

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

**December 26, 2024 through January 1, 2025**

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 December 26, 2024 through January 1, 2025, 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 Pump Station #6 (AM-08)

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 ( $\mu\text{m}$ ), 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<sub>10</sub>". Monitoring for PM<sub>10</sub> was conducted 24 hours a day, 7 days a week from December 26, 2024 through January 1, 2025 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM<sub>10</sub>, 24-hour time-weighted average of 150 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), 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  $\mu\text{m}$  or less [PM<sub>2.5</sub>]). 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<sub>10</sub> 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 Opukea Townhomes (AM-05) and Lahaina Pump Station #6 (AM-08) for one hour on December 27, resulting in the collection of 23 hours of PM<sub>10</sub> data.
- Because of equipment maintenance, the air monitoring period was interrupted at WW Pump Station #4 (AM-02) Lahaina Intermediate School (AM-03) for 1 hour on December 27, resulting in the collection of 23 hours of PM<sub>10</sub> data.

The equipment fault at Opukea Townhomes and Lahaina Pump Station #6 on December 27 was the result of a disruption during one sampling interval 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 23-hours for that day.

None of the PM<sub>10</sub> monitoring results exceeded the 150 µg/m<sup>3</sup> screening level established in the CAMSP, as shown in **Table 1**.

### ***Air Sampling Results***

A total of 14 samples for asbestos fibers were collected during this reporting period. Asbestos samples were not collected at Opukea Townhomes (AM-05) and Lahaina Intermediate School (AM-03) on December 30 because of a sampling cassette shortage related to the lab. With the approval of the HDOH, Tetra Tech field teams were not dispatched on December 25 in observance of the Christmas Day holiday or on December 30, 31 or January 1 in observance of the New Years Holiday. The field teams did not deploy air samples at any of the four air sampling stations on December 25, 30, 31 or January 1. Subsequently, samples were not collected on December 26, 31, or January 1 because of the approximate 24-hr sampling period for asbestos and heavy metals requirements described in the CAMSP. 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 1.1 miles per hour and were generally from a southeasterly 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<sub>10</sub> 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

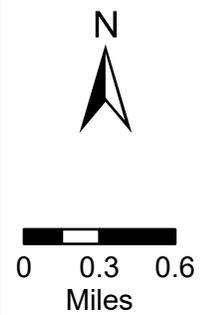


Figure 1  
Air Sampling Locations

Hawaii DOH  
2023 Lahaina Wildfire

**Table 1**  
**State of Hawaii, Department of Health, Clean Air Branch**  
**Particulate Monitoring Results for PM<sub>10</sub>**  
**Maui Wildfires, Lahaina**  
**December 26, 2024 through January 1, 2025**

Screening Level		TWA Results 150 (µg/m <sup>3</sup> )
12/26/2024	Opukea Townhomes (AM-05)	15
	WW Pump Station #4 (AM-02)	15
	Lahaina Intermediate School (AM-03)	19
	Lahaina Pump Station #6 (AM-08)	15
12/27/2024	Opukea Townhomes (AM-05)	17*
	WW Pump Station #4 (AM-02)	17**
	Lahaina Intermediate School (AM-03)	13**
	Lahaina Pump Station #6 (AM-08)	13*
12/28/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	26
	Lahaina Pump Station #6 (AM-08)	11
12/29/2024	Opukea Townhomes (AM-05)	6.5
	WW Pump Station #4 (AM-02)	5.0
	Lahaina Intermediate School (AM-03)	28
	Lahaina Pump Station #6 (AM-08)	5.6
12/30/2024	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	31
	Lahaina Pump Station #6 (AM-08)	10
12/31/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	26
	Lahaina Pump Station #6 (AM-08)	10
1/1/2025	Opukea Townhomes (AM-05)	17
	WW Pump Station #4 (AM-02)	15
	Lahaina Intermediate School (AM-03)	29
	Lahaina Pump Station #6 (AM-08)	9.4

**Notes:**

µg/m<sup>3</sup> = micrograms per cubic meter

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

\* Data provided are from a reduced (23-hr) TWA calculation because of an equipment fault

\*\* Data provided are from a reduced (23-hr) TWA calculation because of equipment maintenance

**Table 2**  
**State of Hawaii, Department of Health, Clean Air Branch**  
**Asbestos and Metals Sampling Results**  
**Maui Wildfires, Lahaina**  
**December 26, 2024 through January 1, 2025**

Analyte	Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc	
Units*	s/cc	µg/m <sup>3</sup>																
Site Screening Action Level	0.003 <sup>1</sup>	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	
12/26/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
12/27/2024	Opukea Townhomes (AM-05)	<0.0024	0.000160	0.000290	0.00588	0.0000136	0.0000433	0.00249	0.000419	0.0438	0.000648	0.0132	0.00237	0.00150	0.000613	0.00000773	0.00175	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000305	0.000427	0.0107	0.0000210	0.0000450	0.00320	0.000690	0.0425	0.00134	0.0214	0.00216	0.00216	0.000633	0.00000741	0.00264	ND
	Lahaina Intermediate School (AM-03)	<0.0030	0.0000767	0.000227	0.00351	0.0000154	0.0000396	0.00236	0.000380	0.0543	0.000468	0.0102	0.00221	0.00141	0.000576	0.00000686	0.00143	ND
	Lahaina Pump Station #6 (AM-08)	<0.0030	0.000156	0.000335	0.00444	0.00000874	0.0000448	ND	0.000261	0.0290	0.000587	0.00836	0.00144	0.00111	0.000644	0.00000764	0.00113	ND
12/28/2024	Opukea Townhomes (AM-05)	<0.0024	0.000141	0.000405	0.00749	0.0000230	0.0000669	0.00345	0.000763	0.0514	0.000669	0.0253	0.00291	0.00216	0.000652	0.00000648	0.00271	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000172	0.000401	0.00690	0.0000198	0.0000560	0.00280	0.000532	0.0382	0.00140	0.0189	0.00197	0.00171	0.000616	0.00000551	0.00214	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000611	0.000161	0.00303	0.0000158	0.0000409	0.00242	0.000419	0.0442	0.000262	0.0106	0.00197	0.00157	0.000484	0.00000433	0.00122	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000122	0.000374	0.00372	0.0000103	0.0000597	ND	0.000304	0.0242	0.000532	0.00971	0.00124	0.00135	0.000595	0.00000558	0.00125	ND
12/29/2024	Opukea Townhomes (AM-05)	<0.0024	0.000149	0.000648	0.0118	0.0000416	0.0000800	0.00701	0.00184	0.0895	0.00112	0.0461	0.00432	0.00437	0.000264	0.00000289	0.00481	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000262	0.000829	0.0157	0.0000536	0.0000578	0.00765	0.00184	0.0540	0.00400	0.0556	0.00210	0.00490	0.000313	0.00000274	0.00583	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000330	0.000176	0.00415	0.0000322	0.0000209	0.00398	0.000907	0.0564	0.000297	0.0211	0.00213	0.00250	0.000182	0.00000142	0.00185	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000103	0.000374	0.00466	0.0000142	0.0000428	0.00292	0.000511	0.0350	0.000590	0.0151	0.00158	0.00154	0.000158	0.00000108	0.00151	ND
12/30/2024	Opukea Townhomes (AM-05)		0.000141	0.000185	0.00557	0.0000113	0.00000902	0.00226	0.000395	0.103	0.000424	0.0110	0.00513	0.00122	0.000136	0.000000782	0.00118	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000235	0.000424	0.0110	0.0000245	0.0000149	0.00376	0.000838	0.0383	0.00137	0.0241	0.00178	0.00234	0.000195	0.00000130	0.00262	ND
	Lahaina Intermediate School (AM-03)		0.0000479	0.000151	0.00331	0.0000222	0.00000910	0.00258	0.000502	0.0707	0.000199	0.0115	0.00213	0.00167	0.000147	ND	0.00110	ND
	Lahaina Pump Station #6 (AM-08)	<0.0027	0.000114	0.000303	0.00519	0.00000991	0.00000888	0.00852	0.000377	0.0343	0.000648	0.00999	0.00152	0.00117	0.000131	ND	0.000945	ND
12/31/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
1/1/2025	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
95% Upper Confidence Limit <sup>2</sup>	NA	0.000210	0.000460	0.00871	0.0000280	0.000068	0.00507	0.000930	0.0613	0.00140	0.0262	0.00276	0.00252	0.000590	0.00000840	0.00280	NA	

**Notes:**

<sup>1</sup> Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

<sup>2</sup> 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m<sup>3</sup> = 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

Christmas following day and New Years Eve and New Years holiday observance

Samples not collected due to sampling cassette shortage related to the lab

**Table 3**  
**State of Hawaii, Department of Health, Clean Air Branch**  
**Averaged Meteorological Data**  
**Maui Wildfires, Lahaina**  
**December 26, 2024 through January 1, 2025**

