042423713-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.0
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):	0.0131
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**

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: 042423713
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: 042423713-0001 **Customer Sample:** MFL-AM05-111124-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	J5	None Detected									
A5	G6	None Detected									
A5	D2	None Detected									
A6	C9	None Detected									
A6	I8	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-111124-AB** **Sample Description: DL264105**

EMSL Sample Number:	042423713-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6592.7
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):	0.0131
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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

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: 042423713
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: 042423713-0002 **Customer Sample:** MFL-AM02-111124-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	A6	None Detected									
B2	D8	None Detected									
B2	H7	None Detected									
B3	E8	None Detected									
B3	H4	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111124-AB** **Sample Description: DL264112**

EMSL Sample Number:	042423713-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.9
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):	0.0131
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 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: 042423713
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: 042423713-0003 **Customer Sample:** MFL-AM03-111124-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	I2	None Detected									
B5	F3	None Detected									
B5	D2	None Detected									
B6	C8	None Detected									
B6	I6	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111124-AB** **Sample Description: DL264145**

EMSL Sample Number:	042423713-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7156.7
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):	0.0131
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 %:	2			
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 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: 042423713
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: 042423713-0004 **Customer Sample:** MFL-AM07-111124-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	B9	None Detected									
C2	E8	None Detected									
C2	G6	None Detected									
C3	G3	None Detected									
C3	B4	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111124-AB** **Sample Description: DL264132**

EMSL Sample Number:	042423713-0005		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):	0.0131
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**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

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**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

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: 042423713
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: 042423713-0005 **Customer Sample:** MFL-FB01-111124-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	A7	None Detected									
C5	C4	None Detected									
C5	E5	None Detected									
C5	G3	None Detected									
C5	H6	None Detected									
C6	J4	None Detected									
C6	H8	None Detected									
C6	F6	None Detected									
C6	D3	None Detected									
C6	B2	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-111224-AB** **Sample Description: DL264111**

EMSL Sample Number:	042423713-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.2
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):	0.0131
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 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: 042423713
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: 042423713-0006 **Customer Sample:** MFL-AM05-111224-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	I4	None Detected									
D2	F3	None Detected									
D2	C5	None Detected									
D3	B6	None Detected									
D3	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-111224-AB** **Sample Description: DL264113**

EMSL Sample Number:	042423713-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6885.8
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):	0.0131
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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

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: 042423713
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: 042423713-0007 **Customer Sample:** MFL-AM02-111224-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	J7	None Detected									
D5	H4	None Detected									
D5	A2	None Detected									
D6	D7	None Detected									
D6	I3	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111224-AB** **Sample Description: DL264122**

EMSL Sample Number:	042423713-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.8
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):	0.0131
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 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: 042423713
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: 042423713-0008 **Customer Sample:** MFL-AM03-111224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	I7	None Detected									
E2	G5	None Detected									
E2	C5	None Detected									
E3	I6	None Detected									
E3	C6	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111224-AB** **Sample Description: DL264157**

EMSL Sample Number:	042423713-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7268.8
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):	0.0131
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 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: 042423713
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: 042423713-0009 **Customer Sample:** MFL-AM07-111224-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	J5	None Detected									
E5	G2	None Detected									
E5	B1	None Detected									
E6	G2	None Detected									
E6	B5	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111224-AB** **Sample Description: Dl264121**

EMSL Sample Number:	042423713-0010		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):	0.0131
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**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

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**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

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: 042423713
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: 042423713-0010 **Customer Sample:** MFL-FB01-111224-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	J9	None Detected									
F2	H8	None Detected									
F2	F4	None Detected									
F2	D9	None Detected									
F2	B6	None Detected									
F3	I8	None Detected									
F3	H10	None Detected									
F3	F8	None Detected									
F3	D6	None Detected									
F3	B5	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-111324-AB** **Sample Description: DL264116**

EMSL Sample Number:	042423713-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.0
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):	0.0131
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 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: 042423713
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: 042423713-0011 **Customer Sample:** MFL-AM05-111324-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	C3	None Detected									
F5	F7	None Detected									
F5	H9	None Detected									
F6	H3	None Detected									
F6	C6	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-111324-AB** **Sample Description: DL264123**

EMSL Sample Number:	042423713-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6356.2
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):	0.0131
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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 0.0027**	**Not Applicable**	**0.0027**

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: 042423713
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: 042423713-0012 **Customer Sample:** MFL-AM02-111324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	I4	None Detected									
G2	F6	None Detected									
G2	C8	None Detected									
G3	I8	None Detected									
G3	A8	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-111324-AB** **Sample Description: DL264143**

EMSL Sample Number:	042423713-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7201.8
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):	0.0131
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 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: 042423713
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: 042423713-0013 **Customer Sample:** MFL-AM03-111324-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	J9	None Detected									
G5	G2	None Detected									
G5	D3	None Detected									
G6	G2	None Detected									
G6	B4	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-111324-AB** **Sample Description: DL264148**

EMSL Sample Number:	042423713-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.2
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):	0.0131
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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 45.65**	**< 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**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 45.65**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 45.65**	**< 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: 042423713
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: 042423713-0014 **Customer Sample:** MFL-AM07-111324-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					
H2	J4	None Detected									
H2	F7	None Detected									
H2	B4	None Detected									
H3	D7	None Detected									
H3	G5	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-111324-AB** **Sample Description: DL264108**

EMSL Sample Number:	042423713-0015		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):	0.0131
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**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

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**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

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: 042423713
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: 042423713-0015 **Customer Sample:** MFL-FB01-111324-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	A6	None Detected									
H5	C8	None Detected									
H5	E9	None Detected									
H5	G5	None Detected									
H5	I8	None Detected									
H6	A6	None Detected									
H6	C3	None Detected									
H6	E7	None Detected									
H6	G8	None Detected									
H6	I6	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:	042423713
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	Maui Fires

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/18/2024 09:05 AM
Analysis Date:	11/21/2024
Report Date:	11/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042423713-0016		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):	0.0131
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**	**< 22.82**			
Total Amphibole	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures	**-**	**0**	**0**	**< 22.82**			

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**	**< 22.82**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 22.82**			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 22.82**			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 22.82**			

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: 042423713
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: 042423713-0016 **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					
A2	J9	None Detected									
A2	H8	None Detected									
A2	F4	None Detected									
A2	D5	None Detected									
A2	B8	None Detected									
A3	J7	None Detected									
A3	H4	None Detected									
A3	F8	None Detected									
A3	D5	None Detected									
A3	B7	None Detected									

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

OrderID: 042423713

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042423713

RECEIVED EMSL CINNAMINSON, NJ 24 NOV 18 AM 10:15

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

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

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	(703) 489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

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

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	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-AM05-111124-AB	DL264114	7,162.008	11/11/24 1056
MFL-AM02-111124-AB	DL264105	6,592.683	11/11/24 1113
MFL-AM03-111124-AB	DL264112	7,186.911	11/11/24 1253
MFL-AM07-111124-AB	DL264145	7,156.721	11/11/24 1310
MFL-FB01-111124-AB	DL264132	0	11/11/24 1200
MFL-AM05-111224-AB	DL264111	7,163.233	11/12/24 1057
MFL-AM02-111224-AB	DL264113	6,885.764	11/12/24 1114
MFL-AM03-111224-AB	DL264122	7,242.774	11/12/24 1301

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

All samples received acceptable for analysis.

15/15

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/14/24 1100	Received by: FX	Date/Time: 11/18/24 905a
Relinquished by:	Date/Time:	Received by:	Date/Time

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

OrderID: 042423713

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042423713 RECEIVED EMSL CINNAMINSON, NJ

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.)

24 NOV 18 AM 10:15

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-111224-AB	DL264157	7,268,815	11/12/24 1320
MPL-FB01-111224-AB	DL264121	0	11/12/24 1200
MFL-AM05-111324-AB	DL264116	7,172,991	11/13/24 1056
MFL-AM02-111324-AB	DL264123	6,356,237	11/13/24 1114
MFL-AM03-111324-AB	DL264143	7,201,761	11/13/24 1252
MFL-AM07-111324-AB	DL264148	7,195,249	11/13/24 1312
MFL-FB01-111324-AB	DL264108	0	11/13/24 1200

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/14/24 1100	Received by: FX	Date/Time: 11/18/24 905
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/25/2024 and Shanna Vasser 11/25/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/11/2024 – 11/13/2024
Report No: 42423713

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

Discrepancies: None.

Notes: None.

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

November 27, 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 11/18/24 10:27.

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-110724-HM	4111838-01	Air	11/07/24 23:59	11/18/24 10:27
MFL-AM02-110724-HM	4111838-02	Air	11/07/24 23:59	11/18/24 10:27
MFL-AM03-110724-HM	4111838-03	Air	11/07/24 23:59	11/18/24 10:27
MFL-AM07-110724-HM	4111838-04	Air	11/07/24 23:59	11/18/24 10:27
MFL-AM05-110824-HM	4111838-05	Air	11/08/24 23:59	11/18/24 10:27
MFL-AM02-110824-HM	4111838-06	Air	11/08/24 23:59	11/18/24 10:27
MFL-AM03-110824-HM	4111838-07	Air	11/08/24 23:59	11/18/24 10:27
MFL-AM07-110824-HM	4111838-08	Air	11/08/24 23:59	11/18/24 10:27
MFL-FB01-110824-HM	4111838-09	Air	11/08/24 00:00	11/18/24 10:27
MFL-LB01-110824-HM	4111838-10	Air	11/08/24 00:00	11/18/24 10:27
MFL-AM05-110924-HM	4111838-11	Air	11/09/24 23:59	11/18/24 10:27
MFL-AM02-110924-HM	4111838-12	Air	11/09/24 23:59	11/18/24 10:27
MFL-AM03-110924-HM	4111838-13	Air	11/09/24 23:59	11/18/24 10:27
MFL-AM07-110924-HM	4111838-14	Air	11/09/24 23:59	11/18/24 10:27
MFL-AM05-111024-HM	4111838-15	Air	11/10/24 23:59	11/18/24 10:27
MFL-AM02-111024-HM	4111838-16	Air	11/10/24 23:59	11/18/24 10:27
MFL-AM03-111024-HM	4111838-17	Air	11/10/24 23:59	11/18/24 10:27
MFL-AM07-111024-HM	4111838-18	Air	11/10/24 23:59	11/18/24 10:27
MFL-FB01-111024-HM	4111838-19	Air	11/10/24 00:00	11/18/24 10:27
MFL-AM05-111124-HM	4111838-20	Air	11/11/24 23:59	11/18/24 10:27
MFL-AM02-111124-HM	4111838-21	Air	11/11/24 23:59	11/18/24 10:27

