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

October 10 through October 16, 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 October 10 through October 16, 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 October 10 through October 16 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 an equipment fault, the air monitoring period was interrupted at WW Pump Station #4 (AM-02) for two hours on October 16, resulting in the collection of 22 hours of PM_{10} data.
- Because of equipment maintenance, the air monitoring period was interrupted at the following station on October 12 as described below:
    - Air monitoring was conducted at WW Pump Station #4 (AM-02), Lahaina Recreational Center (AM07), and Opukea Townhomes (AM-05) for only 23 hours

- On October 12, air monitoring was conducted at Lahaina Intermediate School (AM-03) for only 22 hours

The equipment fault on October 16 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 22-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:

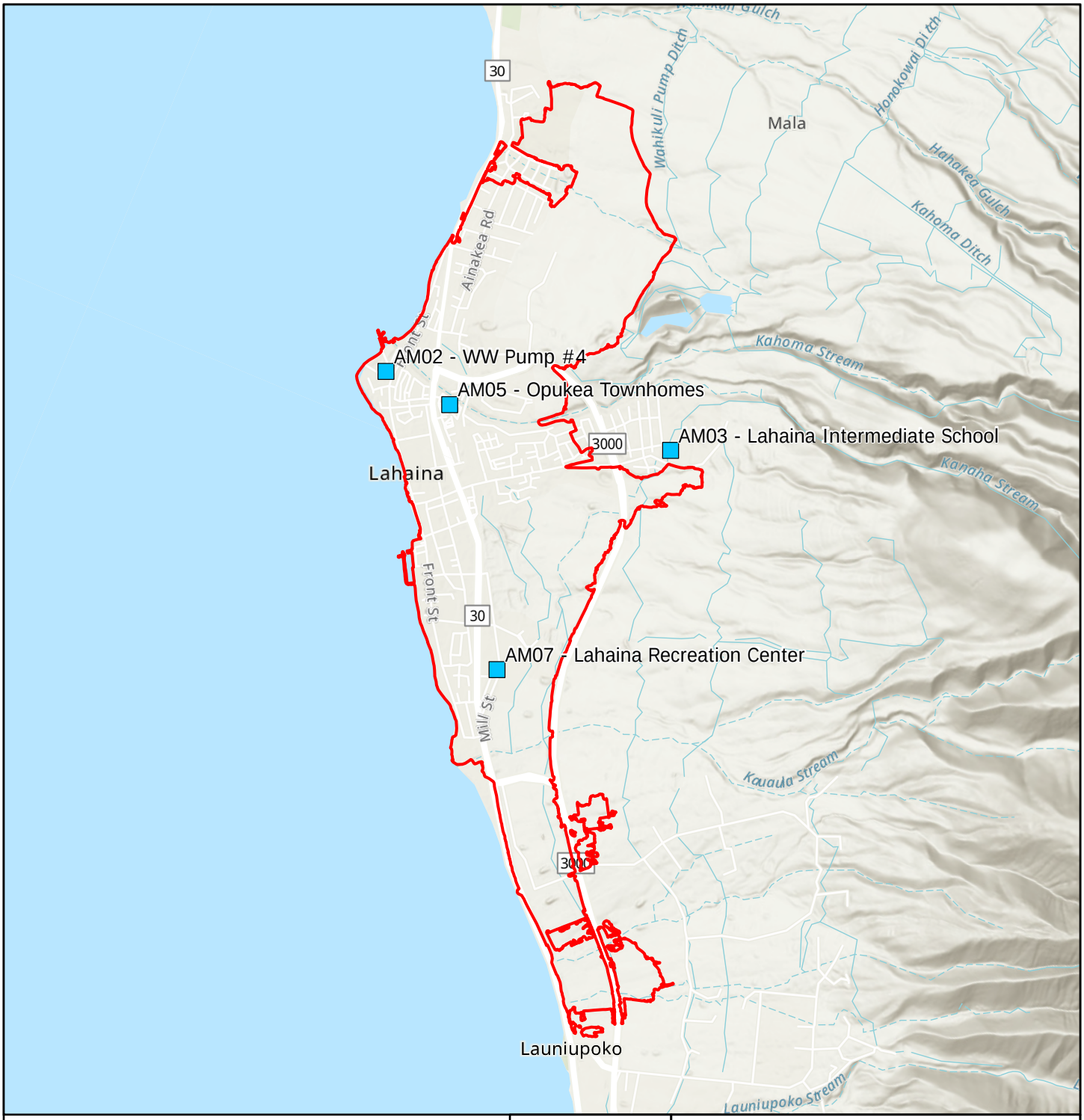
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate 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
October 10 through October 16, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
10/10/2024	Opukea Townhomes (AM-05)	5.6
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	37
	Lahaina Recreation Center (AM-07)	4.8
10/11/2024	Opukea Townhomes (AM-05)	9.4
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	28
	Lahaina Recreation Center (AM-07)	97
10/12/2024	Opukea Townhomes (AM-05)	8.8*
	WW Pump Station #4 (AM-02)	8.8*
	Lahaina Intermediate School (AM-03)	27**
	Lahaina Recreation Center (AM-07)	4.5*
10/13/2024	Opukea Townhomes (AM-05)	8.4
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	5.4
	Lahaina Recreation Center (AM-07)	4.7
10/14/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	8.4
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Recreation Center (AM-07)	5.7
10/15/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	9.6
	Lahaina Recreation Center (AM-07)	9.3
10/16/2024	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	9.1***
	Lahaina Intermediate School (AM-03)	105
	Lahaina Recreation Center (AM-07)	7.3

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 (22-hr) TWA calculation because of equipment maintenance

*** Data provided were from a reduced (22-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
October 10 through October 16, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
10/10/2024	Opukea Townhomes (AM-05)	<0.0024	0.000120	0.000864	0.0151	0.0000574	ND	0.0126	0.00328	0.0615	0.00121	0.0712	0.00251	0.00893	0.000349	0.00000317	0.00932	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000204	0.000932	0.0183	0.0000654	0.000131	0.0107	0.00274	0.0349	0.00277	0.0663	0.00146	0.00714	0.000350	0.00000284	0.00830	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000490	0.000194	0.00408	0.0000443	ND	0.00416	0.000813	0.117	0.000325	0.0182	0.00298	0.00231	0.000208	0.00000116	0.00219	ND
	Lahaina Recreation Center (AM-07)	<0.0027	0.0000751	0.000487	0.00478	0.0000354	ND	0.00440	0.000961	0.0363	0.000530	0.0287	0.00132	0.00256	0.000209	0.00000136	0.00250	ND
10/11/2024	Opukea Townhomes (AM-05)	<0.0024	0.000159	0.000713	0.00843	0.0000221	ND	0.00354	0.000854	0.0670	0.00798	0.0231	0.00295	0.00214	0.000246	0.00000138	0.00312	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000153	0.000683	0.00868	0.0000226	ND	0.00404	0.000790	0.0280	0.00728	0.0221	0.00146	0.00214	0.000247	0.00000117	0.00290	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000347	0.000158	0.00290	0.0000164	ND	0.00313	0.000408	0.108	0.000328	0.00908	0.00352	0.00186	0.000215	0.000000649	0.00158	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000654	0.000357	0.00330	0.0000205	ND	0.00364	0.000597	0.0557	0.000407	0.0179	0.00198	0.00185	0.000211	0.000000986	0.00213	ND
10/12/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000629	0.000233	0.00342	0.00000808	ND	0.00253	0.000308	0.0459	0.00136	0.00823	0.00300	0.00136	0.000175	0.000000658	0.00144	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000123	0.000159	0.00320	0.00000790	ND	0.00234	0.000277	0.0223	0.000453	0.00759	0.00143	0.00117	0.000180	0.000000616	0.00142	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000141	0.00248	0.0000180	ND	0.00265	0.000359	0.0448	0.000315	0.00875	0.00270	0.00145	0.000185	0.000000682	0.00144	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000682	0.000204	0.00280	0.0000143	ND	0.00309	0.000362	0.0293	0.000316	0.0112	0.00157	0.00150	0.000193	0.000000735	0.00144	ND
10/13/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000639	0.000268	0.00335	0.00000974	ND	0.00251	0.000317	0.0520	0.000784	0.00975	0.00355	0.00113	0.000217	0.00000138	0.00146	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000752	0.000203	0.00348	0.00000765	0.0000657	0.00209	0.000250	0.0203	0.000522	0.00753	0.00163	0.000904	0.000195	0.00000121	0.00116	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000141	0.00204	0.0000131	ND	0.00235	0.000304	0.0407	0.000304	0.00758	0.00243	0.00103	0.000216	0.00000121	0.00122	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000106	0.000264	0.00320	0.0000151	ND	0.00325	0.000437	0.0196	0.000406	0.0136	0.00155	0.00139	0.000216	0.00000149	0.00158	ND
10/14/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000716	0.000319	0.00511	0.0000162	ND	0.00435	0.000686	0.0568	0.000676	0.0177	0.00399	0.00203	0.000193	0.00000174	0.00225	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000916	0.000323	0.00509	0.0000162	ND	0.00357	0.000562	0.0224	0.00106	0.0153	0.00125	0.00165	0.000174	0.00000152	0.00200	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000388	0.000158	0.00295	0.0000133	ND	0.00248	0.000346	0.0499	0.000336	0.00864	0.00329	0.00117	0.000155	0.00000115	0.00108	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000762	0.000480	0.00466	0.0000268	ND	0.00465	0.000897	0.0241	0.000804	0.0268	0.00173	0.00211	0.000224	0.00000187	0.00268	ND
10/15/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000994	0.000392	0.00540	0.0000156	ND	0.00357	0.000580	0.0464	0.00109	0.0160	0.00315	0.00157	0.000360	0.00000228	0.00198	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000103	0.000303	0.00496	0.0000140	ND	0.00281	0.000477	0.0217	0.000838	0.0137	0.00141	0.00139	0.000312	0.00000232	0.00182	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000620	0.000290	0.00393	0.0000249	ND	0.00326	0.000523	0.0475	0.000522	0.0135	0.00387	0.00188	0.000350	0.00000234	0.00179	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000937	0.000701	0.00536	0.0000269	ND	0.00409	0.000737	0.0235	0.000856	0.0240	0.00167	0.00197	0.000388	0.00000281	0.00238	ND
10/16/2024	Opukea Townhomes (AM-05)	<0.0024	0.000145	0.000625	0.00927	0.0000279	ND	0.00579	0.00121	0.0586	0.00135	0.0286	0.00376	0.00331	0.000321	0.00000315	0.00373	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000849	0.000379	0.00517	0.0000178	ND	0.00421	0.000740	0.0221	0.000750	0.0176	0.00139	0.00197	0.000254	0.00000247	0.00225	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000719	0.000311	0.00481	0.0000344	ND	0.00434	0.000833	0.0502	0.000615	0.0201	0.00277	0.00206	0.000279	0.00000253	0.00236	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000103	0.000647	0.00588	0.0000375	ND	0.00538	0.00116	0.0260	0.000703	0.0332	0.00184	0.00268	0.000326	0.00000325	0.00305	ND
95% Upper Confidence Limit[2]		NA	0.000110	0.000490	0.00646	0.0000290	NA	0.00472	0.000970	0.0527	0.00158	0.0251	0.00272	0.00262	0.000270	0.00000210	0.00296	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
October 10, through October 16, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/10/2024	AM-02	WW Pump Station #4	0.9	SSE	81	68	762.8
10/10/2024	AM-03	Lahaina Intermediate School	1.0	SE	80	66	753.4
10/10/2024	AM-05	Opukea Townhomes	1.1	SE	83	65	762.2
10/10/2024	AM-07	Lahaina Recreational Center	1.3	SE	80	69	762.1
10/11/2024	AM-02	WW Pump Station #4	1.0	SSE	81	70	763.0
10/11/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	68	753.6
10/11/2024	AM-05	Opukea Townhomes	1.2	SE	83	66	762.4
10/11/2024	AM-07	Lahaina Recreational Center	1.4	SE	79	73	762.3
10/12/2024	AM-02	WW Pump Station #4	0.9	SSE	80	66	762.6
10/12/2024	AM-03	Lahaina Intermediate School	1.3	ESE	79	63	753.2
10/12/2024	AM-05	Opukea Townhomes	1.2	SE	81	62	762.0
10/12/2024	AM-07	Lahaina Recreational Center	1.5	SE	80	66	762.0
10/13/2024	AM-02	WW Pump Station #4	1.0	SSE	80	64	762.4
10/13/2024	AM-03	Lahaina Intermediate School	1.0	SE	79	62	753.1
10/13/2024	AM-05	Opukea Townhomes	1.2	SE	81	60	761.9
10/13/2024	AM-07	Lahaina Recreational Center	1.5	SSE	81	65	761.8
10/14/2024	AM-02	WW Pump Station #4	0.9	SSE	82	69	762.5
10/14/2024	AM-03	Lahaina Intermediate School	1.2	SE	82	65	753.2
10/14/2024	AM-05	Opukea Townhomes	1.2	SE	82	65	762.0
10/14/2024	AM-07	Lahaina Recreational Center	1.5	SSE	83	69	761.9
10/15/2024	AM-02	WW Pump Station #4	1.0	S	82	64	763.5
10/15/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	61	754.2
10/15/2024	AM-05	Opukea Townhomes	1.2	SE	82	60	763.0
10/15/2024	AM-07	Lahaina Recreational Center	1.3	SSE	82	65	762.8
10/16/2024	AM-02	WW Pump Station #4	1.0	S	82	53	762.6
10/16/2024	AM-03	Lahaina Intermediate School	1.2	SE	81	50	753.3
10/16/2024	AM-05	Opukea Townhomes	1.2	SE	82	49	762.2
10/16/2024	AM-07	Lahaina Recreational Center	1.6	SSE	83	53	762.0