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
12/26/2024	AM-02	WW Pump Station #4	0.7	S	78	67	764.1
12/26/2024	AM-03	Lahaina Intermediate School	1.1	SSE	77	62	754.4
12/26/2024	AM-05	Opukea Townhomes	0.9	ESE	79	61	763.5
12/26/2024	AM-08	Lahaina Pump Station #6	1.4	SSW	78	65	764.2
12/27/2024	AM-02	WW Pump Station #4	0.8	SSE	78	64	763.9
12/27/2024	AM-03	Lahaina Intermediate School	1.0	SE	77	62	754.6
12/27/2024	AM-05	Opukea Townhomes	0.9	E	79	60	763.7
12/27/2024	AM-08	Lahaina Pump Station #6	1.4	S	78	63	764.0
12/28/2024	AM-02	WW Pump Station #4	1.1	SE	78	59	763.4
12/28/2024	AM-03	Lahaina Intermediate School	1.2	SE	76	62	754.5
12/28/2024	AM-05	Opukea Townhomes	1.4	SE	78	60	763.5
12/28/2024	AM-08	Lahaina Pump Station #6	1.7	SE	77	59	763.5
12/29/2024	AM-02	WW Pump Station #4	0.9	SSE	77	66	763.5
12/29/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	67	754.6
12/29/2024	AM-05	Opukea Townhomes	1.1	SE	78	65	763.7
12/29/2024	AM-08	Lahaina Pump Station #6	1.6	SE	77	65	763.6
12/30/2024	AM-02	WW Pump Station #4	0.9	SSE	77	67	763.6
12/30/2024	AM-03	Lahaina Intermediate School	1.0	SE	77	66	754.7
12/30/2024	AM-05	Opukea Townhomes	1.1	SSE	78	66	763.8
12/30/2024	AM-08	Lahaina Pump Station #6	1.5	SE	77	65	763.7
12/31/2024	AM-02	WW Pump Station #4	0.9	SSE	78	68	763.5
12/31/2024	AM-03	Lahaina Intermediate School	1.0	SE	78	69	754.7
12/31/2024	AM-05	Opukea Townhomes	1.1	SSE	79	68	763.8
12/31/2024	AM-08	Lahaina Pump Station #6	1.3	SSE	78	68	763.6
1/1/2025	AM-02	WW Pump Station #4	1.0	SE	77	65	762.6
1/1/2025	AM-03	Lahaina Intermediate School	1.0	SE	76	67	753.9
1/1/2025	AM-05	Opukea Townhomes	1.1	SE	78	66	763.0
1/1/2025	AM-08	Lahaina Pump Station #6	1.4	SE	77	64	762.8

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

# **Appendix 1**



**EMSL Analytical, Inc.**  
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 Tel/Fax: (800) 220-3675 / (856) 786-5974  
<http://www.EMSL.com> / [cinnaaslab@EMSL.com](mailto:cinnaaslab@EMSL.com)

**EMSL Order:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

### ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

<b>Customer Sample Number:</b>	MFL-FB01-122624-AB	<b>Sample Description:</b>	DL698342
EMSL Sample Number:	000004519-0001	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 <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0129
Chi <sup>2</sup> 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 %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc):</b>	<b>N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 23.18			
<b>Total Amphibole</b>	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			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures</b>	-	0	0	< 23.18			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 23.18			
<b>Total Amphibole (PCMe)</b>	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			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.18			

**Comment**

Approved Signatory

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



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EMSL Order ID: 000004519

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:		000004519-0001		Customer Sample:		MFL-FB01-122624-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	J7	None Detected									
B1	J5	None Detected									
B1	I6	None Detected									
B1	I4	None Detected									
B2	F10	None Detected									
B2	F8	None Detected									
B2	E9	None Detected									
B3	C2	None Detected									
B3	C4	None Detected									
B3	D3	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> / [cinnaaslab@EMSL.com](mailto:cinnaaslab@EMSL.com)

**EMSL Order:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

### ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

<b>Customer Sample Number:</b>	MFL-AM05-122724-AB	<b>Sample Description:</b>	DL698106
EMSL Sample Number:	000004519-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7341.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0129
Chi <sup>2</sup> 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		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	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	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	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		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	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	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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<http://www.EMSL.com> / [cinnaslab@EMSL.com](mailto:cinnaslab@EMSL.com)

EMSL Order ID: **000004519**  
 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:		000004519-0002					Customer Sample:		MFL-AM05-122724-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	I6	None Detected									
B5	H5	None Detected									
B6	J7	None Detected									
B6	G9	None Detected									
B7	C4	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:** 04-519  
**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:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

<b>Customer Sample Number:</b>	<b>MFL-AM02-122724-AB</b>	<b>Sample Description:</b>	<b>DL698158</b>
EMSL Sample Number:	000004519-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7417.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0129
Chi <sup>2</sup> 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 %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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EMSL Order ID: 000004519

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:		000004519-0003		Customer Sample:		MFL-AM02-122724-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	A4	None Detected									
C1	A6	None Detected									
C2	B8	None Detected									
C2	D7	None Detected									
C3	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:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-AM03-122724-AB      **Sample Description:** DL698129

EMSL Sample Number: 000004519-0004      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7474.6  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 4  
 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): 0.0010      Limit of Detection (Structures/cc): 0.0030**

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total Amphibole</b>	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total All Structures</b>	-	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total All Structures (PCMe)</b>	-	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	

**Comment**

Approved Signatory

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**EMSL Order ID: 000004519**  
**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: 000004519-0004** **Customer Sample: MFL-AM03-122724-AB**

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J8	None Detected									
C5	I7	None Detected									
C6	A3	None Detected									
C6	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:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

<b>Customer Sample Number:</b>	<b>MFL-AM08-122724-AB</b>	<b>Sample Description:</b>	<b>DL698384</b>
EMSL Sample Number:	000004519-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7558.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0129
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	4
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		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0010</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0030</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.95</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.95</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.95</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.95</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.95</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.95</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.95</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable - 0.0030	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.95</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	

**Comment**

Approved Signatory

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EMSL Order ID: 000004519

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:		000004519-0005		Customer Sample:		MFL-AM08-122724-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	H6	None Detected									
D1	G5	None Detected									
D2	B7	None Detected									
D2	C8	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:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-FB01-122724-AB      **Sample Description:** DL697960

EMSL Sample Number: 000004519-0006      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 0.0  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> 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		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 23.18			
<b>Total Amphibole</b>	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			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures</b>	-	0	0	< 23.18			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 23.18			
<b>Total Amphibole (PCMe)</b>	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			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.18			

**Comment**

Approved Signatory

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EMSL Order ID: 000004519

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:		000004519-0006						Customer Sample:		MFL-FB01-122724-AB	
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J4	None Detected									
D5	J2	None Detected									
D5	I3	None Detected									
D5	I1	None Detected									
D6	H5	None Detected									
D6	H3	None Detected									
D6	G4	None Detected									
D7	D8	None Detected									
D7	D6	None Detected									
D7	C9	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:** 04-519  
**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:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

<b>Customer Sample Number:</b>	<b>MFL-AM05-122824-AB</b>	<b>Sample Description:</b>	<b>DL698072</b>
EMSL Sample Number:	000004519-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7300.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0129
Chi <sup>2</sup> 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		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

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**EMSL Order ID: 000004519**  
**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: 000004519-0007			Customer Sample: MFL-AM05-122824-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	B3	None Detected									
E1	C4	None Detected									
E2	A6	None Detected									
E2	D7	None Detected									
E3	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:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-AM02-122824-AB      **Sample Description:** DL697980

EMSL Sample Number: 000004519-0008      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 6478.4  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> 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		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole</b>	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	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	-	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		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole (PCMe)</b>	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	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

**Comment**

Approved Signatory

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EMSL Order ID: **000004519**  
 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: <b>000004519-0008</b>			Customer Sample: <b>MFL-AM02-122824-AB</b>								
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	A7	None Detected									
E5	B8	None Detected									
E6	J4	None Detected									
E6	I3	None Detected									
E7	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:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

### ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

<b>Customer Sample Number:</b>	<b>MFL-AM03-122824-AB</b>	<b>Sample Description:</b>	<b>DL698507</b>
EMSL Sample Number:	000004519-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7139.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0129
Chi <sup>2</sup> 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		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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EMSL Order ID: 000004519

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:		000004519-0009		Customer Sample:		MFL-AM03-122824-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	D8	None Detected									
F1	E7	None Detected									
F2	A5	None Detected									
F2	B4	None Detected									
F3	H2	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:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-AM08-122824-AB **Sample Description:** DL698161

EMSL Sample Number: 000004519-0010 **Sample Matrix:** Air  
 Magnification used for fiber counting: 20,000 **Volume (L):** 7109.3  
 Aspect ratio for fiber definition: 3:1 **Area of original collection filter (mm<sup>2</sup>):** 385  
 Minimum Length (µm): ≥ 0.5 **Grid Opening Area (mm<sup>2</sup>):** 0.0129  
 Chi<sup>2</sup> 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		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	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	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	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		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	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	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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<http://www.EMSL.com> / [cinnasblab@EMSL.com](mailto:cinnasblab@EMSL.com)

EMSL Order ID: **000004519**  
 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:		000004519-0010					Customer Sample:		MFL-AM08-122824-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	C2	None Detected									
F5	D3	None Detected									
F6	J9	None Detected									
F6	I8	None Detected									
F7	G6	None Detected									

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



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**EMSL Order:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-FB01-122824-AB      **Sample Description:** DL698179

EMSL Sample Number: 000004519-0011      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 0.0  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> 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		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 23.18			
<b>Total Amphibole</b>	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			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures</b>	-	0	0	< 23.18			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 23.18			
<b>Total Amphibole (PCMe)</b>	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			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.18			

**Comment**

Approved Signatory

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<http://www.EMSL.com> / [cinnaslab@EMSL.com](mailto:cinnaslab@EMSL.com)

EMSL Order ID: 000004519

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: 000004519-0011		Customer Sample: MFL-FB01-122824-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	B5	None Detected									
G1	B7	None Detected									
G1	C4	None Detected									
G1	C6	None Detected									
G2	J9	None Detected									
G2	J7	None Detected									
G2	I8	None Detected									
G3	H8	None Detected									
G3	H6	None Detected									
G3	E7	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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**EMSL Order:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/06/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

<b>Customer Sample Number:</b>	<b>MFL-AM05-122924-AB</b>	<b>Sample Description:</b>	<b>DL698518</b>
EMSL Sample Number:	000004519-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7242.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0129
Chi <sup>2</sup> 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		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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EMSL Order ID: 000004519

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:		000004519-0012		Customer Sample:		MFL-AM05-122924-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	C3	None Detected									
G5	D4	None Detected									
G6	J8	None Detected									
G6	I7	None Detected									
G7	H5	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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**EMSL Order:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/06/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-AM02-122924-AB      **Sample Description:** DL698173

EMSL Sample Number: 000004519-0013      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 6942.3  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> 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		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.36	< 0.0027	Not Applicable	- 0.0027
<b>Total Amphibole</b>	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
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable	- 0.0027
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	- 0.0027
<b>Total All Structures</b>	-	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		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 46.36	< 0.0027	Not Applicable	- 0.0027
<b>Total Amphibole (PCMe)</b>	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
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable	- 0.0027
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	- 0.0027
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.36	< 0.0027	Not Applicable	- 0.0027