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-111124-HM	4111838-22	Air	11/11/24 23:59	11/18/24 10:27
MFL-AM07-111124-HM	4111838-23	Air	11/11/24 23:59	11/18/24 10:27
MFL-AM05-111224-HM	4111838-24	Air	11/12/24 23:59	11/18/24 10:27
MFL-AM02-111224-HM	4111838-25	Air	11/12/24 23:59	11/18/24 10:27
MFL-AM03-111224-HM	4111838-26	Air	11/12/24 23:59	11/18/24 10:27
MFL-AM07-111224-HM	4111838-27	Air	11/12/24 23:59	11/18/24 10:27
MFL-FB01-111224-HM	4111838-28	Air	11/12/24 00:00	11/18/24 10:27
MFL-AM05-111324-HM	4111838-29	Air	11/13/24 23:59	11/18/24 10:27
MFL-AM02-111324-HM	4111838-30	Air	11/13/24 23:59	11/18/24 10:27
MFL-AM03-111324-HM	4111838-31	Air	11/13/24 23:59	11/18/24 10:27
MFL-AM07-111324-HM	4111838-32	Air	11/13/24 23:59	11/18/24 10:27

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110724-HM
Matrix: Air
Lab ID: 4111838-01
Sample Volume: 1925.969 m³
Filter ID:
Sampled: 11/07/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 02:27

Comments: Q8533676 - 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**	**0.127**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.695**		**0.00792**
Barium	**7440-39-3**	**13.7**		**0.904**
Beryllium	**7440-41-7**	**0.0585**		**0.00270**
Cadmium	7440-43-9	0.0311	U	0.0626
Chromium	**7440-47-3**	**11.4**		**1.87**
Cobalt	**7440-48-4**	**2.78**		**0.0368**
Copper	**7440-50-8**	**72.4**		**2.22**
Lead	**7439-92-1**	**1.04**		**0.181**
Manganese	**7439-96-5**	**61.9**		**1.60**
Molybdenum	**7439-98-7**	**3.77**		**0.303**
Nickel	**7440-02-0**	**8.01**		**0.551**
Selenium	**7782-49-2**	**0.282**		**0.00757**
Thallium	**7440-28-0**	**0.00345**	QB-04	**4.98E-4**
Vanadium	**7440-62-2**	**7.87**		**0.0447**
Zinc	7440-66-6	24.8	U	64.9

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110724-HM
Matrix: Air
Lab ID: 4111838-02
Sample Volume: 2091.76 m³
Filter ID:
Sampled: 11/07/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/19/24 23:28

Comments: Q8533674 - 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**	**0.162**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.682**		**0.00729**
Barium	**7440-39-3**	**11.8**		**0.832**
Beryllium	**7440-41-7**	**0.0417**		**0.00249**
Cadmium	**7440-43-9**	**0.155**		**0.0576**
Chromium	**7440-47-3**	**7.07**		**1.72**
Cobalt	**7440-48-4**	**1.62**		**0.0339**
Copper	**7440-50-8**	**43.6**		**2.05**
Lead	**7439-92-1**	**2.31**		**0.166**
Manganese	**7439-96-5**	**43.0**		**1.47**
Molybdenum	**7439-98-7**	**2.03**		**0.279**
Nickel	**7440-02-0**	**4.97**		**0.507**
Selenium	**7782-49-2**	**0.245**		**0.00697**
Thallium	**7440-28-0**	**0.00272**		**4.58E-4**
Vanadium	**7440-62-2**	**4.92**		**0.0411**
Zinc	7440-66-6	35.0	U	59.7

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110724-HM
Matrix: Air
Lab ID: 4111838-03
Sample Volume: 1817.953 m³
Filter ID:
Sampled: 11/07/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 02:47

Comments: Q8533673 - 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**	**0.0540**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.200**		**0.00839**
Barium	**7440-39-3**	**4.56**		**0.958**
Beryllium	**7440-41-7**	**0.0499**		**0.00286**
Cadmium	7440-43-9	0.0117	U	0.0663
Chromium	**7440-47-3**	**4.83**		**1.98**
Cobalt	**7440-48-4**	**0.924**		**0.0390**
Copper	**7440-50-8**	**34.3**		**2.35**
Lead	**7439-92-1**	**0.441**		**0.192**
Manganese	**7439-96-5**	**21.0**		**1.69**
Molybdenum	**7439-98-7**	**1.79**		**0.321**
Nickel	**7440-02-0**	**2.62**		**0.584**
Selenium	**7782-49-2**	**0.197**		**0.00802**
Thallium	**7440-28-0**	**0.00210**	QB-04	**5.27E-4**
Vanadium	**7440-62-2**	**2.31**		**0.0473**
Zinc	7440-66-6	11.3	U	68.7

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110724-HM
Matrix: Air
Lab ID: 4111838-04
Sample Volume: 1886.53 m³
Filter ID:
Sampled: 11/07/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 03:05

Comments: Q8533672 - 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**	**0.0988**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.658**		**0.00808**
Barium	**7440-39-3**	**5.62**		**0.923**
Beryllium	**7440-41-7**	**0.0303**		**0.00276**
Cadmium	7440-43-9	0.0440	U	0.0639
Chromium	**7440-47-3**	**4.33**		**1.91**
Cobalt	**7440-48-4**	**1.01**		**0.0376**
Copper	**7440-50-8**	**18.1**		**2.27**
Lead	**7439-92-1**	**0.768**		**0.185**
Manganese	**7439-96-5**	**35.0**		**1.63**
Molybdenum	**7439-98-7**	**1.00**		**0.310**
Nickel	**7440-02-0**	**2.36**		**0.562**
Selenium	**7782-49-2**	**0.210**		**0.00773**
Thallium	**7440-28-0**	**0.00240**	QB-04	**5.08E-4**
Vanadium	**7440-62-2**	**2.61**		**0.0456**
Zinc	7440-66-6	17.8	U	66.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110824-HM
Matrix: Air
Lab ID: 4111838-05
Sample Volume: 1933.24 m³
Filter ID:
Sampled: 11/08/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 03:25

Comments: Q8533671 - 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**	**0.129**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.412**		**0.00789**
Barium	**7440-39-3**	**6.67**		**0.901**
Beryllium	**7440-41-7**	**0.0185**		**0.00269**
Cadmium	7440-43-9	0.0127	U	0.0624
Chromium	**7440-47-3**	**3.77**		**1.86**
Cobalt	**7440-48-4**	**0.812**		**0.0367**
Copper	**7440-50-8**	**22.0**		**2.21**
Lead	**7439-92-1**	**1.43**		**0.180**
Manganese	**7439-96-5**	**20.6**		**1.59**
Molybdenum	**7439-98-7**	**1.21**		**0.302**
Nickel	**7440-02-0**	**2.53**		**0.549**
Selenium	**7782-49-2**	**0.147**		**0.00754**
Thallium	**7440-28-0**	**0.00124**	QB-04	**4.96E-4**
Vanadium	**7440-62-2**	**2.34**		**0.0445**
Zinc	7440-66-6	18.4	U	64.6

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110824-HM
Matrix: Air
Lab ID: 4111838-06
Sample Volume: 2144.914 m³
Filter ID:
Sampled: 11/08/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 03:40

Comments: Q8526064 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.163**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.481**		**0.00711**
Barium	**7440-39-3**	**7.00**		**0.812**
Beryllium	**7440-41-7**	**0.0186**		**0.00243**
Cadmium	7440-43-9	0.0501	U	0.0562
Chromium	**7440-47-3**	**3.53**		**1.68**
Cobalt	**7440-48-4**	**0.706**		**0.0331**
Copper	**7440-50-8**	**40.2**		**1.99**
Lead	**7439-92-1**	**1.32**		**0.162**
Manganese	**7439-96-5**	**19.3**		**1.43**
Molybdenum	**7439-98-7**	**2.18**		**0.272**
Nickel	**7440-02-0**	**2.16**		**0.495**
Selenium	**7782-49-2**	**0.146**		**0.00680**
Thallium	**7440-28-0**	**0.00118**	QB-04	**4.47E-4**
Vanadium	**7440-62-2**	**2.10**		**0.0401**
Zinc	7440-66-6	24.0	U	58.3

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110824-HM
Matrix: Air
Lab ID: 4111838-07
Sample Volume: 2010.367 m³
Filter ID:
Sampled: 11/08/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 03:56

Comments: Q8526062 - 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**	**0.0561**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.114**		**0.00758**
Barium	**7440-39-3**	**2.74**		**0.866**
Beryllium	**7440-41-7**	**0.0184**		**0.00259**
Cadmium	7440-43-9	0.0134	U	0.0600
Chromium	**7440-47-3**	**2.12**		**1.79**
Cobalt	**7440-48-4**	**0.359**		**0.0353**
Copper	**7440-50-8**	**31.9**		**2.13**
Lead	**7439-92-1**	**0.345**		**0.173**
Manganese	**7439-96-5**	**8.93**		**1.53**
Molybdenum	**7439-98-7**	**1.71**		**0.291**
Nickel	**7440-02-0**	**1.20**		**0.528**
Selenium	**7782-49-2**	**0.112**		**0.00725**
Thallium	**7440-28-0**	**6.98E-4**	QB-04	**4.77E-4**
Vanadium	**7440-62-2**	**0.826**		**0.0428**
Zinc	7440-66-6	10.8	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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110824-HM
Matrix: Air
Lab ID: 4111838-08
Sample Volume: 1872.546 m³
Filter ID:
Sampled: 11/08/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 04:11