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:	042421410
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:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101024-AB**	**Sample Description:**	**DL267249**
EMSL Sample Number:	042421410-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7159.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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EMSL Order ID: 042421410
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: 042421410-0001 **Customer Sample:** MFL-AM05-101024-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	H5	None Detected									
B1	J6	None Detected									
B2	I7	None Detected									
B2	G8	None Detected									
B3	F10	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101024-AB**	**Sample Description:**	**DL267273**
EMSL Sample Number:	042421410-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7268.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0002 **Customer Sample:** MFL-AM02-101024-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	C4	None Detected									
B5	E5	None Detected									
B6	A3	None Detected									
B6	D1	None Detected									
B7	J9	None Detected									

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

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

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Project: **Maui Fires Lahaina**

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101024-AB**	**Sample Description:**	**DL267235**
EMSL Sample Number:	042421410-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7074.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0003 **Customer Sample:** MFL-AM03-101024-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	B6	None Detected									
C1	D7	None Detected									
C2	E3	None Detected									
C2	F2	None Detected									
C3	I8	None Detected									

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

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101024-AB**	**Sample Description:**	**DL267244**
EMSL Sample Number:	042421410-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6992.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421410-0004 **Customer Sample:** MFL-AM07-101024-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	J7	None Detected									
C5	I6	None Detected									
C6	B3	None Detected									
C6	D4	None Detected									
C7	A6	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-101024-AB**		**Sample Description:**	**DL267233**
EMSL Sample Number:	042421410-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID:	**042421410**
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: 042421410-0005 **Customer Sample:** MFL-FB01-101024-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	A4	None Detected									
D1	A6	None Detected									
D1	B5	None Detected									
D1	B7	None Detected									
D2	C8	None Detected									
D2	C10	None Detected									
D2	E9	None Detected									
D3	J3	None Detected									
D3	J1	None Detected									
D3	I2	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
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Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101124-AB**		**Sample Description:**	**DL267609**
EMSL Sample Number:	042421410-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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EMSL Order ID: 042421410
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: 042421410-0006 **Customer Sample:** MFL-AM05-101124-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	I7	None Detected									
D5	H6	None Detected									
D6	J8	None Detected									
D6	G9	None Detected									
D7	F6	None Detected									

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

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EMSL Order:	042421410
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:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101124-AB**	**Sample Description:**	**DL267285**
EMSL Sample Number:	042421410-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6910.9
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):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0007 **Customer Sample:** MFL-AM02-101124-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	C7	None Detected									
E1	D6	None Detected									
E2	G3	None Detected									
E2	H2	None Detected									
E3	D5	None Detected									

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

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

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Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101124-AB**	**Sample Description:**	**DL267259**
EMSL Sample Number:	042421410-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7155.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042421410-0008 **Customer Sample:** MFL-AM03-101124-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	B6	None Detected									
E5	C4	None Detected									
E6	D3	None Detected									
E6	E5	None Detected									
E7	J8	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-101124-AB** **Sample Description: DL267237**

EMSL Sample Number:	042421410-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7209.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042421410-0009 **Customer Sample:** MFL-AM07-101124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J9	None Detected									
F1	I8	None Detected									
F2	H10	None Detected									
F2	G7	None Detected									
F3	B6	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-101124-AB**	**Sample Description:**	**DL267240**
EMSL Sample Number:	042421410-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0010 **Customer Sample:** MFL-FB01-101124-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	J8	None Detected									
F5	J6	None Detected									
F5	I5	None Detected									
F5	I3	None Detected									
F6	A7	None Detected									
F6	A9	None Detected									
F6	B10	None Detected									
F7	D4	None Detected									
F7	D6	None Detected									
F7	E5	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101224-AB**	**Sample Description:**	**DL267241**
EMSL Sample Number:	042421410-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7166.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0011 **Customer Sample:** MFL-AM05-101224-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	J5	None Detected									
G1	H4	None Detected									
G2	A7	None Detected									
G2	B8	None Detected									
G3	C5	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101224-AB**	**Sample Description:**	**DL267264**
EMSL Sample Number:	042421410-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6833.9
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):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0012 **Customer Sample:** MFL-AM02-101224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I7	None Detected									
G5	H5	None Detected									
G6	B6	None Detected									
G6	C4	None Detected									
G7	A3	None Detected									

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

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

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101224-AB**	**Sample Description:**	**DL267266**
EMSL Sample Number:	042421410-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7232.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042421410-0013 **Customer Sample:** MFL-AM03-101224-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	J6	None Detected									
H1	I7	None Detected									
H2	C5	None Detected									
H2	A4	None Detected									
H3	B7	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101224-AB**	**Sample Description:**	**DL267270**
EMSL Sample Number:	042421410-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7207.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0014 **Customer Sample:** MFL-AM07-101224-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	A7	None Detected									
H5	B8	None Detected									
H6	J4	None Detected									
H6	I3	None Detected									
H7	C6	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-101224-AB**	**Sample Description:**	**DL267248**
EMSL Sample Number:	042421410-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID:	**042421410**
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: 042421410-0015 **Customer Sample:** MFL-FB01-101224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J7	None Detected									
I1	J5	None Detected									
I1	H6	None Detected									
I1	H4	None Detected									
I2	G3	None Detected									
I2	G1	None Detected									
I2	F2	None Detected									
I3	D6	None Detected									
I3	D4	None Detected									
I3	C5	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101324-AB**	**Sample Description:**	**DL267267**
EMSL Sample Number:	042421410-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7077.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0016 **Customer Sample:** MFL-AM05-101324-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	B3	None Detected									
I5	C2	None Detected									
I6	J8	None Detected									
I6	H9	None Detected									
I7	C5	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101324-AB**	**Sample Description:**	**DL267239**
EMSL Sample Number:	042421410-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7152.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0017 **Customer Sample:** MFL-AM02-101324-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	C8	None Detected									
J1	B7	None Detected									
J2	B5	None Detected									
J2	C4	None Detected									
J3	E5	None Detected									

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

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

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Project: **Maui Fires Lahaina**

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101324-AB**	**Sample Description:**	**DL267274**
EMSL Sample Number:	042421410-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7200.9
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):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042421410-0018 **Customer Sample:** MFL-AM03-101324-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	C6	None Detected									
J6	B7	None Detected									
J6	D9	None Detected									
J7	I3	None Detected									

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

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

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101324-AB**	**Sample Description:**	**DL267257**
EMSL Sample Number:	042421410-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7293.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0019 **Customer Sample:** MFL-AM07-101324-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	J5	None Detected									
K1	H4	None Detected									
K2	A7	None Detected									
K2	B6	None Detected									
K3	D3	None Detected									

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

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

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Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/22/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-101324-AB**	**Sample Description:**	**DL267271**
EMSL Sample Number:	042421410-0020	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042421410
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: 042421410-0020 **Customer Sample:** MFL-FB01-101324-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	B4	None Detected									
K5	B6	None Detected									
K5	D7	None Detected									
K5	D9	None Detected									
K6	H5	None Detected									
K6	H7	None Detected									
K6	J8	None Detected									
K7	I5	None Detected									
K7	I3	None Detected									
K7	G4	None Detected									

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

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EMSL Order:	042421410
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/16/2024 09:35 AM
Analysis Date:	10/21/2024
Report Date:	10/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042421410-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042421410
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: 042421410-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B3	None Detected									
A1	B5	None Detected									
A1	C8	None Detected									
A1	C10	None Detected									
A2	J6	None Detected									
A2	J4	None Detected									
A2	I5	None Detected									
A3	D7	None Detected									
A3	D9	None Detected									
A3	F8	None Detected									

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

OrderID: 042421410

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421410

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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
Country: USA
Phone: (703) 989-2674
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: Shanna Epsten
Sampled By Signature:
No. of Samples in Shipment: 20

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-AM05-101024-AB	DL267249	7,159.421	10/10/24 1058
MFL-AM02-101024-AB	DL267273	7,268.371	10/10/24 1115
MFL-AM03-101024-AB	DL267235	7,074.270	10/10/24 1300
MFL-AM01-101024-AB	DL267244	6,991.963	10/10/24 1325
MFL-FB01-101024-AB	DL267233	0	10/10/24 1200
MFL-AM05-101124-AB	DL267609	7,197.605	10/11/24 1056
MFL-AM02-101124-AB	DL267285	6,910.934	10/11/24 1144
MFL-AM03-101124-AB	DL267259	7,155.495	10/11/24 1251

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

All samples received acceptable for analysis.

RECEIVED OCT 16 2024

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 10/14/24 1100
Received by: FF Date/Time: 10/16/24 0935

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.

OrderID: 042421410

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421410

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-AM07-101124-AB	DL267237	7,209.472	10/11/24 1320
MFL-FB01-101124-AB	DL267240	0	10/11/24 1200
MFL-AM05-101224-AB	DL267241	7,166.016	10/12/24 1101
MFL-AM02-101224-AB	DL267264	6,833.888	10/12/24 1118
MFL-AM03-101224-AB	DL267266	7,232.172	10/12/24 1257
MFL-AM07-101224-AB	DL267270	7,207.130	10/12/24 1321
MFL-FB01-101224-AB	DL267248	0	10/12/24 1200
MFL-AM05-101324-AB	DL267267	7,077.730	10/13/24 1058
MFL-AM02-101324-AB	DL267239	7,152.196	10/13/24 1115
MFL-AM03-101324-AB	DL267274	7,200.893	10/13/24 1301
MFL-AM07-101324-AB	DL267257	7,293.085	10/13/24 1321
MFL-FB01-101324-AB	DL267271	0	10/13/24 1200

RECEIVED OCT 16 2024

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 10/14/24 1100	Received by:	Date/Time 10/16/24
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/23/2024 and Shanna Vasser 10/24/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/10/2024 – 10/13/2024
Report No: 42421410

√	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:	042421710
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:	10/21/2024 09:00 AM
Analysis Date:	10/22/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101424-AB**		**Sample Description:**	**DL267245**
EMSL Sample Number:	042421710-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042421710**
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: 042421710-0001 **Customer Sample:** MFL-AM05-101424-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	J9	None Detected									
C5	G7	None Detected									
C6	I10	None Detected									
C6	H7	None Detected									
C7	A4	None Detected									

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

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

EMSL Order:	042421710
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:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101424-AB**		**Sample Description:**	**DL267251**
EMSL Sample Number:	042421710-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7057.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042421710
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: 042421710-0002 **Customer Sample:** MFL-AM02-101424-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					
D3	H10	None Detected									
D3	F8	None Detected									
D3	F6	None Detected									
D4	A1	None Detected									
D4	A3	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:	042421710
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:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101424-AB**		**Sample Description:**	**DL267280**
EMSL Sample Number:	042421710-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7082.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042421710
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: 042421710-0003 **Customer Sample:** MFL-AM03-101424-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	B4	None Detected									
D5	C6	None Detected									
D6	A7	None Detected									
D6	E5	None Detected									
D7	J8	None Detected									

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

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

Attn: **Chelsea Saber**
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Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101424-AB**		**Sample Description:**	**DL267262**
EMSL Sample Number:	042421710-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0004 **Customer Sample:** MFL-AM07-101424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J7	None Detected									
E1	I6	None Detected									
E2	B4	None Detected									
E2	C5	None Detected									
E3	A8	None Detected									

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

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

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Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101424-AB** **Sample Description: DL267253**

EMSL Sample Number:	042421710-0005		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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042421710
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: 042421710-0005 **Customer Sample:** MFL-FB01-101424-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	H9	None Detected									
E5	H7	None Detected									
E5	G10	None Detected									
E5	G8	None Detected									
E6	A3	None Detected									
E6	A5	None Detected									
E6	B4	None Detected									
E7	J8	None Detected									
E7	J6	None Detected									
E7	I7	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101524-AB**		**Sample Description:**	**DL267268**
EMSL Sample Number:	042421710-0006		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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042421710
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: 042421710-0006 **Customer Sample:** MFL-AM05-101524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	C1	None Detected									
F1	D3	None Detected									
F2	A5	None Detected									
F2	B6	None Detected									
F3	J10	None Detected									

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

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-101524-AB** **Sample Description: DL267243**

EMSL Sample Number:	042421710-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6805.6
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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
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**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0007 **Customer Sample:** MFL-AM02-101524-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	C6	None Detected									
F5	D7	None Detected									
F6	A9	None Detected									
F6	B8	None Detected									
F7	J5	None Detected									

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

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

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Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101524-AB**		**Sample Description:**	**DL267252**
EMSL Sample Number:	042421710-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7118.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S.Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042421710
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: 042421710-0008 **Customer Sample:** MFL-AM03-101524-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	E3	None Detected									
G1	F4	None Detected									
G2	B7	None Detected									
G2	D8	None Detected									
G3	I6	None Detected									

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

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-101524-AB** **Sample Description: DL267258**