**Comment**

Approved Signatory

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**EMSL Order ID: 000004519**  
**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: 000004519-0013			Customer Sample: MFL-AM02-122924-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	J7	None Detected									
H1	I9	None Detected									
H2	G8	None Detected									
H2	F10	None Detected									
H3	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:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
 Tetra Tech  
 1560 Broadway, Suite 1400  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/06/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-AM03-122924-AB      **Sample Description:** DL697997

EMSL Sample Number: 000004519-0014      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7177.2  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> 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		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	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	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	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		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	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	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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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](mailto:cinnasblab@EMSL.com)

EMSL Order ID: 000004519  
 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: 000004519-0014			Customer Sample: MFL-AM03-122924-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	E9	None Detected									
H5	D8	None Detected									
H6	C7	None Detected									
H6	B5	None Detected									
H7	I6	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> / [cinnaaslab@EMSL.com](mailto:cinnaaslab@EMSL.com)

**EMSL Order:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/06/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

<b>Customer Sample Number:</b>	<b>MFL-AM08-122924-AB</b>	<b>Sample Description:</b>	<b>DL694673</b>
EMSL Sample Number:	000004519-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7254.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0129
Chi <sup>2</sup> 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		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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EMSL Order ID: 000004519

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: 000004519-0015		Customer Sample: MFL-AM08-122924-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	A6	None Detected									
I1	C5	None Detected									
I2	D4	None Detected									
I2	E3	None Detected									
I3	J7	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:** 04-519  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/06/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-FB01-122924-AB      **Sample Description:** DL694735

EMSL Sample Number: 000004519-0016      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<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> 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		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 23.18			
<b>Total Amphibole</b>	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			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures</b>	-	0	0	< 23.18			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 23.18			
<b>Total Amphibole (PCMe)</b>	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			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.18			

**Comment**

Approved Signatory

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EMSL Order ID: 000004519

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: 000004519-0016		Customer Sample: MFL-FB01-122924-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					
15	C5	None Detected									
15	C7	None Detected									
15	D6	None Detected									
15	D8	None Detected									
16	J9	None Detected									
16	J7	None Detected									
16	H8	None Detected									
17	F8	None Detected									
17	F6	None Detected									
17	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

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/02/2025 09:30 AM  
**Analysis Date:** 01/03/2025  
**Report Date:** 01/07/2025

**Project: Maui Fires Lahaina**

### ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

<b>Customer Sample Number:</b>	<b>Lab Blank</b>	<b>Sample Description: Lab Blank</b>
EMSL Sample Number:	000004519-0017	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 <sup>2</sup> ): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ): 0.0129
Chi <sup>2</sup> 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	
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc): N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
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			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
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			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			

**Comment**

Approved Signatory

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EMSL Order ID: 000004519

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:		000004519-0017		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	B5	None Detected									
A1	B7	None Detected									
A1	C8	None Detected									
A1	C10	None Detected									
A2	D7	None Detected									
A2	D9	None Detected									
A2	F6	None Detected									
A3	J5	None Detected									
A3	J3	None Detected									
A3	I4	None Detected									

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



### Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

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

RECEIVED  
PHONE (800) 220-3675  
CINNAMINSON, NJ  
EMAIL: info@emsl.com

EMSL ANALYTICAL, INC.  
TESTING LABS • PRODUCTS • TRAINING

[Empty box for Order Number / Lab Use Only]

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

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

25 JAN -2 AM 9:40

Project Name/No: <b>Maui Fires Lahaina</b>		Purchase Order: <b>1207085</b>
EMSL LIMS Project ID: (If applicable, EMSL will provide)	US State where samples collected: <b>HI</b>	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: <b>Shaina Epstein</b>	Sampled By Signature: <i>[Signature]</i>	No. of Samples in Shipment: <b>16</b>

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 3-4 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

**Test Selection**

<p><b>PCMA Air</b></p> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA <p><b>PLM - Bulk (reporting limit)</b></p> <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)	<p><b>TEM - Air</b></p> <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input checked="" type="checkbox"/> ISO 10312* <p><b>TEM - Bulk</b></p> <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (Non-Friable-NY) <input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%)	<p><b>TEM - Settled Dust</b></p> <input type="checkbox"/> Microvac - ASTM D5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Qualitative via Filtration Prep <input type="checkbox"/> Qualitative via Drop Mount Prep <p><b>Soil - Rock - Vermiculite (reporting limit)*</b></p> <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep
---	--	--

**Other Test (please specify)**

\*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-FB01-122624-AB	DL698342	0	12/26/24 1200
MFL-AM05-122724-AB	DL698106	7,391.506	12/27/24 1058
MFL-AM02-122724-AB	DL698158	7,417.539	12/27/24 1126
MFL-AM03-122724-AB	DL698129	7,479.582	12/27/24 1253
MFL-AM08-122724-AB	DL698384	7,558.863	12/27/24 1321
MFL-FB01-122724-AB	DL697960	0	12/27/24 1200
MFL-AM05-122824-AB	DL698072	7,300.848	12/28/24 1055
MFL-AM02-122824-AB	DL697980	6,478.445	12/28/24 1112

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

All samples received acceptable for analysis.

16

Method of Shipment: <b>Fedex</b>	Sample Condition Upon Receipt:
Relinquished by: <b>Shaina Epstein</b> Date/Time: <b>12/30/24 1100</b>	Received by: <i>[Signature]</i> - Fedex Date/Time: <b>12/25 9:30A</b>
Relinquished by:	Received by:

Controlled Document - COC-05 Asbestos R16 10/28/2021

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 01/07/2025 and Shanna Vasser 01/07/2025

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

Collection date(s): 12/26/2024 – 12/29/2024

Report No: 04-519

- √ 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.



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<http://www.EMSL.com> / [cinnaslab@EMSL.com](mailto:cinnaslab@EMSL.com)

**EMSL Order:** 042500181  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/08/2025 09:30 AM  
**Analysis Date:** 01/10/2025  
**Report Date:** 01/10/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-AM02-123024-AB      **Sample Description:** DL698136

EMSL Sample Number: 042500181-0001      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7061.7  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 5  
 Target Analytical Sensitivity (Structures/cc): 0.001

**Analytical Sensitivity (Structures/cc): 0.0008      Limit of Detection (Structures/cc): 0.0024**

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.36</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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**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](mailto:cinnasblab@EMSL.com)

**EMSL Order ID: 042500181**  
**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: 042500181-0001			Customer Sample: MFL-AM02-123024-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	B6	None Detected									
J5	E3	None Detected									
J5	G6	None Detected									
J6	H4	None Detected									
J6	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:** 042500181  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/08/2025 09:30 AM  
**Analysis Date:** 01/10/2025  
**Report Date:** 01/10/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-AM08-123024-AB      **Sample Description:** DL698529

EMSL Sample Number: 042500181-0002      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 6811.0  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 3  
 Target Analytical Sensitivity (Structures/cc): 0.001

**Analytical Sensitivity (Structures/cc): 0.0009      Limit of Detection (Structures/cc): 0.0027**

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole</b>	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	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	-	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		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole (PCMe)</b>	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	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

**Comment**

Approved Signatory

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<http://www.EMSL.com> / [cinnasblab@EMSL.com](mailto:cinnasblab@EMSL.com)

**EMSL Order ID: 042500181**  
**Client: Tetra Tech**  
**Project ID: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Analytical Bench Sheet Data**

<b>EMSL Sample ID: 042500181-0002</b>			<b>Customer Sample: MFL-AM08-123024-AB</b>								
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	B2	None Detected									
K1	E2	None Detected									
K1	H3	None Detected									
K2	C4	None Detected									
K2	I3	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:** 042500181  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/08/2025 09:30 AM  
**Analysis Date:** 01/10/2025  
**Report Date:** 01/10/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

**Customer Sample Number:** MFL-FB01-123024-AB      **Sample Description:** DL698466

EMSL Sample Number: 042500181-0003      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<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0129  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 10  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 1  
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 23.18			
<b>Total Amphibole</b>	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			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures</b>	-	0	0	< 23.18			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 23.18			
<b>Total Amphibole (PCMe)</b>	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			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.18			

**Comment**

Approved Signatory

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

EMSL Order ID: 042500181

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: 042500181-0003		Customer Sample: MFL-FB01-123024-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J8	None Detected									
K5	H10	None Detected									
K5	F7	None Detected									
K5	D9	None Detected									
K5	B4	None Detected									
K6	A3	None Detected									
K6	C1	None Detected									
K6	E2	None Detected									
K6	G1	None Detected									
K6	I4	None Detected									

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



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**EMSL Order:** 042500181  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 01/08/2025 09:30 AM  
**Analysis Date:** 01/10/2025  
**Report Date:** 01/10/2025

**Project: Maui Fires Lahaina**

**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

<b>Customer Sample Number:</b>	<b>Lab Blank</b>	<b>Sample Description: Lab Blank</b>
EMSL Sample Number:	042500181-0004	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 <sup>2</sup> ): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ): 0.0129
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: P. Harrison
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	1	
Target Analytical Sensitivity (Structures/cc):	0.001	
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc): N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
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			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
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			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			
Other Minerals	-	0	0	< 23.18			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.18</b>			

**Comment**

Approved Signatory

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

EMSL Order ID: 042500181

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:		042500181-0004		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					
J2	A2	None Detected									
J2	C1	None Detected									
J2	E9	None Detected									
J2	G2	None Detected									
J2	J2	None Detected									
J3	J4	None Detected									
J3	H10	None Detected									
J3	F10	None Detected									
J3	D7	None Detected									
J3	B6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



# Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

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

EMSL ANALYTICAL, INC.  
TESTING LABS • PRODUCTS • TRAINING

## #042500181

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

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

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

RECEIVED  
EMSL  
CINNAMINSON, NJ  
25 JAN - 8 AM 9:47

Project Name/No: <b>Maui Fires Lahaina</b>		Purchase Order: <b>1207085</b>
EMSL LIMS Project ID:	US State where samples collected: <b>HI</b>	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: <b>Shaina Epstein</b>	Sampled By Signature: <i>[Signature]</i>	No. of Samples in Shipment: <b>3</b>

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.