Comments: Q8526061 - 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**	**0.0876**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.270**		**0.00814**
Barium	**7440-39-3**	**3.39**		**0.930**
Beryllium	**7440-41-7**	**0.0111**		**0.00278**
Cadmium	7440-43-9	0.00857	U	0.0644
Chromium	**7440-47-3**	**2.13**		**1.92**
Cobalt	**7440-48-4**	**0.369**		**0.0379**
Copper	**7440-50-8**	**28.1**		**2.29**
Lead	**7439-92-1**	**0.609**		**0.186**
Manganese	**7439-96-5**	**12.1**		**1.64**
Molybdenum	**7439-98-7**	**1.25**		**0.312**
Nickel	**7440-02-0**	**1.17**		**0.567**
Selenium	**7782-49-2**	**0.133**		**0.00779**
Thallium	**7440-28-0**	**7.92E-4**	QB-04	**5.12E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0460**
Zinc	7440-66-6	15.5	U	66.7

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-110824-HM
Matrix: Air
Lab ID: 4111838-09
Sample Volume: 1933.24 m³
Filter ID:
Sampled: 11/08/24 00:00
Received: 11/18/24 10:27
Analysis Date: 11/20/24 04:27

Comments: Q8526053 - 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	0.0213	SL, U	0.0325
Arsenic	7440-38-2	0.00462	U	0.00789
Barium	**7440-39-3**	**1.02**	FB-01	**0.901**
Beryllium	7440-41-7	3.60E-4	U	0.00269
Cadmium	7440-43-9	9.14E-4	U	0.0624
Chromium	7440-47-3	0.847	U	1.86
Cobalt	7440-48-4	0.0138	U	0.0367
Copper	7440-50-8	0.253	U	2.21
Lead	7439-92-1	0.0273	U	0.180
Manganese	7439-96-5	0.218	U	1.59
Molybdenum	7439-98-7	0.132	U	0.302
Nickel	7440-02-0	0.454	U	0.549
Selenium	7782-49-2	0.00546	U	0.00754
Thallium	7440-28-0	9.43E-5	QB-04, U	4.96E-4
Vanadium	7440-62-2	0.0273	U	0.0445
Zinc	7440-66-6	3.79	U	64.6

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-110824-HM **Lab ID:** 4111838-10 **Sampled:** 11/08/24 00:00
Matrix: Air **Sample Volume:** 1933.24 m³ **Received:** 11/18/24 10:27
Filter ID: **Analysis Date:** 11/20/24 04:40

Comments: Q8526058 - 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	0.0198	SL, U	0.0325
Arsenic	7440-38-2	0.00460	U	0.00789
Barium	**7440-39-3**	**1.03**		**0.901**
Beryllium	7440-41-7	3.07E-4	U	0.00269
Cadmium	7440-43-9	0.00108	U	0.0624
Chromium	7440-47-3	0.791	U	1.86
Cobalt	7440-48-4	0.0143	U	0.0367
Copper	7440-50-8	0.838	U	2.21
Lead	7439-92-1	0.0357	U	0.180
Manganese	7439-96-5	0.240	U	1.59
Molybdenum	7439-98-7	0.147	U	0.302
Nickel	7440-02-0	0.360	U	0.549
Selenium	7782-49-2	0.00617	U	0.00754
Thallium	7440-28-0	1.01E-4	QB-04, U	4.96E-4
Vanadium	7440-62-2	0.0288	U	0.0445
Zinc	7440-66-6	8.59	U	64.6

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110924-HM
Matrix: Air
Lab ID: 4111838-11
Sample Volume: 2000.355 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 04:54

Comments: Q8526060 - 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**	**0.130**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.316**		**0.00762**
Barium	**7440-39-3**	**4.63**		**0.870**
Beryllium	**7440-41-7**	**0.0103**		**0.00260**
Cadmium	7440-43-9	0.0104	U	0.0603
Chromium	**7440-47-3**	**2.27**		**1.80**
Cobalt	**7440-48-4**	**0.442**		**0.0355**
Copper	**7440-50-8**	**20.0**		**2.14**
Lead	**7439-92-1**	**0.810**		**0.174**
Manganese	**7439-96-5**	**11.8**		**1.54**
Molybdenum	**7439-98-7**	**1.15**		**0.292**
Nickel	**7440-02-0**	**1.43**		**0.530**
Selenium	**7782-49-2**	**0.183**		**0.00729**
Thallium	**7440-28-0**	**0.00108**	QB-04	**4.79E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0430**
Zinc	7440-66-6	13.7	U	62.5

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110924-HM
Matrix: Air
Lab ID: 4111838-12
Sample Volume: 2131.475 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 06:29

Comments: Q8526056 - 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**	**0.201**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.568**		**0.00715**
Barium	**7440-39-3**	**6.22**		**0.817**
Beryllium	**7440-41-7**	**0.0150**		**0.00244**
Cadmium	7440-43-9	0.0497	U	0.0566
Chromium	**7440-47-3**	**2.86**		**1.69**
Cobalt	**7440-48-4**	**0.513**		**0.0333**
Copper	**7440-50-8**	**38.6**		**2.01**
Lead	**7439-92-1**	**1.03**		**0.163**
Manganese	**7439-96-5**	**15.3**		**1.44**
Molybdenum	**7439-98-7**	**1.95**		**0.274**
Nickel	**7440-02-0**	**1.82**		**0.498**
Selenium	**7782-49-2**	**0.196**		**0.00684**
Thallium	**7440-28-0**	**0.00130**	QB-04	**4.50E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0404**
Zinc	7440-66-6	19.4	U	58.6

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110924-HM
Matrix: Air
Lab ID: 4111838-13
Sample Volume: 1883.054 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 06:48

Comments: Q8526052 - 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**	**0.0389**	SL	**0.0334**
Barium	**7440-39-3**	**15.5**		**0.925**
Beryllium	**7440-41-7**	**0.315**		**0.00276**
Chromium	**7440-47-3**	**16.3**		**1.91**
Cobalt	**7440-48-4**	**4.11**		**0.0377**
Copper	**7440-50-8**	**41.2**		**2.27**
Lead	**7439-92-1**	**0.875**		**0.185**
Manganese	**7439-96-5**	**95.6**		**1.63**
Nickel	**7440-02-0**	**8.32**		**0.563**
Thallium	**7440-28-0**	**0.00541**	QB-04	**5.09E-4**
Zinc	7440-66-6	16.7	U	66.4

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110924-HM
Matrix: Air
Lab ID: 4111838-13RE1
Sample Volume: 1883.054 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 15:28

Comments: Q8526052 - 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**	**0.707**	D	**0.0405**
Cadmium	7440-43-9	0.0283	D, U	0.320
Molybdenum	**7439-98-7**	**1.99**	D	**1.55**
Selenium	**7782-49-2**	**0.663**	D	**0.0387**
Vanadium	**7440-62-2**	**11.4**	D	**0.229**

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110924-HM
Matrix: Air
Lab ID: 4111838-14
Sample Volume: 1829.853 m³
Filter ID:
Sampled: 11/09/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 07:08

Comments: Q8526051 - 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**	**0.0819**	SL	**0.0343**
Arsenic	**7440-38-2**	**0.246**		**0.00833**
Barium	**7440-39-3**	**2.89**		**0.951**
Beryllium	**7440-41-7**	**0.00818**		**0.00285**
Cadmium	7440-43-9	0.00813	U	0.0659
Chromium	**7440-47-3**	**2.30**		**1.97**
Cobalt	**7440-48-4**	**0.315**		**0.0388**
Copper	**7440-50-8**	**22.0**		**2.34**
Lead	**7439-92-1**	**0.285**		**0.190**
Manganese	**7439-96-5**	**9.64**		**1.68**
Molybdenum	**7439-98-7**	**1.28**		**0.319**
Nickel	**7440-02-0**	**1.27**		**0.580**
Selenium	**7782-49-2**	**0.166**		**0.00797**
Thallium	**7440-28-0**	**9.68E-4**	QB-04	**5.24E-4**
Vanadium	**7440-62-2**	**0.854**		**0.0470**
Zinc	7440-66-6	9.23	U	68.3

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111024-HM
Matrix: Air
Lab ID: 4111838-15
Sample Volume: 1991.16 m³
Filter ID:
Sampled: 11/10/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/19/24 19:18

Comments: Q8526049 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**	**0.0978**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.222**		**0.00766**
Barium	**7440-39-3**	**3.55**		**0.874**
Beryllium	**7440-41-7**	**0.00833**		**0.00261**
Cadmium	7440-43-9	0.00956	U	0.0605
Chromium	7440-47-3	1.78	U	1.81
Cobalt	**7440-48-4**	**0.259**		**0.0356**
Copper	**7440-50-8**	**22.1**		**2.15**
Lead	**7439-92-1**	**0.541**		**0.175**
Manganese	**7439-96-5**	**8.59**		**1.54**
Molybdenum	**7439-98-7**	**1.37**		**0.293**
Nickel	**7440-02-0**	**0.998**		**0.533**
Selenium	**7782-49-2**	**0.177**		**0.00732**
Thallium	**7440-28-0**	**9.32E-4**		**4.81E-4**
Vanadium	**7440-62-2**	**0.832**		**0.0432**
Zinc	7440-66-6	10.8	U	62.8

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111024-HM
Matrix: Air
Lab ID: 4111838-16
Sample Volume: 2173.106 m³
Filter ID:
Sampled: 11/10/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 07:25

Comments: Q8526048 - 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**	**0.145**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.503**		**0.00702**
Barium	**7440-39-3**	**5.23**		**0.801**
Beryllium	**7440-41-7**	**0.00996**		**0.00240**
Cadmium	7440-43-9	0.0137	U	0.0555
Chromium	**7440-47-3**	**2.60**		**1.65**
Cobalt	**7440-48-4**	**0.354**		**0.0326**
Copper	**7440-50-8**	**47.3**		**1.97**
Lead	**7439-92-1**	**0.933**		**0.160**
Manganese	**7439-96-5**	**10.4**		**1.42**
Molybdenum	**7439-98-7**	**2.20**		**0.269**
Nickel	**7440-02-0**	**1.52**		**0.488**
Selenium	**7782-49-2**	**0.189**		**0.00671**
Thallium	**7440-28-0**	**8.17E-4**	QB-04	**4.41E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0396**
Zinc	7440-66-6	17.6	U	57.5

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111024-HM
Matrix: Air
Lab ID: 4111838-17
Sample Volume: 1903.196 m³
Filter ID:
Sampled: 11/10/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 07:41