EMSL Sample Number:	042421710-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7204.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421710-0009 **Customer Sample:** MFL-AM07-101524-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	A8	None Detected									
G5	C10	None Detected									
G6	D6	None Detected									
G6	E7	None Detected									
G7	J4	None Detected									

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

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/23/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101524-AB** **Sample Description: DL267690**

EMSL Sample Number:	042421710-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042421710
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: 042421710-0010 **Customer Sample:** MFL-FB01-101524-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	J10	None Detected									
H1	H1	None Detected									
H2	A2	None Detected									
H2	B9	None Detected									
H3	I10	None Detected									
H3	I8	None Detected									
H3	G9	None Detected									
H4	A3	None Detected									
H4	A5	None Detected									
H4	B4	None Detected									

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

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Fax:	N/A
Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101624-AB**		**Sample Description:**	**DL267246**
EMSL Sample Number:	042421710-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042421710
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: 042421710-0011 **Customer Sample:** MFL-AM05-101624-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	C4	None Detected									
H5	D6	None Detected									
H6	B3	None Detected									
H6	F2	None Detected									
H7	J5	None Detected									

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

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
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Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101624-AB**		**Sample Description:**	**DL267278**
EMSL Sample Number:	042421710-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042421710
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: 042421710-0012 **Customer Sample:** MFL-AM02-101624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J4	None Detected									
I1	E2	None Detected									
I2	C6	None Detected									
I2	G5	None Detected									
I3	B7	None Detected									

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

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EMSL Order:	042421710
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101624-AB**		**Sample Description:**	**DL267467**
EMSL Sample Number:	042421710-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042421710
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: 042421710-0013 **Customer Sample:** MFL-AM03-101624-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	B8	None Detected									
I5	C9	None Detected									
I6	A5	None Detected									
I6	H4	None Detected									
I7	J9	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:	042421710
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:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101624-AB**	**Sample Description:**	**DL267689**
EMSL Sample Number:	042421710-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7215.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042421710
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: 042421710-0014 **Customer Sample:** MFL-AM07-101624-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	A5	None Detected									
J1	B6	None Detected									
J2	C4	None Detected									
J2	E3	None Detected									
J3	J8	None Detected									

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

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

EMSL Order:	042421710
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:	10/21/2024 09:00 AM
Analysis Date:	10/24/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-101624-AB**	**Sample Description:**	**DL267234**
EMSL Sample Number:	042421710-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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

EMSL Order ID: 042421710
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: 042421710-0015 **Customer Sample:** MFL-FB01-101624-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	I10	None Detected									
J5	I8	None Detected									
J5	H9	None Detected									
J5	H7	None Detected									
J6	J7	None Detected									
J6	J5	None Detected									
J6	I8	None Detected									
J7	B2	None Detected									
J7	B4	None Detected									
J7	C3	None Detected									

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

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

EMSL Order:	042421710
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:	10/21/2024 09:00 AM
Analysis Date:	10/22/2024
Report Date:	10/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042421710-0016		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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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

EMSL Order ID: 042421710
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: 042421710-0016 **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					
C1	B4	None Detected									
C1	B6	None Detected									
C1	D5	None Detected									
C1	D7	None Detected									
C2	J9	None Detected									
C2	J7	None Detected									
C2	I8	None Detected									
C3	H7	None Detected									
C3	H5	None Detected									
C3	G6	None Detected									

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

OrderID: 042421710

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421710

RECEIVED EMSL CINNAMINSON NJ 2024 OCT 21 A 9:25

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1900	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	(703) 489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Shaina A.L. 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-AM05-101424-AB	DL267245	7,238.314	10/14/24 1059
MFL-AM02-101424-AB	DL267251	7,057.366	10/14/24 1114
MFL-AM03-101424-AB	DL267280	7,082.240	10/14/24 1258
MFL-AM07-101424-AB	DL267262	7,196.230	10/14/24 1317
MFL-FB01-101424-AB	DL267253	0	10/14/24 1200
MFL-AM05-101524-AB	DL267268	7,158.981	10/15/24 1055
MFL-AM02-101524-AB	DL267243	6,805.559	10/15/24 1109
MFL-AM03-101524-AB	DL267252	7,118.397	10/15/24 1252

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

All samples received acceptable for analysis.

150

Method of Shipment:	Fedex	Sample Condition Upon Receipt:	
Relinquished by:	Shaina Epstein	Date/Time: 10/17/24 1100	Received by: Chelsea FX
Date/Time: 10/21/24 900			
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.

OrderID: 042421710

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421710

RECEIVED
EMSL
CINNAMINSON, N.J.

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.)

2024 OCT 21 A 9:25

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-101524-AB	DL2672 58	7,204.694	10/15/24 1314
MFL-FB01-101524-AB	DL267690	0	10/15/24 1200
MFL-AM05-101624-AB	DL267246	7,173.991	10/16/24 1100
MFL-AM02-101624-AB	DL267278	7,199.020	10/16/24 1113
MFL-AM03-101624-AB	DL267467	7,199.704	10/16/24 1258
MFL-AM07-101624-AB	DL267689	7,215.408	10/16/24 1318
MFL-FB01-101624-AB	DL267234	0	10/16/24 1200

Method of Shipment: Feder		Sample Condition Upon Receipt:	
Relinquished by: Shana Epstein	Date/Time: 10/17/24 1100	Received by: Chelsea FX	Date/Time 10/21/24 900
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 10/28/2024 and Shanna Vasser 10/30/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/14/2024 – 10/16/2024
Report No:

√	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

October 29, 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 10/21/24 12:17.

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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-101024-HM	4102129-01	Air	10/10/24 23:59	10/21/24 12:17
MFL-AM02-101024-HM	4102129-02	Air	10/10/24 23:59	10/21/24 12:17
MFL-AM03-101024-HM	4102129-03	Air	10/10/24 23:59	10/21/24 12:17
MFL-AM07-101024-HM	4102129-04	Air	10/10/24 23:59	10/21/24 12:17
MFL-AM05-101124-HM	4102129-05	Air	10/11/24 23:59	10/21/24 12:17
MFL-AM02-101124-HM	4102129-06	Air	10/11/24 23:59	10/21/24 12:17
MFL-AM03-101124-HM	4102129-07	Air	10/11/24 23:59	10/21/24 12:17
MFL-AM07-101124-HM	4102129-08	Air	10/11/24 23:59	10/21/24 12:17
MFL-FB01-101124-HM	4102129-09	Air	10/11/24 00:00	10/21/24 12:17
MFL-LB01-101124-HM	4102129-10	Air	10/11/24 00:00	10/21/24 12:17
MFL-AM05-101224-HM	4102129-11	Air	10/12/24 23:59	10/21/24 12:17
MFL-AM02-101224-HM	4102129-12	Air	10/12/24 23:59	10/21/24 12:17
MFL-AM03-101224-HM	4102129-13	Air	10/12/24 23:59	10/21/24 12:17
MFL-AM07-101224-HM	4102129-14	Air	10/12/24 23:59	10/21/24 12:17
MFL-AM05-101324-HM	4102129-15	Air	10/13/24 23:59	10/21/24 12:17
MFL-AM02-101324-HM	4102129-16	Air	10/13/24 23:59	10/21/24 12:17
MFL-AM03-101324-HM	4102129-17	Air	10/13/24 23:59	10/21/24 12:17
MFL-AM07-101324-HM	4102129-18	Air	10/13/24 23:59	10/21/24 12:17
MFL-FB01-101324-HM	4102129-19	Air	10/13/24 00:00	10/21/24 12:17
MFL-AM05-101424-HM	4102129-20	Air	10/14/24 23:59	10/21/24 12:17
MFL-AM02-101424-HM	4102129-21	Air	10/14/24 23:59	10/21/24 12:17

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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-101424-HM	4102129-22	Air	10/14/24 23:59	10/21/24 12:17
MFL-AM07-101424-HM	4102129-23	Air	10/14/24 23:59	10/21/24 12:17
MFL-AM05-101524-HM	4102129-24	Air	10/15/24 23:59	10/21/24 12:17
MFL-AM02-101524-HM	4102129-25	Air	10/15/24 23:59	10/21/24 12:17
MFL-AM03-101524-HM	4102129-26	Air	10/15/24 23:59	10/21/24 12:17
MFL-AM07-101524-HM	4102129-27	Air	10/15/24 23:59	10/21/24 12:17
MFL-FB01-101524-HM	4102129-28	Air	10/15/24 00:00	10/21/24 12:17
MFL-AM05-101624-HM	4102129-29	Air	10/16/24 23:59	10/21/24 12:17
MFL-AM02-101624-HM	4102129-30	Air	10/16/24 23:59	10/21/24 12:17
MFL-AM03-101624-HM	4102129-31	Air	10/16/24 23:59	10/21/24 12:17
MFL-AM07-101624-HM	4102129-32	Air	10/16/24 23:59	10/21/24 12:17

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101024-HM
Matrix: Air
Lab ID: 4102129-01
Sample Volume: 1947.861 m³
Filter ID:
Sampled: 10/10/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/22/24 22:00

Comments: Q8522499 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.120**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.864**		**0.00783**
Barium	**7440-39-3**	**15.1**	A-01, PS-01	**0.894**
Beryllium	**7440-41-7**	**0.0574**		**0.00267**
Cadmium	7440-43-9	0.0459	U	0.0619
Chromium	**7440-47-3**	**12.6**	A-01, PS-01	**1.85**
Cobalt	**7440-48-4**	**3.28**	A-01, PS-01, QM-07	**0.0364**
Copper	**7440-50-8**	**61.5**	QM-07	**2.20**
Lead	**7439-92-1**	**1.21**		**0.179**
Manganese	**7439-96-5**	**71.2**	A-01, PS-01, QM-4X	**1.58**
Molybdenum	**7439-98-7**	**2.51**		**0.300**
Nickel	**7440-02-0**	**8.93**	QM-07	**0.545**
Selenium	**7782-49-2**	**0.349**		**0.00748**
Thallium	**7440-28-0**	**0.00317**		**4.92E-4**
Vanadium	**7440-62-2**	**9.32**	A-01, E, PS-01, QM-4X	**0.0442**
Zinc	7440-66-6	25.7	U	64.1

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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101024-HM
Matrix: Air
Lab ID: 4102129-02
Sample Volume: 2144.532 m³
Filter ID:
Sampled: 10/10/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 00:27

Comments: Q8522498 - 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**	**0.204**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.932**		**0.00711**
Barium	**7440-39-3**	**18.3**		**0.812**
Beryllium	**7440-41-7**	**0.0654**		**0.00243**
Cadmium	**7440-43-9**	**0.131**		**0.0562**
Chromium	**7440-47-3**	**10.7**		**1.68**
Cobalt	**7440-48-4**	**2.74**		**0.0331**
Copper	**7440-50-8**	**34.9**		**2.00**
Lead	**7439-92-1**	**2.77**		**0.162**
Manganese	**7439-96-5**	**66.3**		**1.43**
Molybdenum	**7439-98-7**	**1.46**		**0.272**
Nickel	**7440-02-0**	**7.14**		**0.495**
Selenium	**7782-49-2**	**0.350**		**0.00680**
Thallium	**7440-28-0**	**0.00284**		**4.47E-4**
Vanadium	**7440-62-2**	**8.30**		**0.0401**
Zinc	7440-66-6	39.8	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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101024-HM
Matrix: Air
Lab ID: 4102129-03
Sample Volume: 1976.801 m³
Filter ID:
Sampled: 10/10/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 00:46

Comments: Q8522497 - 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**	**0.0490**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.194**		**0.00771**
Barium	**7440-39-3**	**4.08**		**0.881**
Beryllium	**7440-41-7**	**0.0443**		**0.00263**
Cadmium	7440-43-9	0.0129	U	0.0610
Chromium	**7440-47-3**	**4.16**		**1.82**
Cobalt	**7440-48-4**	**0.813**		**0.0359**
Copper	**7440-50-8**	**117**		**2.16**
Lead	**7439-92-1**	**0.325**		**0.176**
Manganese	**7439-96-5**	**18.2**		**1.56**
Molybdenum	**7439-98-7**	**2.98**		**0.295**
Nickel	**7440-02-0**	**2.31**		**0.537**
Selenium	**7782-49-2**	**0.208**		**0.00737**
Thallium	**7440-28-0**	**0.00116**		**4.85E-4**
Vanadium	**7440-62-2**	**2.19**		**0.0435**
Zinc	7440-66-6	10.3	U	63.2

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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101024-HM
Matrix: Air
Lab ID: 4102129-04
Sample Volume: 1923.321 m³
Filter ID:
Sampled: 10/10/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 01:00

Comments: Q8522492 - 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**	**0.0751**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.487**		**0.00793**
Barium	**7440-39-3**	**4.78**		**0.905**
Beryllium	**7440-41-7**	**0.0354**		**0.00271**
Cadmium	7440-43-9	0.0318	U	0.0627
Chromium	**7440-47-3**	**4.40**		**1.87**
Cobalt	**7440-48-4**	**0.961**		**0.0369**
Copper	**7440-50-8**	**36.3**		**2.22**
Lead	**7439-92-1**	**0.530**		**0.181**
Manganese	**7439-96-5**	**28.7**		**1.60**
Molybdenum	**7439-98-7**	**1.32**		**0.304**
Nickel	**7440-02-0**	**2.56**		**0.552**
Selenium	**7782-49-2**	**0.209**		**0.00758**
Thallium	**7440-28-0**	**0.00136**		**4.98E-4**
Vanadium	**7440-62-2**	**2.50**		**0.0447**
Zinc	7440-66-6	12.6	U	65.0