<p><b>PCM Air</b></p> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA <p><b>PLM - Bulk (reporting limit)</b></p> <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)	<p><b>TEM - Air</b></p> <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input checked="" type="checkbox"/> ISO 10312* <p><b>TEM - Bulk</b></p> <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (Non-Friable-NY) <input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%) <p><b>Other Test (please specify)</b></p>	<p><b>TEM - Settled Dust</b></p> <input type="checkbox"/> Microvac - ASTM D5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Qualitative via Filtration Prep <input type="checkbox"/> Qualitative via Drop Mount Prep <p><b>Soil - Rock - Vermiculite (reporting limit)*</b></p> <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep
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\*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-AM02-123024-AB	DL 698136	7061.746	12/30/24 1104
MFL-AM08-123024-AB	DL 698529	6810.957	12/30/24 1131
MFL-FB01-123024-AB	DL 698466	0	12/30/24 1200

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

All samples received acceptable for analysis.

(3) 89

Method of Shipment: <b>Fedex</b>	Sample Condition Upon Receipt:
Reinquished by: <b>Shaina Epstein</b> Date/Time: <b>1/2/25 1100</b>	Received by: <i>[Signature]</i> - FedEx Date/Time: <b>1/8/25 9:30A</b>
Reinquished by:	Received by:

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 01/10/2025 and Shanna Vasser 01/14/2025

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

Collection date(s): 12/30/2024

Report No: 42500181

- √ 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

January 14, 2025

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 01/06/25 11:38.

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](mailto:julie.swift@erg.com)

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



# 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:** 01/14/25 13:14

**SUBMITTED:** 01/06/25

**AQS SITE CODE:**

**SITE CODE:** Lahaina fires

## ANALYTICAL REPORT FOR SAMPLES

<u>SampleName</u>	<u>LabNumber</u>	<u>Matrix</u>	<u>Sampled</u>	<u>Received</u>
MFL-AM05-122724-HM	5010655-01	Air	12/27/24 23:59	01/06/25 11:38
MFL-AM02-122724-HM	5010655-02	Air	12/27/24 23:59	01/06/25 11:38
MFL-AM03-122724-HM	5010655-03	Air	12/27/24 23:59	01/06/25 11:38
MFL-AM08-122724-HM	5010655-04	Air	12/27/24 23:59	01/06/25 11:38
MFL-FB01-122724-HM	5010655-05	Air	12/27/24 00:00	01/06/25 11:38
MFL-AM05-122824-HM	5010655-06	Air	12/28/24 23:59	01/06/25 11:38
MFL-AM02-122824-HM	5010655-07	Air	12/28/24 23:59	01/06/25 11:38
MFL-AM03-122824-HM	5010655-08	Air	12/28/24 23:59	01/06/25 11:38
MFL-AM08-122824-HM	5010655-09	Air	12/28/24 23:59	01/06/25 11:38
MFL-AM05-122924-HM	5010655-10	Air	12/29/24 23:59	01/06/25 11:38
MFL-AM02-122924-HM	5010655-11	Air	12/29/24 23:59	01/06/25 11:38
MFL-AM03-122924-HM	5010655-12	Air	12/29/24 23:59	01/06/25 11:38
MFL-AM08-122924-HM	5010655-13	Air	12/29/24 23:59	01/06/25 11:38
MFL-FB01-122924-HM	5010655-14	Air	12/29/24 00:00	01/06/25 11:38
MFL-AM05-123024-HM	5010655-15	Air	12/30/24 23:59	01/06/25 11:38
MFL-AM02-123024-HM	5010655-16	Air	12/30/24 23:59	01/06/25 11:38
MFL-AM03-123024-HM	5010655-17	Air	12/30/24 23:59	01/06/25 11:38
MFL-AM08-123024-HM	5010655-18	Air	12/30/24 23:59	01/06/25 11:38



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-122724-HM      **Lab ID:** 5010655-01      **Sampled:** 12/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 1867.839 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 21:24  
**Comments:** Q8529620 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.160	SL	0.0305
Arsenic	7440-38-2	0.290		0.00774
Barium	7440-39-3	5.88		1.34
Beryllium	7440-41-7	0.0136		0.00166
Cadmium	7440-43-9	0.0433		0.00446
Chromium	7440-47-3	2.49		2.13
Cobalt	7440-48-4	0.419		0.0453
Copper	7440-50-8	43.8		0.655
Lead	7439-92-1	0.648		0.117
Manganese	7439-96-5	13.2		0.485
Molybdenum	7439-98-7	2.37		0.343
Nickel	7440-02-0	1.50		0.644
Selenium	7782-49-2	0.613		0.00880
Thallium	7440-28-0	0.00773		7.50E-4
Vanadium	7440-62-2	1.75		0.0399
Zinc	7440-66-6	15.2	U	99.3



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-122724-HM      **Lab ID:** 5010655-02      **Sampled:** 12/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 2145.58 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 21:38  
**Comments:** Q8529619 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.305	SL	0.0265
Arsenic	7440-38-2	0.427		0.00674
Barium	7440-39-3	10.7		1.17
Beryllium	7440-41-7	0.0210		0.00144
Cadmium	7440-43-9	0.0450		0.00388
Chromium	7440-47-3	3.20		1.85
Cobalt	7440-48-4	0.690		0.0394
Copper	7440-50-8	42.5		0.570
Lead	7439-92-1	1.34		0.102
Manganese	7439-96-5	21.4		0.422
Molybdenum	7439-98-7	2.16		0.299
Nickel	7440-02-0	2.16		0.560
Selenium	7782-49-2	0.633		0.00766
Thallium	7440-28-0	0.00741		6.53E-4
Vanadium	7440-62-2	2.64		0.0347
Zinc	7440-66-6	22.9	U	86.4



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-122724-HM      **Lab ID:** 5010655-03      **Sampled:** 12/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 2000.588 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 21:52  
**Comments:** Q8529618 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0767	SL	0.0285
Arsenic	7440-38-2	0.227		0.00723
Barium	7440-39-3	3.51		1.25
Beryllium	7440-41-7	0.0154		0.00155
Cadmium	7440-43-9	0.0396		0.00416
Chromium	7440-47-3	2.36		1.98
Cobalt	7440-48-4	0.380		0.0423
Copper	7440-50-8	54.3		0.612
Lead	7439-92-1	0.468		0.109
Manganese	7439-96-5	10.2		0.453
Molybdenum	7439-98-7	2.21		0.320
Nickel	7440-02-0	1.41		0.601
Selenium	7782-49-2	0.576		0.00821
Thallium	7440-28-0	0.00686		7.00E-4
Vanadium	7440-62-2	1.43		0.0372
Zinc	7440-66-6	8.71	U	92.7



# 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: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM08-122724-HM      **Lab ID:** 5010655-04      **Sampled:** 12/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 1822.029 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 22:06  
**Comments:** Q8529617 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.156	SL	0.0313	
Arsenic	7440-38-2	0.335		0.00794	
Barium	7440-39-3	4.44		1.38	
Beryllium	7440-41-7	0.00874		0.00170	
Cadmium	7440-43-9	0.0448		0.00457	
Chromium	7440-47-3	1.81	U	2.18	
Cobalt	7440-48-4	0.261		0.0464	
Copper	7440-50-8	29.0		0.672	
Lead	7439-92-1	0.587		0.120	
Manganese	7439-96-5	8.36		0.497	
Molybdenum	7439-98-7	1.44		0.352	
Nickel	7440-02-0	1.11		0.660	
Selenium	7782-49-2	0.644		0.00902	
Thallium	7440-28-0	0.00764		7.69E-4	
Vanadium	7440-62-2	1.13		0.0409	
Zinc	7440-66-6	11.9	U	102	



# 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: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-FB01-122724-HM      **Lab ID:** 5010655-05      **Sampled:** 12/27/24 00:00  
**Matrix:** Air      **Sample Volume:** 1867.839 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 22:20  
**Comments:** Q8529626 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0202	U, SL	0.0305	
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.0110</b>	FB-01	<b>0.00774</b>	
Barium	7440-39-3	1.18	U	1.34	
Beryllium	7440-41-7	0.00120	U	0.00166	
Cadmium	7440-43-9	0.00142	U	0.00446	
Chromium	7440-47-3	0.944	U	2.13	
Cobalt	7440-48-4	0.0262	U	0.0453	
<b>Copper</b>	<b>7440-50-8</b>	<b>0.791</b>	FB-01	<b>0.655</b>	
Lead	7439-92-1	0.0442	U	0.117	
<b>Manganese</b>	<b>7439-96-5</b>	<b>0.565</b>	FB-01	<b>0.485</b>	
Molybdenum	7439-98-7	0.162	U	0.343	
<b>Nickel</b>	<b>7440-02-0</b>	<b>0.987</b>	FB-01	<b>0.644</b>	
Selenium	7782-49-2	0.00373	U	0.00880	
Thallium	7440-28-0	1.71E-4	U	7.50E-4	
<b>Vanadium</b>	<b>7440-62-2</b>	<b>0.0611</b>	FB-01	<b>0.0399</b>	
Zinc	7440-66-6	6.33	U	99.3	



# 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: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-122824-HM      **Lab ID:** 5010655-06      **Sampled:** 12/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 1828.114 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 22:34  
**Comments:** Q8529616 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.141	SL	0.0311
Arsenic	7440-38-2	0.405		0.00791
Barium	7440-39-3	7.49		1.37
Beryllium	7440-41-7	0.0230		0.00169
Cadmium	7440-43-9	0.0669		0.00456
Chromium	7440-47-3	3.45		2.17
Cobalt	7440-48-4	0.763		0.0463
Copper	7440-50-8	51.4		0.669
Lead	7439-92-1	0.669		0.119
Manganese	7439-96-5	25.3		0.496
Molybdenum	7439-98-7	2.91		0.351
Nickel	7440-02-0	2.16		0.658
Selenium	7782-49-2	0.652		0.00899
Thallium	7440-28-0	0.00648		7.66E-4
Vanadium	7440-62-2	2.71		0.0408
Zinc	7440-66-6	15.0	U	101



# CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-122824-HM      **Lab ID:** 5010655-07      **Sampled:** 12/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 2090.405 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 22:48  
**Comments:** Q8529615 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.172	SL	0.0272	
Arsenic	7440-38-2	0.401		0.00692	
Barium	7440-39-3	6.90		1.20	
Beryllium	7440-41-7	0.0198		0.00148	
Cadmium	7440-43-9	0.0560		0.00398	
Chromium	7440-47-3	2.80		1.90	
Cobalt	7440-48-4	0.532		0.0405	
Copper	7440-50-8	38.2		0.585	
Lead	7439-92-1	1.40		0.104	
Manganese	7439-96-5	18.9		0.434	
Molybdenum	7439-98-7	1.97		0.307	
Nickel	7440-02-0	1.71		0.575	
Selenium	7782-49-2	0.616		0.00786	
Thallium	7440-28-0	0.00551		6.70E-4	
Vanadium	7440-62-2	2.14		0.0356	
Zinc	7440-66-6	20.9	U	88.7	



# CERTIFICATE OF ANALYSIS

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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-122824-HM      **Lab ID:** 5010655-08      **Sampled:** 12/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 1982.6 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 23:02  
**Comments:** Q8529614 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0611	SL	0.0287	
Arsenic	7440-38-2	0.161		0.00730	
Barium	7440-39-3	3.03		1.26	
Beryllium	7440-41-7	0.0158		0.00156	
Cadmium	7440-43-9	0.0409		0.00420	
Chromium	7440-47-3	2.42		2.00	
Cobalt	7440-48-4	0.419		0.0427	
Copper	7440-50-8	44.2		0.617	
Lead	7439-92-1	0.262		0.110	
Manganese	7439-96-5	10.6		0.457	
Molybdenum	7439-98-7	1.97		0.323	
Nickel	7440-02-0	1.57		0.606	
Selenium	7782-49-2	0.484		0.00829	
Thallium	7440-28-0	0.00433		7.07E-4	
Vanadium	7440-62-2	1.22		0.0376	
Zinc	7440-66-6	6.78	U	93.6	



# 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: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM08-122824-HM      **Lab ID:** 5010655-09      **Sampled:** 12/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 1750.112 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 18:54  
**Comments:** Q8529640 MS/MSD - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.122	SL	0.0325	
Arsenic	7440-38-2	0.374		0.00826	
Barium	7440-39-3	3.72		1.43	
Beryllium	7440-41-7	0.0103		0.00177	
Cadmium	7440-43-9	0.0597	D-F	0.00476	
Chromium	7440-47-3	2.23	U	2.27	
Cobalt	7440-48-4	0.304		0.0483	
Copper	7440-50-8	24.2		0.699	
Lead	7439-92-1	0.532		0.125	
Manganese	7439-96-5	9.71		0.518	
Molybdenum	7439-98-7	1.24		0.366	
Nickel	7440-02-0	1.35		0.687	
Selenium	7782-49-2	0.595		0.00939	
Thallium	7440-28-0	0.00558		8.00E-4	
Vanadium	7440-62-2	1.25		0.0426	
Zinc	7440-66-6	12.3	U	106	



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-122924-HM      **Lab ID:** 5010655-10      **Sampled:** 12/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 1995.87 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 23:16  
**Comments:** Q8529638 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.149	SL	0.0285
Arsenic	7440-38-2	0.648		0.00725
Barium	7440-39-3	11.8		1.26
Beryllium	7440-41-7	0.0416		0.00155
Cadmium	7440-43-9	0.0800		0.00417
Chromium	7440-47-3	7.01		1.99
Cobalt	7440-48-4	1.84		0.0424
Copper	7440-50-8	89.5		0.613
Lead	7439-92-1	1.12		0.109
Manganese	7439-96-5	46.1		0.454
Molybdenum	7439-98-7	4.32		0.321
Nickel	7440-02-0	4.37		0.602
Selenium	7782-49-2	0.264		0.00823
Thallium	7440-28-0	0.00289		7.02E-4
Vanadium	7440-62-2	4.81		0.0373
Zinc	7440-66-6	28.8	U	92.9



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-122924-HM      **Lab ID:** 5010655-11      **Sampled:** 12/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 2031.7 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/07/25 23:30  
**Comments:** Q8529636 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.262	SL	0.0280
Arsenic	7440-38-2	0.829		0.00712
Barium	7440-39-3	15.7		1.23
Beryllium	7440-41-7	0.0536		0.00152
Cadmium	7440-43-9	0.0578		0.00410
Chromium	7440-47-3	7.65		1.95
Cobalt	7440-48-4	1.84		0.0416
Copper	7440-50-8	54.0		0.602
Lead	7439-92-1	4.00		0.107
Manganese	7439-96-5	55.6		0.446
Molybdenum	7439-98-7	2.10		0.316
Nickel	7440-02-0	4.90		0.592
Selenium	7782-49-2	0.313		0.00809
Thallium	7440-28-0	0.00274		6.89E-4
Vanadium	7440-62-2	5.83		0.0367
Zinc	7440-66-6	47.6	U	91.3



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-122924-HM      **Lab ID:** 5010655-12      **Sampled:** 12/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 1856.377 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/08/25 00:32  
**Comments:** Q8529635 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0330	SL	0.0307
Arsenic	7440-38-2	0.176		0.00779
Barium	7440-39-3	4.15		1.35
Beryllium	7440-41-7	0.0322		0.00167
Cadmium	7440-43-9	0.0209		0.00449
Chromium	7440-47-3	3.98		2.14
Cobalt	7440-48-4	0.907		0.0456
Copper	7440-50-8	56.4		0.659
Lead	7439-92-1	0.297		0.117
Manganese	7439-96-5	21.1		0.488
Molybdenum	7439-98-7	2.13		0.345
Nickel	7440-02-0	2.50		0.648
Selenium	7782-49-2	0.182		0.00885
Thallium	7440-28-0	0.00142		7.55E-4
Vanadium	7440-62-2	1.85		0.0401
Zinc	7440-66-6	7.06	U	99.9



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 Blue Bell, PA 19422  
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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM08-122924-HM      **Lab ID:** 5010655-13      **Sampled:** 12/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 1956.181 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/08/25 00:46  
**Comments:** Q8529634 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.103	SL	0.0291
Arsenic	7440-38-2	0.374		0.00739
Barium	7440-39-3	4.66		1.28
Beryllium	7440-41-7	0.0142		0.00158
Cadmium	7440-43-9	0.0428		0.00426
Chromium	7440-47-3	2.92		2.03
Cobalt	7440-48-4	0.511		0.0432
Copper	7440-50-8	35.0		0.625
Lead	7439-92-1	0.590		0.111
Manganese	7439-96-5	15.1		0.463
Molybdenum	7439-98-7	1.58		0.328
Nickel	7440-02-0	1.54		0.615
Selenium	7782-49-2	0.158		0.00840
Thallium	7440-28-0	0.00108		7.16E-4
Vanadium	7440-62-2	1.51		0.0381
Zinc	7440-66-6	10.2	U	94.8



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-FB01-122924-HM      **Lab ID:** 5010655-14      **Sampled:** 12/29/24 00:00  
**Matrix:** Air      **Sample Volume:** 1995.87 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/08/25 01:00  
**Comments:** Q8529627 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0166	SL, U	0.0285	
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.00822</b>	FB-01	<b>0.00725</b>	
Barium	7440-39-3	1.00	U	1.26	
Beryllium	7440-41-7	3.94E-4	U	0.00155	
Cadmium	7440-43-9	8.52E-4	U	0.00417	
Chromium	7440-47-3	0.822	U	1.99	
Cobalt	7440-48-4	0.0131	U	0.0424	
Copper	7440-50-8	0.529	U	0.613	
Lead	7439-92-1	0.0301	U	0.109	
Manganese	7439-96-5	0.273	U	0.454	
Molybdenum	7439-98-7	0.144	U	0.321	
Nickel	7440-02-0	0.352	U	0.602	
Selenium	7782-49-2	0.00324	U	0.00823	
Thallium	7440-28-0	1.28E-4	U	7.02E-4	
Vanadium	7440-62-2	0.0244	U	0.0373	
Zinc	7440-66-6	2.92	U	92.9	



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-123024-HM      **Lab ID:** 5010655-15      **Sampled:** 12/30/24 23:59  
**Matrix:** Air      **Sample Volume:** 2010.702 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/08/25 01:14  
**Comments:** Q8529631 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.141	SL	0.0283
Arsenic	7440-38-2	0.185		0.00719
Barium	7440-39-3	5.57		1.25
Beryllium	7440-41-7	0.0113		0.00154
Cadmium	7440-43-9	0.00902		0.00414
Chromium	7440-47-3	2.26		1.97
Cobalt	7440-48-4	0.395		0.0421
Copper	7440-50-8	103		0.608
Lead	7439-92-1	0.424		0.108
Manganese	7439-96-5	11.0		0.451
Molybdenum	7439-98-7	5.13		0.319
Nickel	7440-02-0	1.22		0.598
Selenium	7782-49-2	0.136		0.00817
Thallium	7440-28-0	7.82E-4		6.97E-4
Vanadium	7440-62-2	1.18		0.0371
Zinc	7440-66-6	13.1	U	92.2



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-123024-HM      **Lab ID:** 5010655-16      **Sampled:** 12/30/24 23:59  
**Matrix:** Air      **Sample Volume:** 2059.532 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/08/25 01:42  
**Comments:** Q8529629 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.235	SL	0.0276
Arsenic	7440-38-2	0.424		0.00702
Barium	7440-39-3	11.0		1.22
Beryllium	7440-41-7	0.0245		0.00150
Cadmium	7440-43-9	0.0149		0.00404
Chromium	7440-47-3	3.76		1.93
Cobalt	7440-48-4	0.838		0.0411
Copper	7440-50-8	38.3		0.594
Lead	7439-92-1	1.37		0.106
Manganese	7439-96-5	24.1		0.440
Molybdenum	7439-98-7	1.78		0.311
Nickel	7440-02-0	2.34		0.584
Selenium	7782-49-2	0.195		0.00798
Thallium	7440-28-0	0.00130		6.80E-4
Vanadium	7440-62-2	2.62		0.0362
Zinc	7440-66-6	27.8	U	90.1