Comments: Q8526046 - 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**	**0.0418**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.0999**		**0.00801**
Barium	**7440-39-3**	**2.12**		**0.915**
Beryllium	**7440-41-7**	**0.00886**		**0.00274**
Cadmium	7440-43-9	0.00441	U	0.0633
Chromium	7440-47-3	1.40	U	1.89
Cobalt	**7440-48-4**	**0.180**		**0.0373**
Copper	**7440-50-8**	**40.1**		**2.25**
Lead	**7439-92-1**	**0.227**		**0.183**
Manganese	**7439-96-5**	**4.67**		**1.62**
Molybdenum	**7439-98-7**	**2.22**		**0.307**
Nickel	**7440-02-0**	**0.837**		**0.557**
Selenium	**7782-49-2**	**0.162**		**0.00766**
Thallium	**7440-28-0**	**6.48E-4**	QB-04	**5.04E-4**
Vanadium	**7440-62-2**	**0.532**		**0.0452**
Zinc	7440-66-6	7.54	U	65.7

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111024-HM
Matrix: Air
Lab ID: 4111838-18
Sample Volume: 1884.952 m³
Filter ID:
Sampled: 11/10/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 07:55

Comments: Q8526044 - 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	**0.0333**
Arsenic	**7440-38-2**	**0.148**		**0.00809**
Barium	**7440-39-3**	**2.48**		**0.924**
Beryllium	**7440-41-7**	**0.00539**		**0.00276**
Cadmium	7440-43-9	0.00727	U	0.0640
Chromium	**7440-47-3**	**2.28**		**1.91**
Cobalt	**7440-48-4**	**0.219**		**0.0376**
Copper	**7440-50-8**	**19.5**		**2.27**
Lead	**7439-92-1**	**0.198**		**0.185**
Manganese	**7439-96-5**	**6.35**		**1.63**
Molybdenum	**7439-98-7**	**1.16**		**0.310**
Nickel	**7440-02-0**	**1.40**		**0.563**
Selenium	**7782-49-2**	**0.158**		**0.00773**
Thallium	**7440-28-0**	**5.97E-4**	QB-04	**5.08E-4**
Vanadium	**7440-62-2**	**0.687**		**0.0457**
Zinc	7440-66-6	6.57	U	66.3

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-111024-HM
Matrix: Air
Lab ID: 4111838-19
Sample Volume: 1991.16 m³
Filter ID:
Sampled: 11/10/24 00:00
Received: 11/18/24 10:27
Analysis Date: 11/20/24 08:10

Comments: Q8526039 - 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	0.0190	SL, U	0.0315
Arsenic	7440-38-2	0.00384	U	0.00766
Barium	**7440-39-3**	**1.05**	FB-01	**0.874**
Beryllium	7440-41-7	3.67E-4	U	0.00261
Cadmium	7440-43-9	0.00100	U	0.0605
Chromium	7440-47-3	1.42	U	1.81
Cobalt	7440-48-4	0.0131	U	0.0356
Copper	7440-50-8	0.625	U	2.15
Lead	7439-92-1	0.0458	U	0.175
Manganese	7439-96-5	0.167	U	1.54
Molybdenum	7439-98-7	0.236	U	0.293
Nickel	7440-02-0	0.342	U	0.533
Selenium	7782-49-2	0.00366	U	0.00732
Thallium	7440-28-0	1.22E-4	QB-04, U	4.81E-4
Vanadium	7440-62-2	0.0254	U	0.0432
Zinc	7440-66-6	8.64	U	62.8

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111124-HM
Matrix: Air
Lab ID: 4111838-20
Sample Volume: 2000.355 m³
Filter ID:
Sampled: 11/11/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 08:24

Comments: Q8526042 - 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**	**0.122**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.264**		**0.00762**
Barium	**7440-39-3**	**4.95**		**0.870**
Beryllium	**7440-41-7**	**0.00785**		**0.00260**
Cadmium	7440-43-9	0.0107	U	0.0603
Chromium	**7440-47-3**	**2.09**		**1.80**
Cobalt	**7440-48-4**	**0.307**		**0.0355**
Copper	**7440-50-8**	**26.8**		**2.14**
Lead	**7439-92-1**	**0.566**		**0.174**
Manganese	**7439-96-5**	**9.55**		**1.54**
Molybdenum	**7439-98-7**	**1.70**		**0.292**
Nickel	**7440-02-0**	**1.18**		**0.530**
Selenium	**7782-49-2**	**0.185**		**0.00729**
Thallium	**7440-28-0**	**0.00106**	QB-04	**4.79E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0430**
Zinc	7440-66-6	14.9	U	62.5

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111124-HM
Matrix: Air
Lab ID: 4111838-21
Sample Volume: 2164.471 m³
Filter ID:
Sampled: 11/11/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 08:39

Comments: Q8526041 - 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**	**0.196**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.584**		**0.00704**
Barium	**7440-39-3**	**7.64**		**0.804**
Beryllium	**7440-41-7**	**0.0143**		**0.00241**
Cadmium	7440-43-9	0.0139	U	0.0557
Chromium	**7440-47-3**	**2.92**		**1.66**
Cobalt	**7440-48-4**	**0.578**		**0.0328**
Copper	**7440-50-8**	**43.7**		**1.98**
Lead	**7439-92-1**	**1.29**		**0.161**
Manganese	**7439-96-5**	**17.6**		**1.42**
Molybdenum	**7439-98-7**	**2.25**		**0.270**
Nickel	**7440-02-0**	**1.86**		**0.490**
Selenium	**7782-49-2**	**0.215**		**0.00674**
Thallium	**7440-28-0**	**0.00117**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**2.04**		**0.0398**
Zinc	7440-66-6	21.0	U	57.7

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111124-HM
Matrix: Air
Lab ID: 4111838-22
Sample Volume: 1858.999 m³
Filter ID:
Sampled: 11/11/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 10:15

Comments: Q8526040 - 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**	**0.0500**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.0963**		**0.00820**
Barium	**7440-39-3**	**2.78**		**0.936**
Beryllium	**7440-41-7**	**0.00786**		**0.00280**
Cadmium	7440-43-9	0.00519	U	0.0649
Chromium	7440-47-3	1.57	U	1.93
Cobalt	**7440-48-4**	**0.220**		**0.0382**
Copper	**7440-50-8**	**39.2**		**2.30**
Lead	**7439-92-1**	**0.244**		**0.187**
Manganese	**7439-96-5**	**5.91**		**1.65**
Molybdenum	**7439-98-7**	**2.37**		**0.314**
Nickel	**7440-02-0**	**0.980**		**0.571**
Selenium	**7782-49-2**	**0.162**		**0.00784**
Thallium	**7440-28-0**	**0.00102**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**0.803**		**0.0463**
Zinc	7440-66-6	6.89	LJ, QX, U	67.2

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111124-HM
Matrix: Air
Lab ID: 4111838-23
Sample Volume: 1853.852 m³
Filter ID:
Sampled: 11/11/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 10:49

Comments: Q8526037 - 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**	**0.0836**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.0970**		**0.00822**
Barium	**7440-39-3**	**4.02**		**0.939**
Beryllium	**7440-41-7**	**0.00504**		**0.00281**
Cadmium	7440-43-9	0.00450	U	0.0650
Chromium	7440-47-3	1.32	U	1.94
Cobalt	**7440-48-4**	**0.150**		**0.0383**
Copper	**7440-50-8**	**19.1**		**2.31**
Lead	**7439-92-1**	**0.196**		**0.188**
Manganese	**7439-96-5**	**5.23**		**1.66**
Molybdenum	**7439-98-7**	**1.30**		**0.315**
Nickel	**7440-02-0**	**0.782**		**0.572**
Selenium	**7782-49-2**	**0.156**		**0.00786**
Thallium	**7440-28-0**	**7.61E-4**	QB-04	**5.17E-4**
Vanadium	**7440-62-2**	**0.724**		**0.0464**
Zinc	7440-66-6	7.99	LJ, QX, U	67.4

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111224-HM
Matrix: Air
Lab ID: 4111838-24
Sample Volume: 1953.977 m³
Filter ID:
Sampled: 11/12/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 11:06

Comments: Q8526036 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.155**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.282**		**0.00780**
Barium	**7440-39-3**	**6.19**		**0.891**
Beryllium	**7440-41-7**	**0.0128**		**0.00266**
Cadmium	7440-43-9	0.0127	U	0.0617
Chromium	**7440-47-3**	**2.58**		**1.84**
Cobalt	**7440-48-4**	**0.461**		**0.0363**
Copper	**7440-50-8**	**33.1**		**2.19**
Lead	**7439-92-1**	**0.731**		**0.178**
Manganese	**7439-96-5**	**13.3**		**1.57**
Molybdenum	**7439-98-7**	**1.90**		**0.299**
Nickel	**7440-02-0**	**1.80**		**0.543**
Selenium	**7782-49-2**	**0.248**		**0.00746**
Thallium	**7440-28-0**	**0.00136**	QB-04	**4.90E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0440**
Zinc	7440-66-6	18.7	LJ, QX, U	63.9

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111224-HM
Matrix: Air
Lab ID: 4111838-25
Sample Volume: 2142.226 m³
Filter ID:
Sampled: 11/12/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 11:22

Comments: Q8526034 - 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**	**0.249**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.789**		**0.00712**
Barium	**7440-39-3**	**7.79**		**0.813**
Beryllium	**7440-41-7**	**0.0191**		**0.00243**
Cadmium	7440-43-9	0.0317	U	0.0563
Chromium	**7440-47-3**	**3.05**		**1.68**
Cobalt	**7440-48-4**	**0.606**		**0.0331**
Copper	**7440-50-8**	**48.4**		**2.00**
Lead	**7439-92-1**	**1.42**		**0.163**
Manganese	**7439-96-5**	**18.3**		**1.44**
Molybdenum	**7439-98-7**	**2.24**		**0.273**
Nickel	**7440-02-0**	**2.07**		**0.495**
Selenium	**7782-49-2**	**0.269**		**0.00681**
Thallium	**7440-28-0**	**0.00145**	QB-04	**4.47E-4**
Vanadium	**7440-62-2**	**2.16**		**0.0402**
Zinc	7440-66-6	22.4	LJ, QX, U	58.3

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111224-HM
Matrix: Air
Lab ID: 4111838-26
Sample Volume: 1915.937 m³
Filter ID:
Sampled: 11/12/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 11:39