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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101124-HM
Matrix: Air
Lab ID: 4102129-05
Sample Volume: 1933.178 m³
Filter ID:
Sampled: 10/11/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 01:15

Comments: Q8522491 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.713**		**0.00789**
Barium	**7440-39-3**	**8.43**		**0.901**
Beryllium	**7440-41-7**	**0.0221**		**0.00269**
Cadmium	7440-43-9	0.0337	U	0.0624
Chromium	**7440-47-3**	**3.54**		**1.86**
Cobalt	**7440-48-4**	**0.854**		**0.0367**
Copper	**7440-50-8**	**67.0**		**2.21**
Lead	**7439-92-1**	**7.98**		**0.180**
Manganese	**7439-96-5**	**23.1**		**1.59**
Molybdenum	**7439-98-7**	**2.95**		**0.302**
Nickel	**7440-02-0**	**2.14**		**0.549**
Selenium	**7782-49-2**	**0.246**		**0.00754**
Thallium	**7440-28-0**	**0.00138**		**4.96E-4**
Vanadium	**7440-62-2**	**3.12**		**0.0445**
Zinc	7440-66-6	27.4	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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101124-HM
Matrix: Air
Lab ID: 4102129-06
Sample Volume: 2184.927 m³
Filter ID:
Sampled: 10/11/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 01:34

Comments: Q9537781 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.153**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.683**		**0.00698**
Barium	**7440-39-3**	**8.68**		**0.797**
Beryllium	**7440-41-7**	**0.0226**		**0.00238**
Cadmium	7440-43-9	0.0287	U	0.0552
Chromium	**7440-47-3**	**4.04**		**1.65**
Cobalt	**7440-48-4**	**0.790**		**0.0325**
Copper	**7440-50-8**	**28.0**		**1.96**
Lead	**7439-92-1**	**7.28**		**0.159**
Manganese	**7439-96-5**	**22.1**		**1.41**
Molybdenum	**7439-98-7**	**1.46**		**0.267**
Nickel	**7440-02-0**	**2.14**		**0.486**
Selenium	**7782-49-2**	**0.247**		**0.00667**
Thallium	**7440-28-0**	**0.00117**		**4.39E-4**
Vanadium	**7440-62-2**	**2.90**		**0.0394**
Zinc	7440-66-6	29.5	U	57.2

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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101124-HM
Matrix: Air
Lab ID: 4102129-07
Sample Volume: 2005.505 m³
Filter ID:
Sampled: 10/11/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 01:54

Comments: Q9537785 - 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**	**0.0347**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.158**		**0.00760**
Barium	**7440-39-3**	**2.90**		**0.868**
Beryllium	**7440-41-7**	**0.0164**		**0.00260**
Cadmium	7440-43-9	0.0149	U	0.0601
Chromium	**7440-47-3**	**3.13**		**1.79**
Cobalt	**7440-48-4**	**0.408**		**0.0354**
Copper	**7440-50-8**	**108**		**2.13**
Lead	**7439-92-1**	**0.328**		**0.174**
Manganese	**7439-96-5**	**9.08**		**1.53**
Molybdenum	**7439-98-7**	**3.52**		**0.291**
Nickel	**7440-02-0**	**1.86**		**0.529**
Selenium	**7782-49-2**	**0.215**		**0.00727**
Thallium	**7440-28-0**	**6.49E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0429**
Zinc	7440-66-6	16.6	U	62.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101124-HM
Matrix: Air
Lab ID: 4102129-08
Sample Volume: 1961.201 m³
Filter ID:
Sampled: 10/11/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 02:08

Comments: Q9537786 - 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**	**0.0654**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.357**		**0.00777**
Barium	**7440-39-3**	**3.30**		**0.888**
Beryllium	**7440-41-7**	**0.0205**		**0.00265**
Cadmium	7440-43-9	0.0151	U	0.0615
Chromium	**7440-47-3**	**3.64**		**1.83**
Cobalt	**7440-48-4**	**0.597**		**0.0362**
Copper	**7440-50-8**	**55.7**		**2.18**
Lead	**7439-92-1**	**0.407**		**0.178**
Manganese	**7439-96-5**	**17.9**		**1.57**
Molybdenum	**7439-98-7**	**1.98**		**0.298**
Nickel	**7440-02-0**	**1.85**		**0.541**
Selenium	**7782-49-2**	**0.211**		**0.00743**
Thallium	**7440-28-0**	**9.86E-4**		**4.89E-4**
Vanadium	**7440-62-2**	**2.13**		**0.0439**
Zinc	7440-66-6	15.1	U	63.7

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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101124-HM
Matrix: Air
Lab ID: 4102129-09
Sample Volume: 1933.178 m³
Filter ID:
Sampled: 10/11/24 00:00
Received: 10/21/24 12:17
Analysis Date: 10/23/24 02:22

Comments: Q9537793 - 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	0.00639	SL, U	0.0325
Arsenic	7440-38-2	0.00614	U	0.00789
Barium	7440-39-3	0.549	U	0.901
Beryllium	7440-41-7	8.68E-4	U	0.00269
Cadmium	7440-43-9	0.00433	U	0.0624
Chromium	7440-47-3	1.50	U	1.86
Cobalt	7440-48-4	0.0324	U	0.0367
Copper	7440-50-8	0.607	U	2.21
Lead	7439-92-1	0.0523	U	0.180
Manganese	7439-96-5	0.275	U	1.59
Molybdenum	7439-98-7	0.278	U	0.302
Nickel	7440-02-0	0.330	U	0.549
Selenium	7782-49-2	0.00373	U	0.00754
Thallium	7440-28-0	6.06E-5	U	4.96E-4
Vanadium	**7440-62-2**	**0.0465**	FB-01	**0.0445**
Zinc	7440-66-6	5.29	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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-101124-HM
Matrix: Air
Lab ID: 4102129-10
Sample Volume: 1933.178 m³
Filter ID:
Sampled: 10/11/24 00:00
Received: 10/21/24 12:17
Analysis Date: 10/23/24 02:36

Comments: Q9537789 - 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	0.00613	SL, U	0.0325
Arsenic	7440-38-2	0.00461	U	0.00789
Barium	7440-39-3	0.571	U	0.901
Beryllium	7440-41-7	5.24E-4	U	0.00269
Cadmium	7440-43-9	0.00303	U	0.0624
Chromium	7440-47-3	1.56	U	1.86
Cobalt	7440-48-4	0.0248	U	0.0367
Copper	7440-50-8	0.263	U	2.21
Lead	7439-92-1	0.0512	U	0.180
Manganese	7439-96-5	0.187	U	1.59
Molybdenum	7439-98-7	0.255	U	0.302
Nickel	7440-02-0	0.289	U	0.549
Selenium	7782-49-2	0.00344	U	0.00754
Thallium	7440-28-0	4.46E-5	U	4.96E-4
Vanadium	7440-62-2	0.0393	U	0.0445
Zinc	7440-66-6	4.91	U	64.6

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101224-HM
Matrix: Air
Lab ID: 4102129-11
Sample Volume: 1981.074 m³
Filter ID:
Sampled: 10/12/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 02:50

Comments: Q9537788 - 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**	**0.0629**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.233**		**0.00770**
Barium	**7440-39-3**	**3.42**		**0.879**
Beryllium	**7440-41-7**	**0.00808**		**0.00263**
Cadmium	7440-43-9	0.0154	U	0.0609
Chromium	**7440-47-3**	**2.53**		**1.82**
Cobalt	**7440-48-4**	**0.308**		**0.0358**
Copper	**7440-50-8**	**45.9**		**2.16**
Lead	**7439-92-1**	**1.36**		**0.176**
Manganese	**7439-96-5**	**8.23**		**1.55**
Molybdenum	**7439-98-7**	**3.00**		**0.295**
Nickel	**7440-02-0**	**1.36**		**0.535**
Selenium	**7782-49-2**	**0.175**		**0.00736**
Thallium	**7440-28-0**	**6.58E-4**		**4.84E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0434**
Zinc	7440-66-6	17.3	U	63.1

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FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101224-HM
Matrix: Air
Lab ID: 4102129-12
Sample Volume: 2046.396 m³
Filter ID:
Sampled: 10/12/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 03:39

Comments: Q9537790 - 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**	**0.123**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.159**		**0.00745**
Barium	**7440-39-3**	**3.20**		**0.851**
Beryllium	**7440-41-7**	**0.00790**		**0.00254**
Cadmium	7440-43-9	0.0107	U	0.0589
Chromium	**7440-47-3**	**2.34**		**1.76**
Cobalt	**7440-48-4**	**0.277**		**0.0347**
Copper	**7440-50-8**	**22.3**		**2.09**
Lead	**7439-92-1**	**0.453**		**0.170**
Manganese	**7439-96-5**	**7.59**		**1.50**
Molybdenum	**7439-98-7**	**1.43**		**0.285**
Nickel	**7440-02-0**	**1.17**		**0.518**
Selenium	**7782-49-2**	**0.180**		**0.00712**
Thallium	**7440-28-0**	**6.16E-4**		**4.68E-4**
Vanadium	**7440-62-2**	**1.42**		**0.0421**
Zinc	7440-66-6	16.1	U	61.1

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FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101224-HM
Matrix: Air
Lab ID: 4102129-13
Sample Volume: 2018.929 m³
Filter ID:
Sampled: 10/12/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 03:53

Comments: Q9537792 - 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	0.0273	SL, U	0.0311
Arsenic	**7440-38-2**	**0.141**		**0.00755**
Barium	**7440-39-3**	**2.48**		**0.862**
Beryllium	**7440-41-7**	**0.0180**		**0.00258**
Cadmium	7440-43-9	0.00973	U	0.0597
Chromium	**7440-47-3**	**2.65**		**1.78**
Cobalt	**7440-48-4**	**0.359**		**0.0351**
Copper	**7440-50-8**	**44.8**		**2.12**
Lead	**7439-92-1**	**0.315**		**0.172**
Manganese	**7439-96-5**	**8.75**		**1.52**
Molybdenum	**7439-98-7**	**2.70**		**0.289**
Nickel	**7440-02-0**	**1.45**		**0.525**
Selenium	**7782-49-2**	**0.185**		**0.00722**
Thallium	**7440-28-0**	**6.82E-4**		**4.75E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0426**
Zinc	7440-66-6	18.4	U	61.9

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101224-HM
Matrix: Air
Lab ID: 4102129-14
Sample Volume: 1730.454 m³
Filter ID:
Sampled: 10/12/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 04:07

Comments: Q9537794 - 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**	**0.0682**	SL	**0.0363**
Arsenic	**7440-38-2**	**0.204**		**0.00881**
Barium	**7440-39-3**	**2.80**		**1.01**
Beryllium	**7440-41-7**	**0.0143**		**0.00301**
Cadmium	7440-43-9	0.0272	U	0.0697
Chromium	**7440-47-3**	**3.09**		**2.08**
Cobalt	**7440-48-4**	**0.362**		**0.0410**
Copper	**7440-50-8**	**29.3**		**2.47**
Lead	**7439-92-1**	**0.316**		**0.201**
Manganese	**7439-96-5**	**11.2**		**1.78**
Molybdenum	**7439-98-7**	**1.57**		**0.338**
Nickel	**7440-02-0**	**1.50**		**0.613**
Selenium	**7782-49-2**	**0.193**		**0.00842**
Thallium	**7440-28-0**	**7.35E-4**		**5.54E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0497**
Zinc	7440-66-6	12.2	U	72.2

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FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101324-HM
Matrix: Air
Lab ID: 4102129-15
Sample Volume: 1850.71 m³
Filter ID:
Sampled: 10/13/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 04:35

Comments: Q9537795 - 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**	**0.0639**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.268**		**0.00824**
Barium	**7440-39-3**	**3.35**		**0.941**
Beryllium	**7440-41-7**	**0.00974**		**0.00281**
Cadmium	7440-43-9	0.0184	U	0.0651
Chromium	**7440-47-3**	**2.51**		**1.94**
Cobalt	**7440-48-4**	**0.317**		**0.0383**
Copper	**7440-50-8**	**52.0**		**2.31**
Lead	**7439-92-1**	**0.784**		**0.188**
Manganese	**7439-96-5**	**9.75**		**1.66**
Molybdenum	**7439-98-7**	**3.55**		**0.316**
Nickel	**7440-02-0**	**1.13**		**0.573**
Selenium	**7782-49-2**	**0.217**		**0.00788**
Thallium	**7440-28-0**	**0.00138**		**5.18E-4**
Vanadium	**7440-62-2**	**1.46**		**0.0465**
Zinc	7440-66-6	22.8	U	67.5

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Tetra Tech, Inc.
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FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101324-HM
Matrix: Air
Lab ID: 4102129-16
Sample Volume: 2087.392 m³
Filter ID:
Sampled: 10/13/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 04:49