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-123024-HM      **Lab ID:** 5010655-17      **Sampled:** 12/30/24 23:59  
**Matrix:** Air      **Sample Volume:** 1752.953 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/08/25 01:56  
**Comments:** Q8529628 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0479	SL	0.0325
Arsenic	7440-38-2	0.151		0.00825
Barium	7440-39-3	3.31		1.43
Beryllium	7440-41-7	0.0222		0.00176
Cadmium	7440-43-9	0.00910		0.00475
Chromium	7440-47-3	2.58		2.26
Cobalt	7440-48-4	0.502		0.0483
Copper	7440-50-8	70.7		0.698
Lead	7439-92-1	0.199		0.124
Manganese	7439-96-5	11.5		0.517
Molybdenum	7439-98-7	2.13		0.366
Nickel	7440-02-0	1.67		0.686
Selenium	7782-49-2	0.147		0.00937
Thallium	7440-28-0	7.03E-4	U	7.99E-4
Vanadium	7440-62-2	1.10		0.0425
Zinc	7440-66-6	9.45	U	106



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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM08-123024-HM      **Lab ID:** 5010655-18      **Sampled:** 12/30/24 23:59  
**Matrix:** Air      **Sample Volume:** 1757.157 m<sup>3</sup>      **Received:** 01/06/25 11:38  
**Filter ID:**      **Analysis Date:** 01/08/25 02:09  
**Comments:** Q8515145 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.114	SL	0.0324
Arsenic	7440-38-2	0.303		0.00823
Barium	7440-39-3	5.19		1.43
Beryllium	7440-41-7	0.00991		0.00176
Cadmium	7440-43-9	0.00888		0.00474
Chromium	7440-47-3	8.52		2.26
Cobalt	7440-48-4	0.377		0.0481
Copper	7440-50-8	34.3		0.696
Lead	7439-92-1	0.648		0.124
Manganese	7439-96-5	9.99		0.516
Molybdenum	7439-98-7	1.52		0.365
Nickel	7440-02-0	1.17		0.684
Selenium	7782-49-2	0.131		0.00935
Thallium	7440-28-0	6.52E-4	U	7.97E-4
Vanadium	7440-62-2	0.945		0.0424
Zinc	7440-66-6	11.8	U	106



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FILE #: 4205.00.003.001  
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 AQS SITE CODE:  
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501013 - B4L3104

### Calibration Blank (2501013-CCB1)

Prepared & Analyzed: 01/07/25

Antimony	0.556		ng/l							
Arsenic	4.87		ng/l							
Barium	3.44		ng/l							
Beryllium	-0.867		ng/l							U
Cadmium	0.0922		ng/l							
Chromium	1.42		ng/l							
Cobalt	0.128		ng/l							
Copper	-19.8		ng/l							U
Lead	2.51		ng/l							
Manganese	3.76		ng/l							
Molybdenum	21.9		ng/l							
Nickel	2.77		ng/l							
Selenium	5.94		ng/l							
Thallium	1.39		ng/l							
Vanadium	-60.4		ng/l							U
Zinc	-14.6		ng/l							U

### Calibration Blank (2501013-CCB2)

Prepared & Analyzed: 01/07/25

Antimony	0.226		ng/l							
Arsenic	2.71		ng/l							
Barium	2.72		ng/l							
Beryllium	-0.889		ng/l							U
Cadmium	0.0875		ng/l							
Chromium	1.29		ng/l							
Cobalt	0.105		ng/l							
Copper	-38.6		ng/l							U
Lead	1.42		ng/l							
Manganese	4.01		ng/l							
Molybdenum	7.36		ng/l							
Nickel	3.72		ng/l							
Selenium	-1.54		ng/l							U
Thallium	1.00		ng/l							
Vanadium	-54.3		ng/l							U
Zinc	14.6		ng/l							

### Calibration Blank (2501013-CCB3)

Prepared: 01/07/25 Analyzed: 01/08/25

Antimony	0.517		ng/l							
Arsenic	6.66		ng/l							
Barium	2.41		ng/l							
Beryllium	-1.12		ng/l							U

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

FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501013 - B4L3104

### Calibration Blank (2501013-CCB3) Contin

Prepared: 01/07/25 Analyzed: 01/08/25

Cadmium	0.119		ng/l							
Chromium	2.86		ng/l							
Cobalt	0.348		ng/l							
Copper	-33.9		ng/l							U
Lead	1.99		ng/l							
Manganese	4.91		ng/l							
Molybdenum	6.47		ng/l							
Nickel	7.14		ng/l							
Selenium	11.4		ng/l							
Thallium	1.12		ng/l							
Vanadium	-66.8		ng/l							U
Zinc	-8.83		ng/l							U

### Calibration Blank (2501013-CCB4)

Prepared: 01/07/25 Analyzed: 01/08/25

Antimony	0.267		ng/l							
Arsenic	3.79		ng/l							
Barium	2.69		ng/l							
Beryllium	-1.27		ng/l							U
Cadmium	0.0585		ng/l							
Chromium	1.38		ng/l							
Cobalt	0.289		ng/l							
Copper	-35.5		ng/l							U
Lead	1.84		ng/l							
Manganese	4.37		ng/l							
Molybdenum	7.23		ng/l							
Nickel	4.29		ng/l							
Selenium	4.11		ng/l							
Thallium	1.08		ng/l							
Vanadium	-66.6		ng/l							U
Zinc	-11.8		ng/l							U

### Calibration Check (2501013-CCV1)

Prepared & Analyzed: 01/07/25

Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	4900		ng/l	5000.0		98.0	90-110			
Cadmium	19900		ng/l	20000		99.5	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	49700		ng/l	50000		99.5	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			

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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501013 - B4L3104

### Calibration Check (2501013-CCV1) Contin

Prepared & Analyzed: 01/07/25

Lead	197000		ng/l	200000		98.3	90-110			
Manganese	491000		ng/l	500000		98.1	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	19600		ng/l	20000		98.1	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	19400		ng/l	20000		97.0	90-110			
Zinc	515000		ng/l	500000		103	90-110			

### Calibration Check (2501013-CCV2)

Prepared & Analyzed: 01/07/25

Antimony	19500		ng/l	20000		97.7	90-110			
Arsenic	19600		ng/l	20000		98.1	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4830		ng/l	5000.0		96.6	90-110			
Cadmium	19800		ng/l	20000		99.1	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	49400		ng/l	50000		98.7	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	195000		ng/l	200000		97.5	90-110			
Manganese	492000		ng/l	500000		98.5	90-110			
Molybdenum	49000		ng/l	50000		97.9	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			
Selenium	19700		ng/l	20000		98.5	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	19300		ng/l	20000		96.6	90-110			
Zinc	514000		ng/l	500000		103	90-110			

### Calibration Check (2501013-CCV3)

Prepared & Analyzed: 01/07/25

Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			

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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501013 - B4L3104

### Calibration Check (2501013-CCV3) Contin

Prepared & Analyzed: 01/07/25

Selenium	19500		ng/l	20000		97.7	90-110			
Thallium	481		ng/l	500.00		96.3	90-110			
Vanadium	19400		ng/l	20000		96.8	90-110			
Zinc	518000		ng/l	500000		104	90-110			

### Calibration Check (2501013-CCV4)

Prepared: 01/07/25 Analyzed: 01/08/25

Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4910		ng/l	5000.0		98.2	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	49800		ng/l	50000		99.7	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	19500		ng/l	20000		97.7	90-110			
Zinc	517000		ng/l	500000		103	90-110			

### High Cal Check (2501013-HCV1)

Prepared & Analyzed: 01/07/25

Antimony	38800		ng/l	40000		96.9	95-105			
Arsenic	38800		ng/l	40000		96.9	95-105			
Barium	387000		ng/l	400000		96.8	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	38400		ng/l	40000		96.1	95-105			
Chromium	458000		ng/l	480000		95.4	95-105			
Cobalt	96100		ng/l	100000		96.1	95-105			
Copper	3.85E6		ng/l	4.0000E6		96.3	95-105			
Lead	390000		ng/l	400000		97.4	95-105			
Manganese	961000		ng/l	1.0000E6		96.1	95-105			
Molybdenum	96800		ng/l	100000		96.8	95-105			
Nickel	230000		ng/l	240000		95.9	95-105			
Selenium	38900		ng/l	40000		97.2	95-105			
Thallium	961		ng/l	1000.0		96.1	95-105			
Vanadium	38500		ng/l	40000		96.3	95-105			
Zinc	976000		ng/l	1.0000E6		97.6	95-105			

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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501013 - B4L3104

### Initial Cal Blank (2501013-ICB1)

Prepared & Analyzed: 01/07/25

Antimony	0.489		ng/l							
Arsenic	2.78		ng/l							
Barium	2.50		ng/l							
Beryllium	-0.505		ng/l							U
Cadmium	0.107		ng/l							
Chromium	3.73		ng/l							
Cobalt	-0.0993		ng/l							U
Copper	-32.4		ng/l							U
Lead	2.45		ng/l							
Manganese	5.56		ng/l							
Molybdenum	8.12		ng/l							
Nickel	-0.259		ng/l							U
Selenium	3.42		ng/l							
Thallium	1.26		ng/l							
Vanadium	-57.0		ng/l							U
Zinc	-2.05		ng/l							U