Comments: Q8526032 - 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**	**0.0567**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.170**		**0.00796**
Barium	**7440-39-3**	**3.62**		**0.909**
Beryllium	**7440-41-7**	**0.0177**		**0.00272**
Cadmium	7440-43-9	0.00720	U	0.0629
Chromium	**7440-47-3**	**2.45**		**1.88**
Cobalt	**7440-48-4**	**0.462**		**0.0370**
Copper	**7440-50-8**	**49.1**		**2.23**
Lead	**7439-92-1**	**0.342**		**0.182**
Manganese	**7439-96-5**	**12.0**		**1.60**
Molybdenum	**7439-98-7**	**2.85**		**0.305**
Nickel	**7440-02-0**	**1.58**		**0.554**
Selenium	**7782-49-2**	**0.241**		**0.00761**
Thallium	**7440-28-0**	**0.00122**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0449**
Zinc	7440-66-6	9.81	LJ, QX, U	65.2

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111224-HM
Matrix: Air
Lab ID: 4111838-27
Sample Volume: 1832.918 m³
Filter ID:
Sampled: 11/12/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 11:53

Comments: Q8526031 - 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**	**0.0994**	SL	**0.0343**
Arsenic	**7440-38-2**	**0.655**		**0.00832**
Barium	**7440-39-3**	**6.38**		**0.950**
Beryllium	**7440-41-7**	**0.0278**		**0.00284**
Cadmium	7440-43-9	0.0133	U	0.0658
Chromium	**7440-47-3**	**4.75**		**1.96**
Cobalt	**7440-48-4**	**0.970**		**0.0387**
Copper	**7440-50-8**	**21.2**		**2.33**
Lead	**7439-92-1**	**0.597**		**0.190**
Manganese	**7439-96-5**	**32.5**		**1.68**
Molybdenum	**7439-98-7**	**1.26**		**0.319**
Nickel	**7440-02-0**	**2.54**		**0.579**
Selenium	**7782-49-2**	**0.294**		**0.00795**
Thallium	**7440-28-0**	**0.00193**	QB-04	**5.23E-4**
Vanadium	**7440-62-2**	**2.82**		**0.0470**
Zinc	7440-66-6	16.7	LJ, QX, U	68.2

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-111224-HM
Matrix: Air
Lab ID: 4111838-28
Sample Volume: 1953.977 m³
Filter ID:
Sampled: 11/12/24 00:00
Received: 11/18/24 10:27
Analysis Date: 11/20/24 12:09

Comments: Q8526024 - 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	0.0192	SL, U	0.0321
Arsenic	7440-38-2	0.00353	U	0.00780
Barium	**7440-39-3**	**1.06**	FB-01	**0.891**
Beryllium	7440-41-7	2.03E-4	U	0.00266
Cadmium	7440-43-9	5.35E-4	U	0.0617
Chromium	7440-47-3	0.773	U	1.84
Cobalt	7440-48-4	0.00905	U	0.0363
Copper	7440-50-8	0.435	U	2.19
Lead	7439-92-1	0.0336	U	0.178
Manganese	7439-96-5	0.160	U	1.57
Molybdenum	7439-98-7	0.155	U	0.299
Nickel	7440-02-0	0.340	U	0.543
Selenium	7782-49-2	0.00220	U	0.00746
Thallium	7440-28-0	7.65E-5	QB-04, U	4.90E-4
Vanadium	7440-62-2	0.0162	U	0.0440
Zinc	7440-66-6	2.92	LJ, QX, U	63.9

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-111324-HM
Matrix: Air
Lab ID: 4111838-29
Sample Volume: 1975.504 m³
Filter ID:
Sampled: 11/13/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 12:22

Comments: Q8526030 - 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**	**0.107**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.268**		**0.00772**
Barium	**7440-39-3**	**4.90**		**0.881**
Beryllium	**7440-41-7**	**0.0110**		**0.00264**
Cadmium	7440-43-9	0.0118	U	0.0610
Chromium	**7440-47-3**	**2.69**		**1.82**
Cobalt	**7440-48-4**	**0.424**		**0.0359**
Copper	**7440-50-8**	**27.9**		**2.17**
Lead	**7439-92-1**	**0.844**		**0.176**
Manganese	**7439-96-5**	**12.0**		**1.56**
Molybdenum	**7439-98-7**	**1.61**		**0.296**
Nickel	**7440-02-0**	**1.70**		**0.537**
Selenium	**7782-49-2**	**0.172**		**0.00738**
Thallium	**7440-28-0**	**9.44E-4**	QB-04	**4.85E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0436**
Zinc	7440-66-6	14.2	LJ, QX, 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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-111324-HM
Matrix: Air
Lab ID: 4111838-30
Sample Volume: 2141.33 m³
Filter ID:
Sampled: 11/13/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 12:38

Comments: Q8526027 - 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	1.05	SL	0.0293
Arsenic	7440-38-2	6.76		0.00712
Barium	7440-39-3	14.6		0.813
Beryllium	7440-41-7	0.0270		0.00243
Cadmium	7440-43-9	0.0584		0.0563
Chromium	7440-47-3	6.08		1.68
Cobalt	7440-48-4	1.13		0.0331
Copper	7440-50-8	70.0		2.00
Lead	7439-92-1	17.9		0.163
Manganese	7439-96-5	29.4		1.44
Molybdenum	7439-98-7	2.16		0.273
Nickel	7440-02-0	3.20		0.495
Selenium	7782-49-2	0.217		0.00681
Thallium	7440-28-0	0.00168	QB-04	4.48E-4
Vanadium	7440-62-2	2.70		0.0402
Zinc	7440-66-6	77.0	LJ, QX	58.4

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-111324-HM
Matrix: Air
Lab ID: 4111838-31
Sample Volume: 1911.245 m³
Filter ID:
Sampled: 11/13/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 14:17

Comments: Q8526025 - 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**	**0.0618**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.139**		**0.00798**
Barium	**7440-39-3**	**3.72**	LJ, QX	**0.911**
Beryllium	**7440-41-7**	**0.0170**		**0.00272**
Cadmium	7440-43-9	0.00837	U	0.0631
Chromium	**7440-47-3**	**2.44**		**1.88**
Cobalt	**7440-48-4**	**0.425**		**0.0371**
Copper	**7440-50-8**	**45.8**		**2.24**
Lead	**7439-92-1**	**0.402**		**0.182**
Manganese	**7439-96-5**	**10.6**		**1.61**
Molybdenum	**7439-98-7**	**2.76**		**0.306**
Nickel	**7440-02-0**	**1.55**		**0.555**
Selenium	**7782-49-2**	**0.165**		**0.00763**
Thallium	**7440-28-0**	**9.03E-4**	QB-04	**5.01E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0450**
Zinc	7440-66-6	8.82	LJ, QX, U	65.4

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: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-111324-HM
Matrix: Air
Lab ID: 4111838-32
Sample Volume: 1918.566 m³
Filter ID:
Sampled: 11/13/24 23:59
Received: 11/18/24 10:27
Analysis Date: 11/20/24 14:35

Comments: Q8526023 - 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**	**0.107**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.661**		**0.00795**
Barium	**7440-39-3**	**5.69**	LJ, QX	**0.907**
Beryllium	**7440-41-7**	**0.0252**		**0.00271**
Cadmium	7440-43-9	0.0176	U	0.0628
Chromium	**7440-47-3**	**3.97**		**1.87**
Cobalt	**7440-48-4**	**0.868**		**0.0370**
Copper	**7440-50-8**	**17.4**		**2.23**
Lead	**7439-92-1**	**0.439**		**0.181**
Manganese	**7439-96-5**	**31.3**		**1.60**
Molybdenum	**7439-98-7**	**1.14**		**0.304**
Nickel	**7440-02-0**	**2.13**		**0.553**
Selenium	**7782-49-2**	**0.217**		**0.00760**
Thallium	**7440-28-0**	**0.00165**	QB-04	**4.99E-4**
Vanadium	**7440-62-2**	**2.47**		**0.0449**
Zinc	7440-66-6	13.6	LJ, QX, U	65.1

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Calibration Blank (2411050-CCB1)				Prepared & Analyzed: 11/19/24						
Antimony	0.919		ng/l							
Arsenic	2.02		ng/l							
Barium	-0.170		ng/l							U
Beryllium	-0.303		ng/l							U
Cadmium	0.0313		ng/l							
Chromium	1.15		ng/l							
Cobalt	0.0343		ng/l							
Copper	-14.8		ng/l							U
Lead	15.5		ng/l							
Manganese	2.32		ng/l							
Molybdenum	25.3		ng/l							
Nickel	0.837		ng/l							
Selenium	18.0		ng/l							
Thallium	1.35		ng/l							
Vanadium	-23.6		ng/l							U
Zinc	-19.7		ng/l							U
Calibration Blank (2411050-CCB2)				Prepared & Analyzed: 11/19/24						
Antimony	0.498		ng/l							
Arsenic	4.49		ng/l							
Barium	0.374		ng/l							
Beryllium	-0.607		ng/l							U
Cadmium	0.0392		ng/l							
Chromium	0.528		ng/l							
Cobalt	0.0843		ng/l							
Copper	-20.6		ng/l							U
Lead	5.60		ng/l							
Manganese	2.04		ng/l							
Molybdenum	5.30		ng/l							
Nickel	-1.31		ng/l							U
Selenium	8.62		ng/l							
Thallium	1.02		ng/l							
Vanadium	-20.3		ng/l							U
Zinc	-48.7		ng/l							U
Calibration Blank (2411050-CCB3)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.422		ng/l							
Arsenic	2.53		ng/l							
Barium	-0.250		ng/l							U
Beryllium	-0.916		ng/l							U