Comments: Q9537796 - 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**	**0.0752**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.203**		**0.00730**
Barium	**7440-39-3**	**3.48**		**0.834**
Beryllium	**7440-41-7**	**0.00765**		**0.00249**
Cadmium	**7440-43-9**	**0.0657**		**0.0578**
Chromium	**7440-47-3**	**2.09**		**1.72**
Cobalt	**7440-48-4**	**0.250**		**0.0340**
Copper	**7440-50-8**	**20.3**		**2.05**
Lead	**7439-92-1**	**0.522**		**0.167**
Manganese	**7439-96-5**	**7.53**		**1.47**
Molybdenum	**7439-98-7**	**1.63**		**0.280**
Nickel	**7440-02-0**	**0.904**		**0.508**
Selenium	**7782-49-2**	**0.195**		**0.00698**
Thallium	**7440-28-0**	**0.00121**		**4.59E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0412**
Zinc	7440-66-6	16.2	U	59.9

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Tetra Tech, Inc.
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101324-HM
Matrix: Air
Lab ID: 4102129-17
Sample Volume: 2008.057 m³
Filter ID:
Sampled: 10/13/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 05:02

Comments: Q9537798 - 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	0.0305	SL, U	0.0313
Arsenic	**7440-38-2**	**0.141**		**0.00759**
Barium	**7440-39-3**	**2.04**		**0.867**
Beryllium	**7440-41-7**	**0.0131**		**0.00259**
Cadmium	7440-43-9	0.0110	U	0.0600
Chromium	**7440-47-3**	**2.35**		**1.79**
Cobalt	**7440-48-4**	**0.304**		**0.0353**
Copper	**7440-50-8**	**40.7**		**2.13**
Lead	**7439-92-1**	**0.304**		**0.173**
Manganese	**7439-96-5**	**7.58**		**1.53**
Molybdenum	**7439-98-7**	**2.43**		**0.291**
Nickel	**7440-02-0**	**1.03**		**0.528**
Selenium	**7782-49-2**	**0.216**		**0.00726**
Thallium	**7440-28-0**	**0.00121**		**4.77E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0429**
Zinc	7440-66-6	14.9	U	62.2

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101324-HM
Matrix: Air
Lab ID: 4102129-18
Sample Volume: 1798.724 m³
Filter ID:
Sampled: 10/13/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 05:16

Comments: Q9537800 - 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**	**0.106**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.264**		**0.00848**
Barium	**7440-39-3**	**3.20**		**0.968**
Beryllium	**7440-41-7**	**0.0151**		**0.00289**
Cadmium	7440-43-9	0.0178	U	0.0670
Chromium	**7440-47-3**	**3.25**		**2.00**
Cobalt	**7440-48-4**	**0.437**		**0.0394**
Copper	**7440-50-8**	**19.6**		**2.38**
Lead	**7439-92-1**	**0.406**		**0.194**
Manganese	**7439-96-5**	**13.6**		**1.71**
Molybdenum	**7439-98-7**	**1.55**		**0.325**
Nickel	**7440-02-0**	**1.39**		**0.590**
Selenium	**7782-49-2**	**0.216**		**0.00810**
Thallium	**7440-28-0**	**0.00149**		**5.33E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0478**
Zinc	7440-66-6	15.9	U	69.5

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101324-HM **Lab ID:** 4102129-19 **Sampled:** 10/13/24 00:00
Matrix: Air **Sample Volume:** 1850.71 m³ **Received:** 10/21/24 12:17
Filter ID: **Analysis Date:** 10/23/24 05:30

Comments: Q9537803 - 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	0.00715	SL, U	0.0339
Arsenic	7440-38-2	0.00764	U	0.00824
Barium	7440-39-3	0.589	U	0.941
Beryllium	7440-41-7	6.33E-4	U	0.00281
Cadmium	7440-43-9	0.00330	U	0.0651
Chromium	7440-47-3	1.52	U	1.94
Cobalt	7440-48-4	0.0290	U	0.0383
Copper	7440-50-8	0.368	U	2.31
Lead	7439-92-1	0.0590	U	0.188
Manganese	7439-96-5	0.258	U	1.66
Molybdenum	7439-98-7	0.266	U	0.316
Nickel	7440-02-0	0.278	U	0.573
Selenium	7782-49-2	0.00240	U	0.00788
Thallium	7440-28-0	7.24E-5	U	5.18E-4
Vanadium	7440-62-2	0.0365	U	0.0465
Zinc	7440-66-6	7.49	U	67.5

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101424-HM
Matrix: Air
Lab ID: 4102129-20
Sample Volume: 1854.59 m³
Filter ID:
Sampled: 10/14/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 05:44

Comments: Q9537802 - 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**	**0.0716**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.319**		**0.00822**
Barium	**7440-39-3**	**5.11**		**0.939**
Beryllium	**7440-41-7**	**0.0162**		**0.00281**
Cadmium	7440-43-9	0.0215	U	0.0650
Chromium	**7440-47-3**	**4.35**		**1.94**
Cobalt	**7440-48-4**	**0.686**		**0.0382**
Copper	**7440-50-8**	**56.8**		**2.31**
Lead	**7439-92-1**	**0.676**		**0.188**
Manganese	**7439-96-5**	**17.7**		**1.66**
Molybdenum	**7439-98-7**	**3.99**		**0.315**
Nickel	**7440-02-0**	**2.03**		**0.572**
Selenium	**7782-49-2**	**0.193**		**0.00786**
Thallium	**7440-28-0**	**0.00174**		**5.17E-4**
Vanadium	**7440-62-2**	**2.25**		**0.0464**
Zinc	7440-66-6	18.7	U	67.4

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101424-HM
Matrix: Air
Lab ID: 4102129-21
Sample Volume: 2088.267 m³
Filter ID:
Sampled: 10/14/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/22/24 18:27

Comments: Q9537805 - 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**	**0.0916**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.323**		**0.00730**
Barium	**7440-39-3**	**5.09**		**0.834**
Beryllium	**7440-41-7**	**0.0162**		**0.00249**
Cadmium	7440-43-9	0.0503	U	0.0577
Chromium	**7440-47-3**	**3.57**		**1.72**
Cobalt	**7440-48-4**	**0.562**		**0.0340**
Copper	**7440-50-8**	**22.4**		**2.05**
Lead	**7439-92-1**	**1.06**		**0.167**
Manganese	**7439-96-5**	**15.3**		**1.47**
Molybdenum	**7439-98-7**	**1.25**		**0.280**
Nickel	**7440-02-0**	**1.65**		**0.508**
Selenium	**7782-49-2**	**0.174**		**0.00698**
Thallium	**7440-28-0**	**0.00152**		**4.59E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0412**
Zinc	7440-66-6	17.1	U	59.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101424-HM
Matrix: Air
Lab ID: 4102129-22
Sample Volume: 2017.236 m³
Filter ID:
Sampled: 10/14/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 06:34

Comments: Q9537806 - 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**	**0.0388**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.158**		**0.00756**
Barium	**7440-39-3**	**2.95**		**0.863**
Beryllium	**7440-41-7**	**0.0133**		**0.00258**
Cadmium	7440-43-9	0.0122	U	0.0598
Chromium	**7440-47-3**	**2.48**		**1.78**
Cobalt	**7440-48-4**	**0.346**		**0.0352**
Copper	**7440-50-8**	**49.9**		**2.12**
Lead	**7439-92-1**	**0.336**		**0.173**
Manganese	**7439-96-5**	**8.64**		**1.52**
Molybdenum	**7439-98-7**	**3.29**		**0.290**
Nickel	**7440-02-0**	**1.17**		**0.526**
Selenium	**7782-49-2**	**0.155**		**0.00723**
Thallium	**7440-28-0**	**0.00115**		**4.75E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0427**
Zinc	7440-66-6	12.2	U	61.9

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101424-HM
Matrix: Air
Lab ID: 4102129-23
Sample Volume: 1788.205 m³
Filter ID:
Sampled: 10/14/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 06:48

Comments: Q9537807 - 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**	**0.0762**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.480**		**0.00853**
Barium	**7440-39-3**	**4.66**		**0.974**
Beryllium	**7440-41-7**	**0.0268**		**0.00291**
Cadmium	7440-43-9	0.0183	U	0.0674
Chromium	**7440-47-3**	**4.65**		**2.01**
Cobalt	**7440-48-4**	**0.897**		**0.0397**
Copper	**7440-50-8**	**24.1**		**2.39**
Lead	**7439-92-1**	**0.804**		**0.195**
Manganese	**7439-96-5**	**26.8**		**1.72**
Molybdenum	**7439-98-7**	**1.73**		**0.327**
Nickel	**7440-02-0**	**2.11**		**0.593**
Selenium	**7782-49-2**	**0.224**		**0.00815**
Thallium	**7440-28-0**	**0.00187**		**5.36E-4**
Vanadium	**7440-62-2**	**2.68**		**0.0481**
Zinc	7440-66-6	12.0	U	69.9

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101524-HM
Matrix: Air
Lab ID: 4102129-24
Sample Volume: 1850.71 m³
Filter ID:
Sampled: 10/15/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 07:03

Comments: Q9537808 - 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	**0.0339**
Arsenic	**7440-38-2**	**0.392**		**0.00824**
Barium	**7440-39-3**	**5.40**		**0.941**
Beryllium	**7440-41-7**	**0.0156**		**0.00281**
Cadmium	7440-43-9	0.0280	U	0.0651
Chromium	**7440-47-3**	**3.57**		**1.94**
Cobalt	**7440-48-4**	**0.580**		**0.0383**
Copper	**7440-50-8**	**46.4**		**2.31**
Lead	**7439-92-1**	**1.09**		**0.188**
Manganese	**7439-96-5**	**16.0**		**1.66**
Molybdenum	**7439-98-7**	**3.15**		**0.316**
Nickel	**7440-02-0**	**1.57**		**0.573**
Selenium	**7782-49-2**	**0.360**		**0.00788**
Thallium	**7440-28-0**	**0.00228**		**5.18E-4**
Vanadium	**7440-62-2**	**1.98**		**0.0465**
Zinc	7440-66-6	23.5	U	67.5

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101524-HM
Matrix: Air
Lab ID: 4102129-25
Sample Volume: 2069.575 m³
Filter ID:
Sampled: 10/15/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 07:18

Comments: Q9537809 - 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**	**0.103**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.303**		**0.00737**
Barium	**7440-39-3**	**4.96**		**0.841**
Beryllium	**7440-41-7**	**0.0140**		**0.00252**
Cadmium	7440-43-9	0.0183	U	0.0583
Chromium	**7440-47-3**	**2.81**		**1.74**
Cobalt	**7440-48-4**	**0.477**		**0.0343**
Copper	**7440-50-8**	**21.7**		**2.07**
Lead	**7439-92-1**	**0.838**		**0.168**
Manganese	**7439-96-5**	**13.7**		**1.49**
Molybdenum	**7439-98-7**	**1.41**		**0.282**
Nickel	**7440-02-0**	**1.39**		**0.513**
Selenium	**7782-49-2**	**0.312**		**0.00704**
Thallium	**7440-28-0**	**0.00232**		**4.63E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0416**
Zinc	7440-66-6	17.7	U	60.4

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101524-HM
Matrix: Air
Lab ID: 4102129-26
Sample Volume: 2017.236 m³
Filter ID:
Sampled: 10/15/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 07:32

Comments: Q9537810 - 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**	**0.0620**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.290**		**0.00756**
Barium	**7440-39-3**	**3.93**		**0.863**
Beryllium	**7440-41-7**	**0.0249**		**0.00258**
Cadmium	7440-43-9	0.0296	U	0.0598
Chromium	**7440-47-3**	**3.26**		**1.78**
Cobalt	**7440-48-4**	**0.523**		**0.0352**
Copper	**7440-50-8**	**47.5**		**2.12**
Lead	**7439-92-1**	**0.522**		**0.173**
Manganese	**7439-96-5**	**13.5**		**1.52**
Molybdenum	**7439-98-7**	**3.87**		**0.290**
Nickel	**7440-02-0**	**1.88**		**0.526**
Selenium	**7782-49-2**	**0.350**		**0.00723**
Thallium	**7440-28-0**	**0.00234**		**4.75E-4**
Vanadium	**7440-62-2**	**1.79**		**0.0427**
Zinc	7440-66-6	14.1	U	61.9

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101524-HM
Matrix: Air
Lab ID: 4102129-27
Sample Volume: 1821.746 m³
Filter ID:
Sampled: 10/15/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 07:46

Comments: Q9537811 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0937**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.701**		**0.00837**
Barium	**7440-39-3**	**5.36**		**0.956**
Beryllium	**7440-41-7**	**0.0269**		**0.00286**
Cadmium	7440-43-9	0.0309	U	0.0662
Chromium	**7440-47-3**	**4.09**		**1.97**
Cobalt	**7440-48-4**	**0.737**		**0.0389**
Copper	**7440-50-8**	**23.5**		**2.35**
Lead	**7439-92-1**	**0.856**		**0.191**
Manganese	**7439-96-5**	**24.0**		**1.69**
Molybdenum	**7439-98-7**	**1.67**		**0.321**
Nickel	**7440-02-0**	**1.97**		**0.582**
Selenium	**7782-49-2**	**0.388**		**0.00800**
Thallium	**7440-28-0**	**0.00281**		**5.26E-4**
Vanadium	**7440-62-2**	**2.38**		**0.0472**
Zinc	7440-66-6	17.3	U	68.6