### Initial Cal Check (2501013-ICV1)

Prepared & Analyzed: 01/07/25

Antimony	19100		ng/l	20000		95.3	90-110			
Arsenic	19100		ng/l	20000		95.3	90-110			
Barium	192000		ng/l	200000		96.1	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	19600		ng/l	20000		98.2	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	46700		ng/l	50000		93.4	90-110			
Copper	1.98E6		ng/l	2.0000E6		98.9	90-110			
Lead	193000		ng/l	200000		96.7	90-110			
Manganese	475000		ng/l	500000		95.0	90-110			
Molybdenum	48500		ng/l	50000		97.0	90-110			
Nickel	117000		ng/l	120000		97.9	90-110			
Selenium	19600		ng/l	20000		97.9	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	513000		ng/l	500000		103	90-110			

### Interference Check A (2501013-IFA1)

Prepared & Analyzed: 01/07/25

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

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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501013 - B4L3104

### Interference Check A (2501013-IFA1) Co

Prepared & Analyzed: 01/07/25

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	301000		ng/l	300000		100	80-120			U
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

### Interference Check B (2501013-IFB1)

Prepared & Analyzed: 01/07/25

Antimony	19900		ng/l	20000		99.6	80-120			
Arsenic	19800		ng/l	20000		99.0	80-120			
Barium	201000		ng/l	200000		100	80-120			
Beryllium	4700		ng/l	5000.0		94.0	80-120			
Cadmium	19200		ng/l	20000		96.2	80-120			
Chromium	236000		ng/l	240000		98.5	80-120			
Cobalt	48600		ng/l	50000		97.3	80-120			
Copper	1.86E6		ng/l	2.0000E6		93.2	80-120			
Lead	200000		ng/l	200000		100	80-120			
Manganese	481000		ng/l	500000		96.2	80-120			
Molybdenum	349000		ng/l	350000		99.8	80-120			
Nickel	113000		ng/l	120000		94.3	80-120			
Selenium	18700		ng/l	20000		93.5	80-120			
Thallium	504		ng/l	500.00		101	80-120			
Vanadium	18300		ng/l	20000		91.6	80-120			
Zinc	468000		ng/l	500000		93.5	80-120			

Batch B5A0707 - ICP-MS Extraction

### Blank (B5A0707-BLK1)

Prepared & Analyzed: 01/07/25

Antimony	ND	0.0350	ng/m <sup>3</sup> Air							SL, U
Arsenic	ND	0.00889	ng/m <sup>3</sup> Air							U
Barium	ND	1.54	ng/m <sup>3</sup> Air							U
Beryllium	ND	0.00190	ng/m <sup>3</sup> Air							U
Cadmium	ND	0.00512	ng/m <sup>3</sup> Air							U
Chromium	ND	2.44	ng/m <sup>3</sup> Air							U
Cobalt	ND	0.0520	ng/m <sup>3</sup> Air							U

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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A0707 - ICP-MS Extraction

### Blank (B5A0707-BLK1) Continued

Prepared & Analyzed: 01/07/25

Copper	ND	0.752	ng/m <sup>3</sup> Air							U
Lead	ND	0.134	ng/m <sup>3</sup> Air							U
Manganese	ND	0.557	ng/m <sup>3</sup> Air							U
Molybdenum	ND	0.394	ng/m <sup>3</sup> Air							U
Nickel	ND	0.739	ng/m <sup>3</sup> Air							U
Selenium	ND	0.0101	ng/m <sup>3</sup> Air							U
Thallium	ND	8.61E-4	ng/m <sup>3</sup> Air							U
Vanadium	ND	0.0458	ng/m <sup>3</sup> Air							U
Zinc	ND	114	ng/m <sup>3</sup> Air							U

### LCS (B5A0707-BS1)

Prepared & Analyzed: 01/07/25

Antimony	0.790	0.0350	ng/m <sup>3</sup> Air	1.3829		57.1	80-120			SL
Arsenic	2.70	0.00889	ng/m <sup>3</sup> Air	2.7658		97.5	80-120			
Barium	29.0	1.54	ng/m <sup>3</sup> Air	27.658		105	80-120			
Beryllium	1.35	0.00190	ng/m <sup>3</sup> Air	1.3829		97.3	80-120			
Cadmium	1.39	0.00512	ng/m <sup>3</sup> Air	1.3829		101	80-120			
Chromium	15.3	2.44	ng/m <sup>3</sup> Air	13.829		111	80-120			
Cobalt	1.35	0.0520	ng/m <sup>3</sup> Air	1.3829		97.7	80-120			
Copper	29.6	0.752	ng/m <sup>3</sup> Air	27.658		107	80-120			
Lead	13.7	0.134	ng/m <sup>3</sup> Air	13.829		99.3	80-120			
Manganese	8.70	0.557	ng/m <sup>3</sup> Air	8.2975		105	80-120			
Molybdenum	1.54	0.394	ng/m <sup>3</sup> Air	1.3829		111	80-120			
Nickel	3.19	0.739	ng/m <sup>3</sup> Air	2.7658		115	80-120			
Selenium	2.74	0.0101	ng/m <sup>3</sup> Air	2.7658		99.1	80-120			
Thallium	0.140	8.61E-4	ng/m <sup>3</sup> Air	0.13829		101	80-120			
Vanadium	2.73	0.0458	ng/m <sup>3</sup> Air	2.7658		98.7	80-120			
Zinc	ND	114	ng/m <sup>3</sup> Air	82.975			80-120			U

### LCS (B5A0707-BS2)

Prepared & Analyzed: 01/07/25

Antimony	1.35	0.0350	ng/m <sup>3</sup> Air	1.3829		97.8	80-120			SL
Arsenic	2.71	0.00889	ng/m <sup>3</sup> Air	2.7658		98.1	80-120			
Barium	27.9	1.54	ng/m <sup>3</sup> Air	27.658		101	80-120			
Beryllium	1.39	0.00190	ng/m <sup>3</sup> Air	1.3829		100	80-120			
Cadmium	1.38	0.00512	ng/m <sup>3</sup> Air	1.3829		99.8	80-120			
Chromium	14.3	2.44	ng/m <sup>3</sup> Air	13.829		104	80-120			
Cobalt	1.34	0.0520	ng/m <sup>3</sup> Air	1.3829		97.2	80-120			
Copper	29.0	0.752	ng/m <sup>3</sup> Air	27.658		105	80-120			
Lead	13.6	0.134	ng/m <sup>3</sup> Air	13.829		98.5	80-120			
Manganese	8.54	0.557	ng/m <sup>3</sup> Air	8.2975		103	80-120			
Molybdenum	1.37	0.394	ng/m <sup>3</sup> Air	1.3829		98.8	80-120			

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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A0707 - ICP-MS Extraction

### LCS (B5A0707-BS2) Continued

Prepared & Analyzed: 01/07/25

Nickel	2.75	0.739	ng/m <sup>3</sup> Air	2.7658		99.3	80-120			
Selenium	2.78	0.0101	ng/m <sup>3</sup> Air	2.7658		100	80-120			
Thallium	0.139	8.61E-4	ng/m <sup>3</sup> Air	0.13829		101	80-120			
Vanadium	2.72	0.0458	ng/m <sup>3</sup> Air	2.7658		98.5	80-120			
Zinc	ND	114	ng/m <sup>3</sup> Air	82.975			80-120			U

### Duplicate (B5A0707-DUP1)

Source: 5010655-09

Prepared & Analyzed: 01/07/25

Antimony	0.121	0.0325	ng/m <sup>3</sup> Air		0.122			1.35	10	SL
Arsenic	0.355	0.00826	ng/m <sup>3</sup> Air		0.374			5.24	10	
Barium	3.56	1.43	ng/m <sup>3</sup> Air		3.72			4.40	10	
Beryllium	0.00980	0.00177	ng/m <sup>3</sup> Air		0.0103			4.76	10	
Cadmium	0.0741	0.00476	ng/m <sup>3</sup> Air		0.0597			21.6	10	D-F
Chromium	8.03	2.27	ng/m <sup>3</sup> Air		ND				10	
Cobalt	0.320	0.0483	ng/m <sup>3</sup> Air		0.304			5.19	10	
Copper	25.8	0.699	ng/m <sup>3</sup> Air		24.2			6.26	10	
Lead	0.575	0.125	ng/m <sup>3</sup> Air		0.532			7.92	10	
Manganese	10.0	0.518	ng/m <sup>3</sup> Air		9.71			2.95	10	
Molybdenum	1.35	0.366	ng/m <sup>3</sup> Air		1.24			8.66	10	
Nickel	2.21	0.687	ng/m <sup>3</sup> Air		1.35			48.2	10	
Selenium	0.583	0.00939	ng/m <sup>3</sup> Air		0.595			1.98	10	
Thallium	0.00527	8.00E-4	ng/m <sup>3</sup> Air		0.00558			5.60	10	
Vanadium	1.28	0.0426	ng/m <sup>3</sup> Air		1.25			2.31	10	
Zinc	ND	106	ng/m <sup>3</sup> Air		ND				10	U

### Duplicate (B5A0707-DUP2)

Source: 5010655-15

Prepared: 01/07/25 Analyzed: 01/08/25

Antimony	0.143	0.0283	ng/m <sup>3</sup> Air		0.141			1.46	10	SL
Arsenic	0.189	0.00719	ng/m <sup>3</sup> Air		0.185			2.08	10	
Barium	5.63	1.25	ng/m <sup>3</sup> Air		5.57			1.19	10	
Beryllium	0.0111	0.00154	ng/m <sup>3</sup> Air		0.0113			1.47	10	
Cadmium	0.00927	0.00414	ng/m <sup>3</sup> Air		0.00902			2.67	10	
Chromium	2.30	1.97	ng/m <sup>3</sup> Air		2.26			1.60	10	
Cobalt	0.404	0.0421	ng/m <sup>3</sup> Air		0.395			2.24	10	
Copper	104	0.608	ng/m <sup>3</sup> Air		103			1.77	10	
Lead	0.430	0.108	ng/m <sup>3</sup> Air		0.424			1.38	10	
Manganese	11.2	0.451	ng/m <sup>3</sup> Air		11.0			1.94	10	
Molybdenum	5.22	0.319	ng/m <sup>3</sup> Air		5.13			1.77	10	
Nickel	1.24	0.598	ng/m <sup>3</sup> Air		1.22			2.14	10	
Selenium	0.143	0.00817	ng/m <sup>3</sup> Air		0.136			5.28	10	
Thallium	7.50E-4	6.97E-4	ng/m <sup>3</sup> Air		7.82E-4			4.24	10	
Vanadium	1.20	0.0371	ng/m <sup>3</sup> Air		1.18			1.53	10	