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Calibration Blank (2411050-CCB3) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Cadmium	-0.0410		ng/l							U
Chromium	0.0266		ng/l							
Cobalt	0.0143		ng/l							
Copper	-28.9		ng/l							U
Lead	4.12		ng/l							
Manganese	0.946		ng/l							
Molybdenum	5.66		ng/l							
Nickel	-0.634		ng/l							U
Selenium	9.77		ng/l							
Thallium	1.31		ng/l							
Vanadium	-25.1		ng/l							U
Zinc	-50.1		ng/l							U
Calibration Blank (2411050-CCB4)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.686		ng/l							
Arsenic	2.73		ng/l							
Barium	-0.558		ng/l							U
Beryllium	-1.00		ng/l							U
Cadmium	0.0120		ng/l							
Chromium	1.01		ng/l							
Cobalt	0.150		ng/l							
Copper	-26.3		ng/l							U
Lead	3.84		ng/l							
Manganese	1.15		ng/l							
Molybdenum	7.39		ng/l							
Nickel	-1.82		ng/l							U
Selenium	9.11		ng/l							
Thallium	1.47		ng/l							QB-04
Vanadium	-34.2		ng/l							U
Zinc	-50.2		ng/l							U
Calibration Blank (2411050-CCB5)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.445		ng/l							
Arsenic	-0.883		ng/l							U
Barium	-0.377		ng/l							U
Beryllium	-1.43		ng/l							U
Cadmium	0.0124		ng/l							
Chromium	0.0178		ng/l							
Cobalt	0.00143		ng/l							
Copper	-22.3		ng/l							U

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Calibration Blank (2411050-CCB5) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Lead	3.47		ng/l							
Manganese	1.19		ng/l							
Molybdenum	7.52		ng/l							
Nickel	-1.19		ng/l							U
Selenium	9.16		ng/l							
Thallium	1.67		ng/l							QB-04
Vanadium	-38.8		ng/l							U
Zinc	-40.4		ng/l							U
Calibration Blank (2411050-CCB6)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.756		ng/l							
Arsenic	-0.824		ng/l							U
Barium	0.422		ng/l							
Beryllium	-1.31		ng/l							U
Cadmium	-0.0262		ng/l							U
Chromium	-1.18		ng/l							U
Cobalt	0.0164		ng/l							
Copper	-17.3		ng/l							U
Lead	3.65		ng/l							
Manganese	2.07		ng/l							
Molybdenum	9.93		ng/l							
Nickel	0.747		ng/l							
Selenium	11.3		ng/l							
Thallium	1.69		ng/l							QB-04
Vanadium	-40.1		ng/l							U
Zinc	-41.9		ng/l							U
Calibration Blank (2411050-CCB7)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	2.08		ng/l							
Arsenic	0.974		ng/l							
Barium	1.46		ng/l							
Beryllium	-0.797		ng/l							U
Cadmium	0.207		ng/l							
Chromium	2.23		ng/l							
Cobalt	0.395		ng/l							
Copper	7.48		ng/l							
Lead	12.8		ng/l							
Manganese	5.18		ng/l							
Molybdenum	28.8		ng/l							
Nickel	0.854		ng/l							

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Calibration Blank (2411050-CCB7) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Selenium	0.791		ng/l							
Thallium	4.13		ng/l							QB-04
Vanadium	-47.0		ng/l							U
Zinc	-29.4		ng/l							U
Calibration Check (2411050-CCV1)				Prepared & Analyzed: 11/19/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	491		ng/l	500.00		98.2	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	543000		ng/l	500000		109	90-110			
Calibration Check (2411050-CCV2)				Prepared & Analyzed: 11/19/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.3	90-110			
Cobalt	50400		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	534000		ng/l	500000		107	90-110			

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Calibration Check (2411050-CCV3)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	539000		ng/l	500000		108	90-110			
Calibration Check (2411050-CCV4)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	207000		ng/l	200000		104	90-110			
Beryllium	5210		ng/l	5000.0		104	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51600		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	531000		ng/l	500000		106	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	487		ng/l	500.00		97.3	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	545000		ng/l	500000		109	90-110			
Calibration Check (2411050-CCV5)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Calibration Check (2411050-CCV5) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51000		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	521000		ng/l	500000		104	90-110			
Molybdenum	51700		ng/l	50000		103	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	546000		ng/l	500000		109	90-110			
Calibration Check (2411050-CCV6)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		104	90-110			
Barium	218000		ng/l	200000		109	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	52900		ng/l	50000		106	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	536000		ng/l	500000		107	90-110			
Molybdenum	53800		ng/l	50000		108	90-110			
Nickel	128000		ng/l	120000		106	90-110			
Selenium	20800		ng/l	20000		104	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	558000		ng/l	500000		112	90-110			LJ, QX
Calibration Check (2411050-CCV7)				Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		104	90-110			
Barium	222000		ng/l	200000		111	90-110			LJ, QX
Beryllium	5220		ng/l	5000.0		104	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		107	90-110			

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Calibration Check (2411050-CCV7) Contin				Prepared: 11/19/24 Analyzed: 11/20/24						
Lead	207000		ng/l	200000		104	90-110			
Manganese	530000		ng/l	500000		106	90-110			
Molybdenum	54200		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	497		ng/l	500.00		99.3	90-110			
Vanadium	20900		ng/l	20000		104	90-110			
Zinc	556000		ng/l	500000		111	90-110			LJ, QX
High Cal Check (2411050-HCV1)				Prepared & Analyzed: 11/19/24						
Antimony	40800		ng/l	40000		102	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	406000		ng/l	400000		101	95-105			
Beryllium	9990		ng/l	10000		99.9	95-105			
Cadmium	40400		ng/l	40000		101	95-105			
Chromium	478000		ng/l	480000		99.5	95-105			
Cobalt	99600		ng/l	100000		99.6	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.3	95-105			
Lead	402000		ng/l	400000		100	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	239000		ng/l	240000		99.7	95-105			
Selenium	40300		ng/l	40000		101	95-105			
Thallium	999		ng/l	1000.0		99.9	95-105			
Vanadium	40200		ng/l	40000		101	95-105			
Zinc	993000		ng/l	1.0000E6		99.3	95-105			
Initial Cal Blank (2411050-ICB1)				Prepared & Analyzed: 11/19/24						
Antimony	1.23		ng/l							
Arsenic	0.0195		ng/l							
Barium	-0.405		ng/l							U
Beryllium	-0.253		ng/l							U
Cadmium	-0.0277		ng/l							U
Chromium	0.695		ng/l							
Cobalt	0.0172		ng/l							
Copper	-23.5		ng/l							U
Lead	12.6		ng/l							
Manganese	3.84		ng/l							
Molybdenum	11.0		ng/l							
Nickel	-3.47		ng/l							U

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Initial Cal Blank (2411050-ICB1) Continu				Prepared & Analyzed: 11/19/24						
Selenium	9.09		ng/l							
Thallium	1.15		ng/l							
Vanadium	-22.1		ng/l							U
Zinc	-28.2		ng/l							U
Initial Cal Check (2411050-ICV1)				Prepared & Analyzed: 11/19/24						
Antimony	19600		ng/l	20000		98.2	90-110			
Arsenic	19000		ng/l	20000		94.9	90-110			
Barium	191000		ng/l	200000		95.5	90-110			
Beryllium	4980		ng/l	5000.0		99.7	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	235000		ng/l	240000		97.7	90-110			
Cobalt	49000		ng/l	50000		98.0	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.5	90-110			
Manganese	492000		ng/l	500000		98.4	90-110			
Molybdenum	48600		ng/l	50000		97.3	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	545000		ng/l	500000		109	90-110			
Interference Check A (2411050-IFA1)				Prepared & Analyzed: 11/19/24						
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	322000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 2411050 - B4K1911										
Interference Check B (2411050-IFB1)				Prepared & Analyzed: 11/19/24						
Antimony	20500		ng/l	20000		103	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	4820		ng/l	5000.0		96.4	80-120			
Cadmium	19900		ng/l	20000		99.3	80-120			
Chromium	234000		ng/l	240000		97.5	80-120			
Cobalt	49900		ng/l	50000		99.8	80-120			
Copper	1.94E6		ng/l	2.0000E6		97.0	80-120			
Lead	209000		ng/l	200000		104	80-120			
Manganese	525000		ng/l	500000		105	80-120			
Molybdenum	377000		ng/l	350000		108	80-120			
Nickel	117000		ng/l	120000		97.5	80-120			
Selenium	18900		ng/l	20000		94.6	80-120			
Thallium	518		ng/l	500.00		104	80-120			
Vanadium	19800		ng/l	20000		99.2	80-120			
Zinc	493000		ng/l	500000		98.6	80-120			
Batch B4K1911 - ICP-MS Extraction										
Blank (B4K1911-BLK1)				Prepared & Analyzed: 11/19/24						
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							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 (B4K1911-BS1)				Prepared & Analyzed: 11/19/24						
Antimony	0.702	0.0386	ng/m³ Air	1.3829		50.8	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	28.0	1.07	ng/m³ Air	27.658		101	80-120			

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 B4K1911 - ICP-MS Extraction										
LCS (B4K1911-BS1) Continued					Prepared & Analyzed: 11/19/24					
Beryllium	1.40	0.00320	ng/m³ Air	1.3829		101	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	30.9	2.63	ng/m³ Air	27.658		112	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	9.10	1.89	ng/m³ Air	8.2975		110	80-120			
Molybdenum	1.49	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	3.24	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.78	0.00896	ng/m³ Air	2.7658		100	80-120			
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.5	80-120			
Vanadium	2.83	0.0529	ng/m³ Air	2.7658		102	80-120			
Zinc	97.3	76.8	ng/m³ Air	82.975		117	80-120			
LCS (B4K1911-BS2)					Prepared & Analyzed: 11/19/24					
Antimony	0.762	0.0386	ng/m³ Air	1.3829		55.1	80-120			SL
Arsenic	2.79	0.00937	ng/m³ Air	2.7658		101	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	30.3	2.63	ng/m³ Air	27.658		109	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	9.01	1.89	ng/m³ Air	8.2975		109	80-120			
Molybdenum	1.48	0.359	ng/m³ Air	1.3829		107	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.6	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	96.0	76.8	ng/m³ Air	82.975		116	80-120			
Duplicate (B4K1911-DUP1)		**Source: 4111838-15**			Prepared & Analyzed: 11/19/24					
Antimony	0.0953	0.0315	ng/m³ Air		0.0978			2.59	10	SL
Arsenic	0.227	0.00766	ng/m³ Air		0.222			2.11	10	
Barium	3.50	0.874	ng/m³ Air		3.55			1.37	10	
Beryllium	0.00833	0.00261	ng/m³ Air		0.00833			0.0194	10	
Cadmium	ND	0.0605	ng/m³ Air		ND				10	U
Chromium	ND	1.81	ng/m³ Air		ND				10	U
Cobalt	0.265	0.0356	ng/m³ Air		0.259			2.31	10	