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101524-HM
Matrix: Air
Lab ID: 4102129-28
Sample Volume: 1850.71 m³
Filter ID:
Sampled: 10/15/24 00:00
Received: 10/21/24 12:17
Analysis Date: 10/23/24 08:01

Comments: Q9537816 - 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	0.0165	SL, U	0.0339
Arsenic	7440-38-2	0.00560	U	0.00824
Barium	7440-39-3	0.566	U	0.941
Beryllium	7440-41-7	6.14E-4	U	0.00281
Cadmium	7440-43-9	0.00324	U	0.0651
Chromium	7440-47-3	1.44	U	1.94
Cobalt	7440-48-4	0.0291	U	0.0383
Copper	7440-50-8	1.40	U	2.31
Lead	7439-92-1	0.0619	U	0.188
Manganese	7439-96-5	0.255	U	1.66
Molybdenum	7439-98-7	0.246	U	0.316
Nickel	7440-02-0	0.434	U	0.573
Selenium	7782-49-2	0.00139	U	0.00788
Thallium	7440-28-0	7.48E-5	U	5.18E-4
Vanadium	7440-62-2	0.0399	U	0.0465
Zinc	7440-66-6	10.9	U	67.5

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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101624-HM
Matrix: Air
Lab ID: 4102129-29
Sample Volume: 1828.982 m³
Filter ID:
Sampled: 10/16/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 08:15

Comments: Q9537812 - 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	**0.0343**
Arsenic	**7440-38-2**	**0.625**		**0.00834**
Barium	**7440-39-3**	**9.27**		**0.952**
Beryllium	**7440-41-7**	**0.0279**		**0.00285**
Cadmium	7440-43-9	0.0294	U	0.0659
Chromium	**7440-47-3**	**5.79**		**1.97**
Cobalt	**7440-48-4**	**1.21**		**0.0388**
Copper	**7440-50-8**	**58.6**		**2.34**
Lead	**7439-92-1**	**1.35**		**0.190**
Manganese	**7439-96-5**	**28.6**		**1.68**
Molybdenum	**7439-98-7**	**3.76**		**0.319**
Nickel	**7440-02-0**	**3.31**		**0.580**
Selenium	**7782-49-2**	**0.321**		**0.00797**
Thallium	**7440-28-0**	**0.00315**		**5.24E-4**
Vanadium	**7440-62-2**	**3.73**		**0.0471**
Zinc	7440-66-6	22.3	U	68.3

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101624-HM
Matrix: Air
Lab ID: 4102129-30
Sample Volume: 2138.056 m³
Filter ID:
Sampled: 10/16/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 08:30

Comments: Q9537813 - 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**	**0.0849**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.379**		**0.00713**
Barium	**7440-39-3**	**5.17**		**0.814**
Beryllium	**7440-41-7**	**0.0178**		**0.00244**
Cadmium	7440-43-9	0.0191	U	0.0564
Chromium	**7440-47-3**	**4.21**		**1.68**
Cobalt	**7440-48-4**	**0.740**		**0.0332**
Copper	**7440-50-8**	**22.1**		**2.00**
Lead	**7439-92-1**	**0.750**		**0.163**
Manganese	**7439-96-5**	**17.6**		**1.44**
Molybdenum	**7439-98-7**	**1.39**		**0.273**
Nickel	**7440-02-0**	**1.97**		**0.496**
Selenium	**7782-49-2**	**0.254**		**0.00682**
Thallium	**7440-28-0**	**0.00247**		**4.48E-4**
Vanadium	**7440-62-2**	**2.25**		**0.0403**
Zinc	7440-66-6	14.8	U	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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101624-HM
Matrix: Air
Lab ID: 4102129-31
Sample Volume: 2031.626 m³
Filter ID:
Sampled: 10/16/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 09:20

Comments: Q9537817 - 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**	**0.0719**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.311**		**0.00750**
Barium	**7440-39-3**	**4.81**		**0.857**
Beryllium	**7440-41-7**	**0.0344**		**0.00256**
Cadmium	7440-43-9	0.0219	U	0.0593
Chromium	**7440-47-3**	**4.34**		**1.77**
Cobalt	**7440-48-4**	**0.833**		**0.0349**
Copper	**7440-50-8**	**50.2**		**2.11**
Lead	**7439-92-1**	**0.615**		**0.171**
Manganese	**7439-96-5**	**20.1**		**1.51**
Molybdenum	**7439-98-7**	**2.77**		**0.288**
Nickel	**7440-02-0**	**2.06**		**0.522**
Selenium	**7782-49-2**	**0.279**		**0.00718**
Thallium	**7440-28-0**	**0.00253**		**4.72E-4**
Vanadium	**7440-62-2**	**2.36**		**0.0424**
Zinc	7440-66-6	13.1	U	61.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101624-HM
Matrix: Air
Lab ID: 4102129-32
Sample Volume: 1849.359 m³
Filter ID:
Sampled: 10/16/24 23:59
Received: 10/21/24 12:17
Analysis Date: 10/23/24 09:50

Comments: Q9537818 - 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**	**0.103**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.647**		**0.00824**
Barium	**7440-39-3**	**5.88**		**0.941**
Beryllium	**7440-41-7**	**0.0375**		**0.00282**
Cadmium	7440-43-9	0.0242	U	0.0652
Chromium	**7440-47-3**	**5.38**		**1.94**
Cobalt	**7440-48-4**	**1.16**		**0.0384**
Copper	**7440-50-8**	**26.0**		**2.31**
Lead	**7439-92-1**	**0.703**		**0.188**
Manganese	**7439-96-5**	**33.2**		**1.66**
Molybdenum	**7439-98-7**	**1.84**		**0.316**
Nickel	**7440-02-0**	**2.68**		**0.574**
Selenium	**7782-49-2**	**0.326**		**0.00788**
Thallium	**7440-28-0**	**0.00325**		**5.18E-4**
Vanadium	**7440-62-2**	**3.05**		**0.0465**
Zinc	7440-66-6	14.4	U	67.6