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

FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
 SUBMITTED: 01/06/25  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A0707 - ICP-MS Extraction

**Duplicate (B5A0707-DUP2) Continued** Source: 5010655-15 Prepared: 01/07/25 Analyzed: 01/08/25

Zinc	ND	92.2	ng/m <sup>3</sup> Air	ND				10	U	
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**Matrix Spike (B5A0707-MS1)** Source: 5010655-09 Prepared & Analyzed: 01/07/25

Antimony	0.881	0.0325	ng/m <sup>3</sup> Air	1.2856	0.122	59.0	80-120			SL
Arsenic	2.91	0.00826	ng/m <sup>3</sup> Air	2.5713	0.374	98.5	80-120			
Barium	30.3	1.43	ng/m <sup>3</sup> Air	25.713	3.72	103	80-120			
Beryllium	1.11	0.00177	ng/m <sup>3</sup> Air	1.2856	0.0103	85.4	80-120			
Cadmium	1.38	0.00476	ng/m <sup>3</sup> Air	1.2856	0.0597	103	80-120			
Chromium	15.8	2.27	ng/m <sup>3</sup> Air	12.856	ND	123	80-120			
Cobalt	1.57	0.0483	ng/m <sup>3</sup> Air	1.2856	0.304	98.3	80-120			
Copper	52.6	0.699	ng/m <sup>3</sup> Air	25.713	24.2	110	80-120			
Lead	13.9	0.125	ng/m <sup>3</sup> Air	12.856	0.532	104	80-120			
Manganese	17.5	0.518	ng/m <sup>3</sup> Air	7.7138	9.71	101	80-120			
Molybdenum	2.54	0.366	ng/m <sup>3</sup> Air	1.2856	1.24	101	80-120			
Nickel	3.85	0.687	ng/m <sup>3</sup> Air	2.5713	1.35	96.9	80-120			
Selenium	3.12	0.00939	ng/m <sup>3</sup> Air	2.5713	0.595	98.3	80-120			
Thallium	0.139	8.00E-4	ng/m <sup>3</sup> Air	0.12856	0.00558	104	80-120			
Vanadium	3.77	0.0426	ng/m <sup>3</sup> Air	2.5713	1.25	98.0	80-120			
Zinc	ND	106	ng/m <sup>3</sup> Air	77.138	ND		80-120			U

**Matrix Spike Dup (B5A0707-MSD1)** Source: 5010655-09 Prepared & Analyzed: 01/07/25

Antimony	0.890	0.0325	ng/m <sup>3</sup> Air	1.2856	0.122	59.7	80-120	1.03	20	SL
Arsenic	2.83	0.00826	ng/m <sup>3</sup> Air	2.5713	0.374	95.4	80-120	2.83	20	
Barium	30.2	1.43	ng/m <sup>3</sup> Air	25.713	3.72	103	80-120	0.404	20	
Beryllium	1.28	0.00177	ng/m <sup>3</sup> Air	1.2856	0.0103	98.8	80-120	14.4	20	
Cadmium	1.36	0.00476	ng/m <sup>3</sup> Air	1.2856	0.0597	101	80-120	1.48	20	
Chromium	15.7	2.27	ng/m <sup>3</sup> Air	12.856	ND	122	80-120	0.944	20	
Cobalt	1.55	0.0483	ng/m <sup>3</sup> Air	1.2856	0.304	96.7	80-120	1.27	20	
Copper	52.4	0.699	ng/m <sup>3</sup> Air	25.713	24.2	110	80-120	0.313	20	
Lead	13.7	0.125	ng/m <sup>3</sup> Air	12.856	0.532	102	80-120	1.65	20	
Manganese	17.5	0.518	ng/m <sup>3</sup> Air	7.7138	9.71	100	80-120	0.143	20	
Molybdenum	2.50	0.366	ng/m <sup>3</sup> Air	1.2856	1.24	98.1	80-120	1.32	20	
Nickel	3.81	0.687	ng/m <sup>3</sup> Air	2.5713	1.35	95.7	80-120	0.830	20	
Selenium	3.12	0.00939	ng/m <sup>3</sup> Air	2.5713	0.595	98.2	80-120	0.0188	20	
Thallium	0.137	8.00E-4	ng/m <sup>3</sup> Air	0.12856	0.00558	102	80-120	1.07	20	
Vanadium	3.74	0.0426	ng/m <sup>3</sup> Air	2.5713	1.25	96.7	80-120	0.838	20	
Zinc	ND	106	ng/m <sup>3</sup> Air	77.138	ND		80-120		20	U

**Post Spike (B5A0707-PS1)** Source: 5010655-09 Prepared & Analyzed: 01/07/25

Antimony	0.368	0.0325	ng/m <sup>3</sup> Air	0.25713	0.122	95.4	75-125			SL
Arsenic	1.55	0.00826	ng/m <sup>3</sup> Air	1.2856	0.374	91.3	75-125			

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FILE #: 4205.00.003.001  
 REPORTED: 01/14/25 13:14  
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 AQS SITE CODE:  
 SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Inorganics by Compendium Method IO-3.5 - Quality Control**

*Batch B5A0707 - ICP-MS Extraction*

**Post Spike (B5A0707-PS1) Continued**      **Source: 5010655-09**      Prepared & Analyzed: 01/07/25

Barium	6.18	1.43	ng/m <sup>3</sup> Air	2.5713	3.72	95.8	75-125			
Beryllium	0.254	0.00177	ng/m <sup>3</sup> Air	0.25713	0.0103	94.7	75-125			
Cadmium	0.184	0.00476	ng/m <sup>3</sup> Air	0.12856	0.0597	96.9	75-125			
Chromium	3.45	2.27	ng/m <sup>3</sup> Air	1.2856	ND	268	75-125			
Cobalt	0.539	0.0483	ng/m <sup>3</sup> Air	0.25713	0.304	91.4	75-125			
Copper	37.4	0.699	ng/m <sup>3</sup> Air	12.856	24.2	102	75-125			
Lead	25.5	0.125	ng/m <sup>3</sup> Air	25.713	0.532	97.1	75-125			
Manganese	12.1	0.518	ng/m <sup>3</sup> Air	2.5713	9.71	92.1	75-125			
Molybdenum	2.47	0.366	ng/m <sup>3</sup> Air	1.2856	1.24	95.1	75-125			
Nickel	3.79	0.687	ng/m <sup>3</sup> Air	2.5713	1.35	94.8	75-125			
Selenium	1.77	0.00939	ng/m <sup>3</sup> Air	1.2856	0.595	91.1	75-125			
Thallium	0.0668	8.00E-4	ng/m <sup>3</sup> Air	6.4282E-2	0.00558	95.2	75-125			
Vanadium	2.42	0.0426	ng/m <sup>3</sup> Air	1.2856	1.25	91.2	75-125			
Zinc	ND	106	ng/m <sup>3</sup> Air	25.713	ND		75-125			U

**Dilution Check (B5A0707-SRL1)**      **Source: 5010655-09**      Prepared & Analyzed: 01/07/25

Antimony	ND	0.163	ng/m <sup>3</sup> Air		ND			10		SL, U
Arsenic	0.382	0.0413	ng/m <sup>3</sup> Air		0.374			2.20	10	
Barium	ND	7.16	ng/m <sup>3</sup> Air		ND				10	U
Beryllium	0.0110	0.00883	ng/m <sup>3</sup> Air		0.0103			6.44	10	
Cadmium	0.0604	0.0238	ng/m <sup>3</sup> Air		0.0597			1.25	10	
Chromium	ND	11.3	ng/m <sup>3</sup> Air		ND				10	U
Cobalt	0.310	0.242	ng/m <sup>3</sup> Air		0.304			2.15	10	
Copper	24.6	3.50	ng/m <sup>3</sup> Air		24.2			1.61	10	
Lead	ND	0.623	ng/m <sup>3</sup> Air		ND				10	U
Manganese	9.78	2.59	ng/m <sup>3</sup> Air		9.71			0.662	10	
Molybdenum	ND	1.83	ng/m <sup>3</sup> Air		ND				10	U
Nickel	ND	3.44	ng/m <sup>3</sup> Air		ND				10	U
Selenium	0.599	0.0469	ng/m <sup>3</sup> Air		0.595			0.745	10	
Thallium	0.00715	0.00400	ng/m <sup>3</sup> Air		0.00558			24.7	10	
Vanadium	1.25	0.213	ng/m <sup>3</sup> Air		1.25			0.549	10	
Zinc	ND	530	ng/m <sup>3</sup> Air		ND				10	U



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

**FILE #:** 4205.00.003.001  
**REPORTED:** 01/14/25 13:14  
**SUBMITTED:** 01/06/25  
**AQS SITE CODE:**  
**SITE CODE:** Lahaina fires

## Notes and Definitions

U Under Detection Limit  
SL The spike recovery was outside acceptance limits. Reported value may be biased low.  
FB-01 Analyte exceeds Field Blank criteria.  
D-F Duplicate exceeds DQO criteria.  
ND Analyte NOT DETECTED  
NR Not Reported  
MDL Method Detection Limit  
RPD Relative Percent Difference

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

**Stage 1 Data Verification Checklist – Metals**  
**HDOH CAB – Ambient Community Air Sampling – Lahaina**  
**Task Order No. 23141**

Reviewed by:

Kierra Johnson 01/15/2025 and Shanna Vasser 01/17/2025

Laboratory: Eastern Research Group – Morrisville, NC

Collection date(s): 12/27/2024 – 12/30/2024

Report No: 5010655

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

Discrepancies:

- 13. Field blank detections above the method detection limit were reported for arsenic, copper, manganese, nickel, and vanadium in MFL-FB01-122724-HM and arsenic in MFL-FB01-122924-HM.

Notes: None.