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 B4K1911 - ICP-MS Extraction										
Duplicate (B4K1911-DUP1) Continued			**Source: 4111838-15**		Prepared & Analyzed: 11/19/24					
Copper	22.8	2.15	ng/m³ Air		22.1			3.14	10	
Lead	0.467	0.175	ng/m³ Air		0.541			14.6	10	
Manganese	8.86	1.54	ng/m³ Air		8.59			3.00	10	
Molybdenum	1.37	0.293	ng/m³ Air		1.37			0.0235	10	
Nickel	0.958	0.533	ng/m³ Air		0.998			4.09	10	
Selenium	0.176	0.00732	ng/m³ Air		0.177			0.615	10	
Thallium	8.99E-4	4.81E-4	ng/m³ Air		9.32E-4			3.64	10	
Vanadium	0.849	0.0432	ng/m³ Air		0.832			2.00	10	
Zinc	ND	62.8	ng/m³ Air		ND				10	U
Duplicate (B4K1911-DUP2)			**Source: 4111838-02**		Prepared & Analyzed: 11/19/24					
Antimony	0.164	0.0300	ng/m³ Air		0.162			1.27	10	SL
Arsenic	0.688	0.00729	ng/m³ Air		0.682			0.857	10	
Barium	13.7	0.832	ng/m³ Air		11.8			14.8	10	
Beryllium	0.0383	0.00249	ng/m³ Air		0.0417			8.47	10	
Cadmium	0.143	0.0576	ng/m³ Air		0.155			8.30	10	
Chromium	6.67	1.72	ng/m³ Air		7.07			5.73	10	
Cobalt	1.55	0.0339	ng/m³ Air		1.62			4.64	10	
Copper	43.3	2.05	ng/m³ Air		43.6			0.627	10	
Lead	2.14	0.166	ng/m³ Air		2.31			7.61	10	
Manganese	41.5	1.47	ng/m³ Air		43.0			3.68	10	
Molybdenum	2.10	0.279	ng/m³ Air		2.03			3.36	10	
Nickel	4.66	0.507	ng/m³ Air		4.97			6.51	10	
Selenium	0.231	0.00697	ng/m³ Air		0.245			5.98	10	
Thallium	0.00259	4.58E-4	ng/m³ Air		0.00272			4.65	10	
Vanadium	4.60	0.0411	ng/m³ Air		4.92			6.74	10	
Zinc	ND	59.7	ng/m³ Air		ND				10	U
Duplicate (B4K1911-DUP3)			**Source: 4111838-22**		Prepared: 11/19/24 Analyzed: 11/20/24					
Antimony	0.0512	0.0338	ng/m³ Air		0.0500			2.32	10	SL
Arsenic	0.0963	0.00820	ng/m³ Air		0.0963			0.00814	10	
Barium	2.80	0.936	ng/m³ Air		2.78			0.797	10	
Beryllium	0.00791	0.00280	ng/m³ Air		0.00786			0.648	10	
Cadmium	ND	0.0649	ng/m³ Air		ND				10	U
Chromium	ND	1.93	ng/m³ Air		ND				10	U
Cobalt	0.220	0.0382	ng/m³ Air		0.220			0.287	10	
Copper	39.3	2.30	ng/m³ Air		39.2			0.236	10	
Lead	0.242	0.187	ng/m³ Air		0.244			0.513	10	
Manganese	5.99	1.65	ng/m³ Air		5.91			1.25	10	
Molybdenum	2.36	0.314	ng/m³ Air		2.37			0.342	10	

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 B4K1911 - ICP-MS Extraction										
Duplicate (B4K1911-DUP3) Continued		**Source: 4111838-22**		Prepared: 11/19/24 Analyzed: 11/20/24						
Nickel	0.985	0.571	ng/m³ Air		0.980			0.478	10	
Selenium	0.174	0.00784	ng/m³ Air		0.162			7.05	10	
Thallium	9.43E-4	5.15E-4	ng/m³ Air		0.00102			7.45	10	QB-04
Vanadium	0.810	0.0463	ng/m³ Air		0.803			0.878	10	
Zinc	ND	67.2	ng/m³ Air		ND				10	LJ, QX, U
Duplicate (B4K1911-DUP4)		**Source: 4111838-32**		Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.108	0.0327	ng/m³ Air		0.107			0.233	10	SL
Arsenic	0.659	0.00795	ng/m³ Air		0.661			0.391	10	
Barium	5.72	0.907	ng/m³ Air		5.69			0.570	10	LJ, QX
Beryllium	0.0242	0.00271	ng/m³ Air		0.0252			4.18	10	
Cadmium	ND	0.0628	ng/m³ Air		ND				10	U
Chromium	3.98	1.87	ng/m³ Air		3.97			0.0420	10	
Cobalt	0.869	0.0370	ng/m³ Air		0.868			0.0909	10	
Copper	17.4	2.23	ng/m³ Air		17.4			0.0618	10	
Lead	0.441	0.181	ng/m³ Air		0.439			0.447	10	
Manganese	31.2	1.60	ng/m³ Air		31.3			0.102	10	
Molybdenum	1.13	0.304	ng/m³ Air		1.14			0.808	10	
Nickel	2.13	0.553	ng/m³ Air		2.13			0.00670	10	
Selenium	0.205	0.00760	ng/m³ Air		0.217			5.61	10	
Thallium	0.00164	4.99E-4	ng/m³ Air		0.00165			0.708	10	QB-04
Vanadium	2.47	0.0449	ng/m³ Air		2.47			0.0670	10	
Zinc	ND	65.1	ng/m³ Air		ND				10	LJ, QX, U
Matrix Spike (B4K1911-MS1)		**Source: 4111838-15**		Prepared & Analyzed: 11/19/24						
Antimony	0.763	0.0315	ng/m³ Air	1.1300	0.0978	58.9	80-120			SL
Arsenic	2.42	0.00766	ng/m³ Air	2.2600	0.222	97.1	80-120			
Barium	25.7	0.874	ng/m³ Air	22.600	3.55	98.1	80-120			
Beryllium	1.19	0.00261	ng/m³ Air	1.1300	0.00833	105	80-120			
Cadmium	1.16	0.0605	ng/m³ Air	1.1300	ND	102	80-120			
Chromium	13.3	1.81	ng/m³ Air	11.300	ND	118	80-120			
Cobalt	1.39	0.0356	ng/m³ Air	1.1300	0.259	99.9	80-120			
Copper	44.3	2.15	ng/m³ Air	22.600	22.1	98.1	80-120			
Lead	11.9	0.175	ng/m³ Air	11.300	0.541	101	80-120			
Manganese	15.6	1.54	ng/m³ Air	6.7800	8.59	103	80-120			
Molybdenum	2.45	0.293	ng/m³ Air	1.1300	1.37	95.6	80-120			
Nickel	3.27	0.533	ng/m³ Air	2.2600	0.998	100	80-120			
Selenium	2.36	0.00732	ng/m³ Air	2.2600	0.177	96.5	80-120			
Thallium	0.111	4.81E-4	ng/m³ Air	0.11300	9.32E-4	97.6	80-120			
Vanadium	3.05	0.0432	ng/m³ Air	2.2600	0.832	98.0	80-120			

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 B4K1911 - ICP-MS Extraction										
Matrix Spike (B4K1911-MS1) Continued Source: 4111838-15 Prepared & Analyzed: 11/19/24										
Zinc	85.4	62.8	ng/m³ Air	67.800	ND	126	80-120			
Matrix Spike (B4K1911-MS2) Source: 4111838-02 Prepared: 11/19/24 Analyzed: 11/20/24										
Antimony	0.647	0.0300	ng/m³ Air	1.0756	0.162	45.2	80-120			SL
Arsenic	2.64	0.00729	ng/m³ Air	2.1513	0.682	91.0	80-120			
Barium	32.2	0.832	ng/m³ Air	21.513	11.8	94.8	80-120			
Beryllium	1.11	0.00249	ng/m³ Air	1.0756	0.0417	98.9	80-120			
Cadmium	1.13	0.0576	ng/m³ Air	1.0756	0.155	90.2	80-120			
Chromium	17.3	1.72	ng/m³ Air	10.756	7.07	94.9	80-120			
Cobalt	2.65	0.0339	ng/m³ Air	1.0756	1.62	95.3	80-120			
Copper	64.2	2.05	ng/m³ Air	21.513	43.6	95.7	80-120			
Lead	12.8	0.166	ng/m³ Air	10.756	2.31	97.5	80-120			
Manganese	48.3	1.47	ng/m³ Air	6.4539	43.0	81.1	80-120			
Molybdenum	3.03	0.279	ng/m³ Air	1.0756	2.03	92.8	80-120			
Nickel	7.04	0.507	ng/m³ Air	2.1513	4.97	96.1	80-120			
Selenium	2.30	0.00697	ng/m³ Air	2.1513	0.245	95.4	80-120			
Thallium	0.102	4.58E-4	ng/m³ Air	0.10756	0.00272	91.9	80-120			
Vanadium	6.83	0.0411	ng/m³ Air	2.1513	4.92	88.7	80-120			
Zinc	101	59.7	ng/m³ Air	64.539	ND	156	80-120			
Matrix Spike Dup (B4K1911-MSD1) Source: 4111838-15 Prepared & Analyzed: 11/19/24										
Antimony	0.771	0.0315	ng/m³ Air	1.1300	0.0978	59.6	80-120	0.966	20	SL
Arsenic	2.42	0.00766	ng/m³ Air	2.2600	0.222	97.4	80-120	0.236	20	
Barium	25.8	0.874	ng/m³ Air	22.600	3.55	98.5	80-120	0.322	20	
Beryllium	1.14	0.00261	ng/m³ Air	1.1300	0.00833	100	80-120	4.27	20	
Cadmium	1.16	0.0605	ng/m³ Air	1.1300	ND	102	80-120	0.157	20	
Chromium	13.1	1.81	ng/m³ Air	11.300	ND	116	80-120	1.33	20	
Cobalt	1.38	0.0356	ng/m³ Air	1.1300	0.259	99.1	80-120	0.574	20	
Copper	45.9	2.15	ng/m³ Air	22.600	22.1	105	80-120	3.45	20	
Lead	11.9	0.175	ng/m³ Air	11.300	0.541	101	80-120	0.0314	20	
Manganese	15.6	1.54	ng/m³ Air	6.7800	8.59	104	80-120	0.200	20	
Molybdenum	2.50	0.293	ng/m³ Air	1.1300	1.37	100	80-120	2.04	20	
Nickel	3.21	0.533	ng/m³ Air	2.2600	0.998	97.9	80-120	1.76	20	
Selenium	2.41	0.00732	ng/m³ Air	2.2600	0.177	98.9	80-120	2.26	20	
Thallium	0.112	4.81E-4	ng/m³ Air	0.11300	9.32E-4	98.0	80-120	0.413	20	
Vanadium	3.07	0.0432	ng/m³ Air	2.2600	0.832	98.9	80-120	0.670	20	
Zinc	84.2	62.8	ng/m³ Air	67.800	ND	124	80-120	1.48	20	
Matrix Spike Dup (B4K1911-MSD2) Source: 4111838-02 Prepared: 11/19/24 Analyzed: 11/20/24										
Antimony	0.613	0.0300	ng/m³ Air	1.0756	0.162	42.0	80-120	5.42	20	SL
Arsenic	2.65	0.00729	ng/m³ Air	2.1513	0.682	91.7	80-120	0.544	20	