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: 10/29/24 13:33
SUBMITTED: 10/21/24
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 2410073 - B4J2207										
Calibration Blank (2410073-CCB1)				Prepared & Analyzed: 10/22/24						
Antimony	5.98		ng/l							
Arsenic	1.38		ng/l							
Barium	1.53		ng/l							
Beryllium	-0.345		ng/l							U
Cadmium	0.352		ng/l							
Chromium	4.62		ng/l							
Cobalt	0.628		ng/l							
Copper	50.2		ng/l							
Lead	14.8		ng/l							
Manganese	7.60		ng/l							
Molybdenum	66.1		ng/l							
Nickel	1.02		ng/l							
Selenium	0.770		ng/l							
Thallium	0.168		ng/l							
Vanadium	-23.7		ng/l							U
Zinc	-4.30		ng/l							U
Calibration Blank (2410073-CCB2)				Prepared & Analyzed: 10/22/24						
Antimony	4.47		ng/l							
Arsenic	0.163		ng/l							
Barium	4.24		ng/l							
Beryllium	-0.524		ng/l							U
Cadmium	0.869		ng/l							
Chromium	7.71		ng/l							
Cobalt	1.24		ng/l							
Copper	78.1		ng/l							
Lead	8.79		ng/l							
Manganese	12.1		ng/l							
Molybdenum	22.7		ng/l							
Nickel	0.609		ng/l							
Selenium	1.85		ng/l							
Thallium	0.252		ng/l							
Vanadium	-25.3		ng/l							U
Zinc	-1.10		ng/l							U
Calibration Blank (2410073-CCB3)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	3.82		ng/l							
Arsenic	4.29		ng/l							
Barium	2.61		ng/l							
Beryllium	-0.915		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Blank (2410073-CCB3) Contin				Prepared: 10/22/24 Analyzed: 10/23/24						
Cadmium	0.518		ng/l							
Chromium	3.91		ng/l							
Cobalt	0.792		ng/l							
Copper	49.9		ng/l							
Lead	9.46		ng/l							
Manganese	9.00		ng/l							
Molybdenum	23.4		ng/l							
Nickel	1.48		ng/l							
Selenium	-2.18		ng/l							U
Thallium	0.943		ng/l							
Vanadium	-30.3		ng/l							U
Zinc	-7.45		ng/l							U
Calibration Blank (2410073-CCB4)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	3.06		ng/l							
Arsenic	2.40		ng/l							
Barium	1.56		ng/l							
Beryllium	-1.70		ng/l							U
Cadmium	0.120		ng/l							
Chromium	1.67		ng/l							
Cobalt	0.252		ng/l							
Copper	26.9		ng/l							
Lead	5.38		ng/l							
Manganese	2.08		ng/l							
Molybdenum	19.2		ng/l							
Nickel	-0.674		ng/l							U
Selenium	11.7		ng/l							
Thallium	0.293		ng/l							
Vanadium	-21.8		ng/l							U
Zinc	-15.8		ng/l							U
Calibration Blank (2410073-CCB5)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	2.59		ng/l							
Arsenic	8.75		ng/l							
Barium	2.32		ng/l							
Beryllium	-1.88		ng/l							U
Cadmium	0.385		ng/l							
Chromium	3.74		ng/l							
Cobalt	0.513		ng/l							
Copper	42.4		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Blank (2410073-CCB5) Contin				Prepared: 10/22/24 Analyzed: 10/23/24						
Lead	6.26		ng/l							
Manganese	4.98		ng/l							
Molybdenum	22.5		ng/l							
Nickel	-0.0192		ng/l							U
Selenium	-4.87		ng/l							U
Thallium	1.00		ng/l							
Vanadium	-26.3		ng/l							U
Zinc	-6.99		ng/l							U
Calibration Blank (2410073-CCB6)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	2.83		ng/l							
Arsenic	7.50		ng/l							
Barium	2.14		ng/l							
Beryllium	-2.21		ng/l							U
Cadmium	0.239		ng/l							
Chromium	3.41		ng/l							
Cobalt	0.559		ng/l							
Copper	43.6		ng/l							
Lead	4.74		ng/l							
Manganese	5.56		ng/l							
Molybdenum	25.5		ng/l							
Nickel	-1.26		ng/l							U
Selenium	5.02		ng/l							
Thallium	0.734		ng/l							
Vanadium	-28.1		ng/l							U
Zinc	-10.0		ng/l							U
Calibration Blank (2410073-CCB7)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	0.905		ng/l							
Arsenic	7.59		ng/l							
Barium	0.182		ng/l							
Beryllium	-2.46		ng/l							U
Cadmium	0.126		ng/l							
Chromium	0.566		ng/l							
Cobalt	0.0599		ng/l							
Copper	21.6		ng/l							
Lead	1.41		ng/l							
Manganese	0.735		ng/l							
Molybdenum	8.54		ng/l							
Nickel	-1.78		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Blank (2410073-CCB7) Contin				Prepared: 10/22/24 Analyzed: 10/23/24						
Selenium	0.154		ng/l							
Thallium	0.680		ng/l							
Vanadium	-33.6		ng/l							U
Zinc	-23.4		ng/l							U
Calibration Check (2410073-CCV1)				Prepared & Analyzed: 10/22/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4810		ng/l	5000.0		96.2	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	498		ng/l	500.00		99.5	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2410073-CCV2)				Prepared & Analyzed: 10/22/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4780		ng/l	5000.0		95.5	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	513000		ng/l	500000		103	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Check (2410073-CCV3)				Prepared & Analyzed: 10/22/24						
Antimony	19900		ng/l	20000		99.7	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	49600		ng/l	50000		99.2	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		99.8	90-110			
Manganese	496000		ng/l	500000		99.1	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	20000		ng/l	20000		99.8	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Calibration Check (2410073-CCV4)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	481		ng/l	500.00		96.2	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2410073-CCV5)				Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	207000		ng/l	200000		104	90-110			
Beryllium	4690		ng/l	5000.0		93.8	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Check (2410073-CCV5) Contin					Prepared: 10/22/24 Analyzed: 10/23/24					
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	487		ng/l	500.00		97.3	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2410073-CCV6)					Prepared: 10/22/24 Analyzed: 10/23/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		105	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	475		ng/l	500.00		94.9	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2410073-CCV7)					Prepared: 10/22/24 Analyzed: 10/23/24					
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Calibration Check (2410073-CCV7) Contin				Prepared: 10/22/24 Analyzed: 10/23/24						
Lead	206000		ng/l	200000		103	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	524000		ng/l	500000		105	90-110			
High Cal Check (2410073-HCV1)				Prepared & Analyzed: 10/22/24						
Antimony	39800		ng/l	40000		99.6	95-105			
Arsenic	39900		ng/l	40000		99.7	95-105			
Barium	404000		ng/l	400000		101	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39600		ng/l	40000		98.9	95-105			
Chromium	476000		ng/l	480000		99.2	95-105			
Cobalt	99300		ng/l	100000		99.3	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.1	95-105			
Lead	397000		ng/l	400000		99.3	95-105			
Manganese	993000		ng/l	1.0000E6		99.3	95-105			
Molybdenum	99400		ng/l	100000		99.4	95-105			
Nickel	238000		ng/l	240000		99.2	95-105			
Selenium	40200		ng/l	40000		100	95-105			
Thallium	984		ng/l	1000.0		98.4	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	998000		ng/l	1.0000E6		99.8	95-105			
Initial Cal Blank (2410073-ICB1)				Prepared & Analyzed: 10/22/24						
Antimony	5.91		ng/l							
Arsenic	-7.08		ng/l							U
Barium	2.69		ng/l							
Beryllium	-0.623		ng/l							U
Cadmium	0.574		ng/l							
Chromium	3.52		ng/l							
Cobalt	0.697		ng/l							
Copper	43.9		ng/l							
Lead	18.8		ng/l							
Manganese	10.4		ng/l							
Molybdenum	29.1		ng/l							
Nickel	1.85		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Initial Cal Blank (2410073-ICB1) Continu				Prepared & Analyzed: 10/22/24						
Selenium	-3.56		ng/l							U
Thallium	-0.00885		ng/l							U
Vanadium	-26.7		ng/l							U
Zinc	9.55		ng/l							
Initial Cal Check (2410073-ICV1)				Prepared & Analyzed: 10/22/24						
Antimony	19400		ng/l	20000		97.2	90-110			
Arsenic	19000		ng/l	20000		95.1	90-110			
Barium	192000		ng/l	200000		96.2	90-110			
Beryllium	4970		ng/l	5000.0		99.4	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	235000		ng/l	240000		97.8	90-110			
Cobalt	49100		ng/l	50000		98.3	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	490000		ng/l	500000		98.0	90-110			
Molybdenum	48900		ng/l	50000		97.8	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	483		ng/l	500.00		96.7	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Interference Check A (2410073-IFA1)				Prepared & Analyzed: 10/22/24						
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	328000		ng/l	300000		109	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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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: 10/29/24 13:33
SUBMITTED: 10/21/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410073 - B4J2207										
Interference Check B (2410073-IFB1)				Prepared & Analyzed: 10/22/24						
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20100		ng/l	20000		101	80-120			
Barium	200000		ng/l	200000		99.9	80-120			
Beryllium	4770		ng/l	5000.0		95.4	80-120			
Cadmium	19500		ng/l	20000		97.6	80-120			
Chromium	235000		ng/l	240000		97.8	80-120			
Cobalt	49800		ng/l	50000		99.5	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.6	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	500000		ng/l	500000		100	80-120			
Molybdenum	381000		ng/l	350000		109	80-120			
Nickel	117000		ng/l	120000		97.6	80-120			
Selenium	18600		ng/l	20000		93.1	80-120			
Thallium	510		ng/l	500.00		102	80-120			
Vanadium	19000		ng/l	20000		95.1	80-120			
Zinc	465000		ng/l	500000		92.9	80-120			
Batch B4J2207 - ICP-MS Extraction										
Blank (B4J2207-BLK1)				Prepared & Analyzed: 10/22/24						
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 (B4J2207-BS1)				Prepared & Analyzed: 10/22/24						
Antimony	0.806	0.0386	ng/m³ Air	1.3829		58.2	80-120			SL
Arsenic	2.64	0.00937	ng/m³ Air	2.7658		95.5	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.5	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
LCS (B4J2207-BS1) Continued					Prepared & Analyzed: 10/22/24					
Beryllium	1.29	0.00320	ng/m³ Air	1.3829		93.6	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	14.3	2.21	ng/m³ Air	13.829		104	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		98.9	80-120			
Copper	27.5	2.63	ng/m³ Air	27.658		99.4	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.6	80-120			
Manganese	8.12	1.89	ng/m³ Air	8.2975		97.9	80-120			
Molybdenum	1.46	0.359	ng/m³ Air	1.3829		106	80-120			
Nickel	3.15	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.5	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		92.9	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	89.8	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4J2207-BS2)					Prepared & Analyzed: 10/22/24					
Antimony	0.789	0.0386	ng/m³ Air	1.3829		57.1	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.3	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.8	80-120			
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.2	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.5	80-120			
Chromium	14.3	2.21	ng/m³ Air	13.829		103	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.7	80-120			
Copper	27.4	2.63	ng/m³ Air	27.658		99.2	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		97.1	80-120			
Manganese	8.16	1.89	ng/m³ Air	8.2975		98.4	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.13	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.7	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.0	80-120			
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.8	80-120			
Zinc	88.9	76.8	ng/m³ Air	82.975		107	80-120			
LCS (B4J2207-BS3)					Prepared & Analyzed: 10/22/24					
Antimony	1.39	0.0386	ng/m³ Air	1.3829		100	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		97.8	80-120			
Barium	27.2	1.07	ng/m³ Air	27.658		98.2	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	13.9	2.21	ng/m³ Air	13.829		100	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		100	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
LCS (B4J2207-BS3) Continued					Prepared & Analyzed: 10/22/24					
Copper	27.4	2.63	ng/m³ Air	27.658		99.1	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.8	80-120			
Manganese	8.22	1.89	ng/m³ Air	8.2975		99.1	80-120			
Molybdenum	1.33	0.359	ng/m³ Air	1.3829		96.4	80-120			
Nickel	2.79	0.652	ng/m³ Air	2.7658		101	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.6	80-120			
Vanadium	2.81	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	87.3	76.8	ng/m³ Air	82.975		105	80-120			
LCS (B4J2207-BS4)					Prepared & Analyzed: 10/22/24					
Antimony	1.37	0.0386	ng/m³ Air	1.3829		99.1	80-120			SL
Arsenic	2.67	0.00937	ng/m³ Air	2.7658		96.7	80-120			
Barium	27.1	1.07	ng/m³ Air	27.658		98.1	80-120			
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		95.9	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	13.6	2.21	ng/m³ Air	13.829		98.2	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.1	80-120			
Copper	26.7	2.63	ng/m³ Air	27.658		96.6	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.7	80-120			
Manganese	8.07	1.89	ng/m³ Air	8.2975		97.2	80-120			
Molybdenum	1.33	0.359	ng/m³ Air	1.3829		96.0	80-120			
Nickel	2.75	0.652	ng/m³ Air	2.7658		99.4	80-120			
Selenium	2.75	0.00896	ng/m³ Air	2.7658		99.5	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.2	80-120			
Vanadium	2.77	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	85.3	76.8	ng/m³ Air	82.975		103	80-120			
Duplicate (B4J2207-DUP1)		**Source: 4102129-21**			Prepared & Analyzed: 10/22/24					
Antimony	0.100	0.0301	ng/m³ Air		0.0916			9.10	10	SL
Arsenic	0.317	0.00730	ng/m³ Air		0.323			1.80	10	
Barium	5.08	0.834	ng/m³ Air		5.09			0.121	10	
Beryllium	0.0163	0.00249	ng/m³ Air		0.0162			0.529	10	
Cadmium	ND	0.0577	ng/m³ Air		ND				10	U
Chromium	3.48	1.72	ng/m³ Air		3.57			2.29	10	
Cobalt	0.569	0.0340	ng/m³ Air		0.562			1.18	10	
Copper	23.4	2.05	ng/m³ Air		22.4			4.68	10	
Lead	1.03	0.167	ng/m³ Air		1.06			2.73	10	
Manganese	15.4	1.47	ng/m³ Air		15.3			0.156	10	
Molybdenum	1.29	0.280	ng/m³ Air		1.25			2.73	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Duplicate (B4J2207-DUP1) Continued			**Source: 4102129-21**		Prepared & Analyzed: 10/22/24					
Nickel	1.63	0.508	ng/m³ Air		1.65			1.41	10	
Selenium	0.181	0.00698	ng/m³ Air		0.174			3.93	10	
Thallium	0.00144	4.59E-4	ng/m³ Air		0.00152			5.30	10	
Vanadium	2.00	0.0412	ng/m³ Air		2.00			0.101	10	
Zinc	ND	59.8	ng/m³ Air		ND				10	U
Duplicate (B4J2207-DUP2)			**Source: 4102129-01**		Prepared & Analyzed: 10/22/24					
Antimony	0.117	0.0322	ng/m³ Air		0.120			2.33	10	SL
Arsenic	0.798	0.00783	ng/m³ Air		0.864			7.88	10	
Barium	14.4	0.894	ng/m³ Air		15.1			4.40	10	
Beryllium	0.0609	0.00267	ng/m³ Air		0.0574			5.91	10	
Cadmium	0.0627	0.0619	ng/m³ Air		ND				10	
Chromium	11.7	1.85	ng/m³ Air		12.6			7.26	10	
Cobalt	3.10	0.0364	ng/m³ Air		3.28			5.57	10	
Copper	59.4	2.20	ng/m³ Air		61.5			3.45	10	
Lead	1.20	0.179	ng/m³ Air		1.21			0.758	10	
Manganese	66.7	1.58	ng/m³ Air		71.2			6.41	10	
Molybdenum	2.67	0.300	ng/m³ Air		2.51			6.26	10	
Nickel	8.33	0.545	ng/m³ Air		8.93			6.92	10	
Selenium	0.326	0.00748	ng/m³ Air		0.349			6.67	10	
Thallium	0.00298	4.92E-4	ng/m³ Air		0.00317			6.18	10	
Vanadium	8.64	0.0442	ng/m³ Air		9.32			7.60	10	
Zinc	ND	64.1	ng/m³ Air		ND				10	U
Duplicate (B4J2207-DUP3)			**Source: 4102129-14**		Prepared: 10/22/24 Analyzed: 10/23/24					
Antimony	0.0671	0.0363	ng/m³ Air		0.0682			1.59	10	SL
Arsenic	0.204	0.00881	ng/m³ Air		0.204			0.0117	10	
Barium	2.78	1.01	ng/m³ Air		2.80			0.936	10	
Beryllium	0.0144	0.00301	ng/m³ Air		0.0143			0.693	10	
Cadmium	ND	0.0697	ng/m³ Air		ND				10	U
Chromium	3.05	2.08	ng/m³ Air		3.09			1.09	10	
Cobalt	0.360	0.0410	ng/m³ Air		0.362			0.575	10	
Copper	29.3	2.47	ng/m³ Air		29.3			0.0753	10	
Lead	0.312	0.201	ng/m³ Air		0.316			1.03	10	
Manganese	11.2	1.78	ng/m³ Air		11.2			0.487	10	
Molybdenum	1.55	0.338	ng/m³ Air		1.57			1.09	10	
Nickel	1.51	0.613	ng/m³ Air		1.50			0.219	10	
Selenium	0.177	0.00842	ng/m³ Air		0.193			8.82	10	
Thallium	7.19E-4	5.54E-4	ng/m³ Air		7.35E-4			2.19	10	
Vanadium	1.42	0.0497	ng/m³ Air		1.44			1.27	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Duplicate (B4J2207-DUP3) Continued		**Source: 4102129-14**		Prepared: 10/22/24 Analyzed: 10/23/24						
Zinc	ND	72.2	ng/m³ Air		ND				10	U
Duplicate (B4J2207-DUP4)		**Source: 4102129-31**		Prepared: 10/22/24 Analyzed: 10/23/24						
Antimony	0.0709	0.0309	ng/m³ Air		0.0719			1.46	10	SL
Arsenic	0.315	0.00750	ng/m³ Air		0.311			1.48	10	
Barium	4.76	0.857	ng/m³ Air		4.81			0.971	10	
Beryllium	0.0348	0.00256	ng/m³ Air		0.0344			1.22	10	
Cadmium	ND	0.0593	ng/m³ Air		ND				10	U
Chromium	4.36	1.77	ng/m³ Air		4.34			0.346	10	
Cobalt	0.841	0.0349	ng/m³ Air		0.833			0.936	10	
Copper	50.5	2.11	ng/m³ Air		50.2			0.623	10	
Lead	0.610	0.171	ng/m³ Air		0.615			0.813	10	
Manganese	20.2	1.51	ng/m³ Air		20.1			0.498	10	
Molybdenum	2.79	0.288	ng/m³ Air		2.77			0.703	10	
Nickel	2.07	0.522	ng/m³ Air		2.06			0.360	10	
Selenium	0.277	0.00718	ng/m³ Air		0.279			0.973	10	
Thallium	0.00261	4.72E-4	ng/m³ Air		0.00253			3.13	10	
Vanadium	2.37	0.0424	ng/m³ Air		2.36			0.473	10	
Zinc	ND	61.5	ng/m³ Air		ND				10	U
Matrix Spike (B4J2207-MS1)		**Source: 4102129-21**		Prepared & Analyzed: 10/22/24						
Antimony	0.541	0.0301	ng/m³ Air	1.0774	0.0916	41.7	80-120			SL
Arsenic	2.30	0.00730	ng/m³ Air	2.1549	0.323	91.6	80-120			
Barium	25.2	0.834	ng/m³ Air	21.549	5.09	93.4	80-120			
Beryllium	1.04	0.00249	ng/m³ Air	1.0774	0.0162	95.4	80-120			
Cadmium	1.07	0.0577	ng/m³ Air	1.0774	ND	98.9	80-120			
Chromium	14.6	1.72	ng/m³ Air	10.774	3.57	102	80-120			
Cobalt	1.59	0.0340	ng/m³ Air	1.0774	0.562	95.3	80-120			
Copper	42.1	2.05	ng/m³ Air	21.549	22.4	91.8	80-120			
Lead	11.5	0.167	ng/m³ Air	10.774	1.06	97.0	80-120			
Manganese	20.9	1.47	ng/m³ Air	6.4647	15.3	85.5	80-120			
Molybdenum	2.23	0.280	ng/m³ Air	1.0774	1.25	91.3	80-120			
Nickel	3.79	0.508	ng/m³ Air	2.1549	1.65	99.3	80-120			
Selenium	2.16	0.00698	ng/m³ Air	2.1549	0.174	92.1	80-120			
Thallium	0.0993	4.59E-4	ng/m³ Air	0.10774	0.00152	90.8	80-120			
Vanadium	3.99	0.0412	ng/m³ Air	2.1549	2.00	92.4	80-120			
Zinc	80.0	59.8	ng/m³ Air	64.647	ND	124	80-120			
Matrix Spike (B4J2207-MS2)		**Source: 4102129-01**		Prepared & Analyzed: 10/22/24						
Antimony	0.568	0.0322	ng/m³ Air	1.1551	0.120	38.8	80-120			SL
Arsenic	2.73	0.00783	ng/m³ Air	2.3102	0.864	80.8	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Matrix Spike (B4J2207-MS2) Continued	**Source: 4102129-01**			Prepared & Analyzed: 10/22/24						
Barium	39.0	0.894	ng/m³ Air	23.102	15.1	104	80-120			
Beryllium	1.19	0.00267	ng/m³ Air	1.1551	0.0574	98.1	80-120			
Cadmium	1.15	0.0619	ng/m³ Air	1.1551	ND	99.8	80-120			
Chromium	23.6	1.85	ng/m³ Air	11.551	12.6	95.1	80-120			
Cobalt	4.52	0.0364	ng/m³ Air	1.1551	3.28	107	80-120			
Copper	88.3	2.20	ng/m³ Air	23.102	61.5	116	80-120			
Lead	12.6	0.179	ng/m³ Air	11.551	1.21	99.0	80-120			
Manganese	80.9	1.58	ng/m³ Air	6.9307	71.2	141	80-120			QM-4X
Molybdenum	3.65	0.300	ng/m³ Air	1.1551	2.51	98.9	80-120			
Nickel	11.3	0.545	ng/m³ Air	2.3102	8.93	105	80-120			
Selenium	2.36	0.00748	ng/m³ Air	2.3102	0.349	87.2	80-120			
Thallium	0.107	4.92E-4	ng/m³ Air	0.11551	0.00317	89.5	80-120			
Vanadium	11.7	0.0442	ng/m³ Air	2.3102	9.32	102	80-120			E
Zinc	94.7	64.1	ng/m³ Air	69.307	ND	137	80-120			
Matrix Spike Dup (B4J2207-MSD1)	**Source: 4102129-21**			Prepared & Analyzed: 10/22/24						
Antimony	0.562	0.0301	ng/m³ Air	1.0774	0.0916	43.7	80-120	3.86	20	SL
Arsenic	2.38	0.00730	ng/m³ Air	2.1549	0.323	95.6	80-120	3.69	20	
Barium	26.2	0.834	ng/m³ Air	21.549	5.09	97.9	80-120	3.77	20	
Beryllium	1.07	0.00249	ng/m³ Air	1.0774	0.0162	97.8	80-120	2.48	20	
Cadmium	1.11	0.0577	ng/m³ Air	1.0774	ND	103	80-120	3.79	20	
Chromium	14.1	1.72	ng/m³ Air	10.774	3.57	97.9	80-120	3.34	20	
Cobalt	1.63	0.0340	ng/m³ Air	1.0774	0.562	99.3	80-120	2.70	20	
Copper	46.8	2.05	ng/m³ Air	21.549	22.4	113	80-120	10.4	20	
Lead	12.0	0.167	ng/m³ Air	10.774	1.06	101	80-120	4.00	20	
Manganese	21.4	1.47	ng/m³ Air	6.4647	15.3	94.2	80-120	2.65	20	
Molybdenum	2.30	0.280	ng/m³ Air	1.0774	1.25	97.2	80-120	2.84	20	
Nickel	3.80	0.508	ng/m³ Air	2.1549	1.65	99.5	80-120	0.0787	20	
Selenium	2.25	0.00698	ng/m³ Air	2.1549	0.174	96.3	80-120	4.14	20	
Thallium	0.102	4.59E-4	ng/m³ Air	0.10774	0.00152	93.5	80-120	2.95	20	
Vanadium	4.04	0.0412	ng/m³ Air	2.1549	2.00	94.8	80-120	1.34	20	
Zinc	84.6	59.8	ng/m³ Air	64.647	ND	131	80-120	5.56	20	
Matrix Spike Dup (B4J2207-MSD2)	**Source: 4102129-01**			Prepared & Analyzed: 10/22/24						
Antimony	0.549	0.0322	ng/m³ Air	1.1551	0.120	37.2	80-120	3.35	20	SL
Arsenic	2.93	0.00783	ng/m³ Air	2.3102	0.864	89.4	80-120	6.98	20	
Barium	39.8	0.894	ng/m³ Air	23.102	15.1	107	80-120	1.95	20	
Beryllium	1.20	0.00267	ng/m³ Air	1.1551	0.0574	99.2	80-120	1.06	20	
Cadmium	1.20	0.0619	ng/m³ Air	1.1551	ND	104	80-120	4.08	20	
Chromium	24.8	1.85	ng/m³ Air	11.551	12.6	106	80-120	5.14	20	

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

FILE #: 4205.00.003.001
REPORTED: 10/29/24 13:33
SUBMITTED: 10/21/24
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 B4J2207 - ICP-MS Extraction										
Matrix Spike Dup (B4J2207-MSD2) Contir			**Source: 4102129-01**			Prepared & Analyzed: 10/22/24				
Cobalt	4.97	0.0364	ng/m³ Air	1.1551	3.28	146	80-120	9.48	20	QM-07
Copper	98.0	2.20	ng/m³ Air	23.102	61.5	158	80-120	10.4	20	QM-07
Lead	12.9	0.179	ng/m³ Air	11.551	1.21	101	80-120	1.90	20	
Manganese	91.7	1.58	ng/m³ Air	6.9307	71.2	297	80-120	12.5	20	QM-4X
Molybdenum	3.60	0.300	ng/m³ Air	1.1551	2.51	94.7	80-120	1.35	20	
Nickel	12.4	0.545	ng/m³ Air	2.3102	8.93	152	80-120	9.14	20	QM-07
Selenium	2.44	0.00748	ng/m³ Air	2.3102	0.349	90.7	80-120	3.30	20	
Thallium	0.107	4.92E-4	ng/m³ Air	0.11551	0.00317	89.8	80-120	0.374	20	
Vanadium	12.7	0.0442	ng/m³ Air	2.3102	9.32	147	80-120	8.63	20	E, QM-4X
Zinc	103	64.1	ng/m³ Air	69.307	ND	149	80-120	8.53	20	
Post Spike (B4J2207-PS1)			**Source: 4102129-21**			Prepared & Analyzed: 10/22/24				
Antimony	0.297	0.0301	ng/m³ Air	0.21549	0.0916	95.5	75-125			SL
Arsenic	1.29	0.00730	ng/m³ Air	1.0774	0.323	90.1	75-125			
Barium	7.13	0.834	ng/m³ Air	2.1549	5.09	95.0	75-125			
Beryllium	0.226	0.00249	ng/m³ Air	0.21549	0.0162	97.1	75-125			
Cadmium	0.153	0.0577	ng/m³ Air	0.10774	ND	142	75-125			
Chromium	4.56	1.72	ng/m³ Air	1.0774	3.57	92.8	75-125			
Cobalt	0.773	0.0340	ng/m³ Air	0.21549	0.562	98.2	75-125			
Copper	32.7	2.05	ng/m³ Air	10.774	22.4	96.2	75-125			
Lead	22.1	0.167	ng/m³ Air	21.549	1.06	97.8	75-125			
Manganese	17.3	1.47	ng/m³ Air	2.1549	15.3	91.1	75-125			
Molybdenum	2.22	0.280	ng/m³ Air	1.0774	1.25	90.2	75-125			
Nickel	3.73	0.508	ng/m³ Air	2.1549	1.65	96.3	75-125			
Selenium	1.16	0.00698	ng/m³ Air	1.0774	0.174	91.5	75-125			
Thallium	0.0518	4.59E-4	ng/m³ Air	5.3872E-2	0.00152	93.3	75-125			
Vanadium	3.01	0.0412	ng/m³ Air	1.0774	2.00	93.8	75-125			
Zinc	ND	59.8	ng/m³ Air	21.549	ND		75-125			U
Post Spike (B4J2207-PS2)			**Source: 4102129-01**			Prepared & Analyzed: 10/22/24				
Antimony	0.333	0.0322	ng/m³ Air	0.23102	0.120	92.5	75-125			SL
Arsenic	1.84	0.00783	ng/m³ Air	1.1551	0.864	84.4	75-125			
Barium	16.7	0.894	ng/m³ Air	2.3102	15.1	71.6	75-125			A-01, PS-01
Beryllium	0.288	0.00267	ng/m³ Air	0.23102	0.0574	99.6	75-125			
Cadmium	0.153	0.0619	ng/m³ Air	0.11551	ND	132	75-125			
Chromium	13.2	1.85	ng/m³ Air	1.1551	12.6	54.6	75-125			A-01, PS-01
Cobalt	3.40	0.0364	ng/m³ Air	0.23102	3.28	52.6	75-125			A-01, PS-01
Copper	72.1	2.20	ng/m³ Air	11.551	61.5	92.1	75-125			
Lead	22.9	0.179	ng/m³ Air	23.102	1.21	93.8	75-125			
Manganese	70.5	1.58	ng/m³ Air	2.3102	71.2	NR	75-125			A-01, PS-01

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Post Spike (B4J2207-PS2) Continued		**Source: 4102129-01**		Prepared & Analyzed: 10/22/24						
Molybdenum	3.41	0.300	ng/m³ Air	1.1551	2.51	78.4	75-125			
Nickel	10.9	0.545	ng/m³ Air	2.3102	8.93	84.2	75-125			
Selenium	1.34	0.00748	ng/m³ Air	1.1551	0.349	85.9	75-125			
Thallium	0.0534	4.92E-4	ng/m³ Air	5.7756E-2	0.00317	87.0	75-125			
Vanadium	10.1	0.0442	ng/m³ Air	1.1551	9.32	66.0	75-125			A-01, E, PS-0
Zinc	ND	64.1	ng/m³ Air	23.102	ND		75-125			U
Dilution Check (B4J2207-SRL1)		**Source: 4102129-21**		Prepared & Analyzed: 10/22/24						
Antimony	ND	0.150	ng/m³ Air		ND				10	SL, U
Arsenic	0.336	0.0365	ng/m³ Air		0.323			3.84	10	
Barium	5.21	4.17	ng/m³ Air		5.09			2.38	10	
Beryllium	0.0153	0.0125	ng/m³ Air		0.0162			5.98	10	
Cadmium	ND	0.289	ng/m³ Air		ND				10	U
Chromium	ND	8.61	ng/m³ Air		ND				10	U
Cobalt	0.570	0.170	ng/m³ Air		0.562			1.46	10	
Copper	23.4	10.2	ng/m³ Air		22.4			4.58	10	
Lead	1.07	0.834	ng/m³ Air		1.06			0.466	10	
Manganese	15.7	7.36	ng/m³ Air		15.3			2.31	10	
Molybdenum	ND	1.40	ng/m³ Air		ND				10	U
Nickel	ND	2.54	ng/m³ Air		ND				10	U
Selenium	0.178	0.0349	ng/m³ Air		0.174			1.94	10	
Thallium	0.00276	0.00229	ng/m³ Air		ND			58.2	10	
Vanadium	2.00	0.206	ng/m³ Air		2.00			0.0965	10	
Zinc	ND	299	ng/m³ Air		ND				10	U
Dilution Check (B4J2207-SRL2)		**Source: 4102129-01**		Prepared & Analyzed: 10/22/24						
Antimony	ND	0.161	ng/m³ Air		ND				10	SL, U
Arsenic	0.885	0.0391	ng/m³ Air		0.864			2.39	10	
Barium	15.0	4.47	ng/m³ Air		15.1			0.165	10	
Beryllium	0.0622	0.0134	ng/m³ Air		0.0574			8.05	10	
Cadmium	ND	0.309	ng/m³ Air		ND				10	U
Chromium	13.0	9.23	ng/m³ Air		12.6			3.62	10	
Cobalt	3.37	0.182	ng/m³ Air		3.28			2.83	10	
Copper	62.8	11.0	ng/m³ Air		61.5			2.09	10	
Lead	1.16	0.894	ng/m³ Air		1.21			3.65	10	
Manganese	72.7	7.89	ng/m³ Air		71.2			2.14	10	
Molybdenum	2.70	1.50	ng/m³ Air		2.51			7.54	10	
Nickel	9.28	2.72	ng/m³ Air		8.93			3.82	10	
Selenium	0.335	0.0374	ng/m³ Air		0.349			3.93	10	
Thallium	0.00576	0.00246	ng/m³ Air		0.00317			58.0	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2207 - ICP-MS Extraction										
Dilution Check (B4J2207-SRL2) Continued				**Source: 4102129-01**		Prepared & Analyzed: 10/22/24				
Vanadium	9.63	0.221	ng/m³ Air		9.32			3.28	10	
Zinc	ND	321	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
E	The concentration for this analyte is an estimated value above the calibration range of the instrument.
A-01	Greater than 4x spike amount
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 10/29/2024 and Shanna Vasser 10/30/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/10/2024 – 10/16/2024
Report No: 4102129

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for vanadium in MFL-FB01-101124-HM.

Notes: None.