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 B4K1911 - ICP-MS Extraction										
Matrix Spike Dup (B4K1911-MSD2) Conti			**Source: 4111838-02**			Prepared: 11/19/24		Analyzed: 11/20/24		
Barium	32.4	0.832	ng/m³ Air	21.513	11.8	95.9	80-120	0.747	20	
Beryllium	1.12	0.00249	ng/m³ Air	1.0756	0.0417	99.9	80-120	0.936	20	
Cadmium	1.15	0.0576	ng/m³ Air	1.0756	0.155	92.3	80-120	1.93	20	
Chromium	17.2	1.72	ng/m³ Air	10.756	7.07	94.7	80-120	0.129	20	
Cobalt	2.71	0.0339	ng/m³ Air	1.0756	1.62	101	80-120	2.43	20	
Copper	63.4	2.05	ng/m³ Air	21.513	43.6	92.1	80-120	1.21	20	
Lead	12.6	0.166	ng/m³ Air	10.756	2.31	95.9	80-120	1.39	20	
Manganese	50.2	1.47	ng/m³ Air	6.4539	43.0	111	80-120	3.86	20	
Molybdenum	2.98	0.279	ng/m³ Air	1.0756	2.03	87.9	80-120	1.74	20	
Nickel	7.24	0.507	ng/m³ Air	2.1513	4.97	106	80-120	2.85	20	
Selenium	2.24	0.00697	ng/m³ Air	2.1513	0.245	92.7	80-120	2.63	20	
Thallium	0.0994	4.58E-4	ng/m³ Air	0.10756	0.00272	89.9	80-120	2.13	20	
Vanadium	7.01	0.0411	ng/m³ Air	2.1513	4.92	97.3	80-120	2.67	20	
Zinc	101	59.7	ng/m³ Air	64.539	ND	156	80-120	0.122	20	
Post Spike (B4K1911-PS1)			**Source: 4111838-15**			Prepared & Analyzed: 11/19/24				
Antimony	0.323	0.0315	ng/m³ Air	0.22600	0.0978	99.9	75-125			SL
Arsenic	1.28	0.00766	ng/m³ Air	1.1300	0.222	93.4	75-125			
Barium	5.78	0.874	ng/m³ Air	2.2600	3.55	98.9	75-125			
Beryllium	0.235	0.00261	ng/m³ Air	0.22600	0.00833	100	75-125			
Cadmium	0.124	0.0605	ng/m³ Air	0.11300	ND	110	75-125			
Chromium	2.90	1.81	ng/m³ Air	1.1300	ND	257	75-125			
Cobalt	0.484	0.0356	ng/m³ Air	0.22600	0.259	99.8	75-125			
Copper	34.0	2.15	ng/m³ Air	11.300	22.1	105	75-125			
Lead	23.1	0.175	ng/m³ Air	22.600	0.541	99.7	75-125			
Manganese	11.1	1.54	ng/m³ Air	2.2600	8.59	112	75-125			
Molybdenum	2.46	0.293	ng/m³ Air	1.1300	1.37	97.1	75-125			
Nickel	3.25	0.533	ng/m³ Air	2.2600	0.998	99.6	75-125			
Selenium	1.27	0.00732	ng/m³ Air	1.1300	0.177	96.8	75-125			
Thallium	0.0570	4.81E-4	ng/m³ Air	5.6500E-2	9.32E-4	99.2	75-125			
Vanadium	1.94	0.0432	ng/m³ Air	1.1300	0.832	98.4	75-125			
Zinc	ND	62.8	ng/m³ Air	22.600	ND		75-125			U
Post Spike (B4K1911-PS2)			**Source: 4111838-02**			Prepared: 11/19/24		Analyzed: 11/20/24		
Antimony	0.374	0.0300	ng/m³ Air	0.21513	0.162	98.8	75-125			SL
Arsenic	1.69	0.00729	ng/m³ Air	1.0756	0.682	93.3	75-125			
Barium	13.8	0.832	ng/m³ Air	2.1513	11.8	93.8	75-125			
Beryllium	0.261	0.00249	ng/m³ Air	0.21513	0.0417	102	75-125			
Cadmium	0.262	0.0576	ng/m³ Air	0.10756	0.155	99.0	75-125			
Chromium	8.07	1.72	ng/m³ Air	1.0756	7.07	93.6	75-125			

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 B4K1911 - ICP-MS Extraction										
Post Spike (B4K1911-PS2) Continued		**Source: 4111838-02**		Prepared: 11/19/24 Analyzed: 11/20/24						
Cobalt	1.84	0.0339	ng/m³ Air	0.21513	1.62	102	75-125			
Copper	54.6	2.05	ng/m³ Air	10.756	43.6	102	75-125			
Lead	23.6	0.166	ng/m³ Air	21.513	2.31	98.8	75-125			
Manganese	45.7	1.47	ng/m³ Air	2.1513	43.0	122	75-125			
Molybdenum	2.97	0.279	ng/m³ Air	1.0756	2.03	87.8	75-125			
Nickel	7.11	0.507	ng/m³ Air	2.1513	4.97	99.4	75-125			
Selenium	1.26	0.00697	ng/m³ Air	1.0756	0.245	94.1	75-125			
Thallium	0.0535	4.58E-4	ng/m³ Air	5.3782E-2	0.00272	94.5	75-125			
Vanadium	5.96	0.0411	ng/m³ Air	1.0756	4.92	96.3	75-125			
Zinc	ND	59.7	ng/m³ Air	21.513	ND		75-125			U
Dilution Check (B4K1911-SRL1)		**Source: 4111838-15**		Prepared & Analyzed: 11/19/24						
Antimony	ND	0.158	ng/m³ Air		ND				10	SL, U
Arsenic	0.228	0.0383	ng/m³ Air		0.222			2.26	10	
Barium	ND	4.37	ng/m³ Air		ND				10	U
Beryllium	ND	0.0131	ng/m³ Air		ND				10	U
Cadmium	ND	0.303	ng/m³ Air		ND				10	U
Chromium	ND	9.03	ng/m³ Air		ND				10	U
Cobalt	0.260	0.178	ng/m³ Air		0.259			0.514	10	
Copper	22.2	10.7	ng/m³ Air		22.1			0.487	10	
Lead	ND	0.874	ng/m³ Air		ND				10	U
Manganese	8.61	7.72	ng/m³ Air		8.59			0.142	10	
Molybdenum	ND	1.47	ng/m³ Air		ND				10	U
Nickel	ND	2.66	ng/m³ Air		ND				10	U
Selenium	0.207	0.0366	ng/m³ Air		0.177			15.8	10	
Thallium	ND	0.00241	ng/m³ Air		ND				10	U
Vanadium	0.853	0.216	ng/m³ Air		0.832			2.54	10	
Zinc	ND	314	ng/m³ Air		ND				10	U
Dilution Check (B4K1911-SRL2)		**Source: 4111838-02**		Prepared: 11/19/24 Analyzed: 11/20/24						
Antimony	0.165	0.150	ng/m³ Air		0.162			1.93	10	SL
Arsenic	0.707	0.0364	ng/m³ Air		0.682			3.60	10	
Barium	11.9	4.16	ng/m³ Air		11.8			1.29	10	
Beryllium	0.0376	0.0124	ng/m³ Air		0.0417			10.4	10	
Cadmium	ND	0.288	ng/m³ Air		ND				10	U
Chromium	ND	8.59	ng/m³ Air		ND				10	U
Cobalt	1.70	0.170	ng/m³ Air		1.62			4.62	10	
Copper	47.1	10.2	ng/m³ Air		43.6			7.76	10	
Lead	2.28	0.832	ng/m³ Air		2.31			0.977	10	
Manganese	44.6	7.35	ng/m³ Air		43.0			3.53	10	

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: 11/27/24 15:15
SUBMITTED: 11/18/24
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 B4K1911 - ICP-MS Extraction										
Dilution Check (B4K1911-SRL2) ContinueSource: 4111838-02 Prepared: 11/19/24 Analyzed: 11/20/24										
Molybdenum	2.17	1.40	ng/m³ Air		2.03			6.49	10	
Nickel	5.25	2.54	ng/m³ Air		4.97			5.35	10	
Selenium	0.248	0.0348	ng/m³ Air		0.245			1.31	10	
Thallium	0.00611	0.00229	ng/m³ Air		0.00272			77.0	10	
Vanadium	5.06	0.206	ng/m³ Air		4.92			2.88	10	
Zinc	ND	299	ng/m³ Air		ND				10	U

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/27/24 15:15
SUBMITTED: 11/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
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.
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.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 12/02/2024 and Shanna Vasser 12/03/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 11/07/2024 – 11/13/2024
Report No: 4111838

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

Discrepancies:

13. Blank detections above the method detection limit were reported for barium in MFL-FB01-110824-HM, MFL-LB01-110824-HM, MFL-FB01-111024-HM, and MFL-FB01-111224-HM.

Notes:

7. MFL-AM03-110924-HM was analyzed at a five-fold dilution for arsenic, cadmium, molybdenum, selenium, and vanadium.