

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

January 9 through January 15, 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 January 9 through January 15, 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 (μm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM₁₀". Monitoring for PM₁₀ was conducted 24 hours a day, 7 days a week from January 9 through January 15, 2025, at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM₁₀, 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 μm or less [PM_{2.5}]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at <https://fire.airnow.gov/>.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM₁₀ 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 Lahaina Pump Station #6 (AM-08) for three hours on January 10, resulting in the collection of 21 hours of PM₁₀ data.
- Because of equipment maintenance, the air monitoring period was interrupted at all monitoring locations for 1 hour on January 12, resulting in the collection of 23 hours of PM₁₀ data.

The equipment fault on January 10 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 21-hours for that day.

None of the PM₁₀ monitoring results exceeded the 150 µg/m³ screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. The sample collected at WW Pump Station #4 (AM-02) on January 14 was voided because of a power interruption and blockage failure which prevented calculating an accurate sample run time. With the exception of this sample, all analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

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

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

Meteorological Summary

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

Quality Control Summary

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

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

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

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

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for p 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

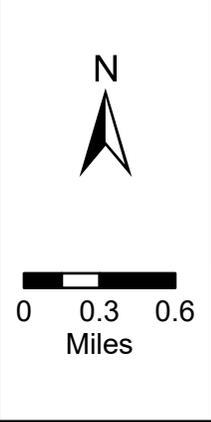


Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM₁₀
Maui Wildfires, Lahaina
January 9 through January 15, 2025

Screening Level		TWA Results 150 (µg/m ³)
1/9/2025	Opukea Townhomes (AM-05)	7.7
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	14
	Lahaina Pump Station #6 (AM-08)	7.3
1/10/2025	Opukea Townhomes (AM-05)	14
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	70
	Lahaina Pump Station #6 (AM-08)	7.9*
1/11/2025	Opukea Townhomes (AM-05)	8.1
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	18
	Lahaina Pump Station #6 (AM-08)	6.6
1/12/2025	Opukea Townhomes (AM-05)	9.5**
	WW Pump Station #4 (AM-02)	5.2**
	Lahaina Intermediate School (AM-03)	14**
	Lahaina Pump Station #6 (AM-08)	5.7**
1/13/2025	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	22
	Lahaina Pump Station #6 (AM-08)	11
1/14/2025	Opukea Townhomes (AM-05)	8.5
	WW Pump Station #4 (AM-02)	7.8
	Lahaina Intermediate School (AM-03)	13
	Lahaina Pump Station #6 (AM-08)	7.1
1/15/2025	Opukea Townhomes (AM-05)	9.3
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	16
	Lahaina Pump Station #6 (AM-08)	5.0

Notes:

µg/m³ = 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 (21-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
January 9 through January 15, 2025

Analyte	Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc	
Units*	s/cc	µg/m ³																
Site Screening Action Level	0.003 ¹	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200	
1/9/2025	Opukea Townhomes (AM-05)	<0.0024	0.000138	0.000138	0.00478	0.0000586	0.0000180	ND	0.000195	0.0555	0.000386	0.00593	0.00261	0.00126	0.000218	0.00000148	0.00103	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000244	0.000363	0.0123	0.0000167	0.0000324	0.00255	0.000562	0.0296	0.00342	0.0185	0.00133	0.00162	0.000265	0.00000193	0.00208	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000664	0.0000891	0.00278	0.0000115	0.0000185	ND	0.000228	0.0565	0.000196	0.00597	0.00181	0.00121	0.000220	0.00000168	0.00108	ND
1/10/2025	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000152	0.00117	0.00554	0.0000166	0.0000283	0.00265	0.000483	0.0318	0.00102	0.0161	0.00138	0.00166	0.000258	0.00000201	0.00172	ND
	Opukea Townhomes (AM-05)	<0.0024	0.000191	0.00117	0.0152	0.0000577	0.000186	0.00847	0.00201	0.0673	0.00549	0.0618	0.00275	0.00446	0.000339	0.00000406	0.00574	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000254	0.00100	0.0163	0.0000383	0.000667	0.00590	0.00127	0.0535	0.00343	0.0363	0.00171	0.00311	0.000267	0.00000208	0.00371	ND
1/11/2025	Lahaina Intermediate School (AM-03)	<0.0024	0.0000525	0.000373	0.00825	0.000116	0.0000522	0.00833	0.00170	0.0685	0.000616	0.0400	0.00195	0.00413	0.000348	0.00000237	0.00464	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.0000861	0.000498	0.00334	0.0000113	0.0000381	0.00279	0.000393	0.0461	0.000488	0.00979	0.00159	0.00115	0.000179	0.000000816	0.00121	ND
	Opukea Townhomes (AM-05)	<0.0024	0.000210	0.000152	0.00362	0.00000667	0.0000375	0.00194	0.000226	0.0484	0.000295	0.00642	0.00147	0.000964	0.000193	ND	0.000724	ND
1/12/2025	WW Pump Station #4 (AM-02)	<0.0024	0.000193	0.000223	0.00564	0.0000117	0.0000172	0.00240	0.000352	0.0321	0.000789	0.0110	0.00107	0.00123	0.000237	0.000000833	0.00121	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000408	0.000253	0.00531	0.0000693	0.0000120	0.00530	0.00108	0.0587	0.000304	0.0273	0.00168	0.00250	0.000318	0.00000161	0.00311	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000143	0.000207	0.00278	0.00000475	0.0000102	ND	0.000157	0.0371	0.000276	0.00447	0.00116	0.000829	0.000200	ND	0.000547	ND
1/13/2025	Opukea Townhomes (AM-05)	<0.0024	0.000126	0.000286	0.00496	0.00000922	0.0000193	0.00243	0.000318	0.0417	0.00172	0.00966	0.00220	0.00134	0.000171	0.000000824	0.00101	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000307	0.000186	0.00652	0.00000926	0.0000200	0.00199	0.000278	0.0431	0.000791	0.00850	0.00135	0.00110	0.000194	ND	0.000952	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000502	0.0000672	0.00210	0.0000107	0.00000486	ND	0.000172	0.0556	0.000146	0.00416	0.00184	0.000914	0.000157	ND	0.000550	ND
1/14/2025	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000118	0.000867	0.00265	0.00000507	0.00000739	ND	0.000174	0.0407	0.000351	0.00561	0.00121	0.000856	0.000170	ND	0.000582	ND
	Opukea Townhomes (AM-05)	<0.0030	0.000970	0.000434	0.00420	0.00000653	0.000265	ND	0.000216	0.0445	0.00605	0.00646	0.00252	0.00102	0.000252	0.00000574	0.000777	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.00121	0.000542	0.00703	0.0000119	0.000300	0.00203	0.000359	0.0363	0.00692	0.0109	0.00122	0.00127	0.000285	0.00000617	0.00129	ND
1/15/2025	Lahaina Intermediate School (AM-03)	<0.0024	0.000961	0.000460	0.00293	0.0000136	0.000293	ND	0.000249	0.0555	0.00641	0.00668	0.00164	0.00101	0.000265	0.00000621	0.000792	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.00102	0.000809	0.00449	0.00000815	0.000324	ND	0.000269	0.0498	0.00644	0.00862	0.00177	0.00114	0.000267	0.00000622	0.000859	ND
	Opukea Townhomes (AM-05)	<0.0024	0.000845	0.000728	0.00518	0.0000126	0.000210	0.00214	0.000358	0.0675	0.00421	0.0118	0.00322	0.00122	0.000288	0.00000556	0.00135	ND
1/15/2025	WW Pump Station #4 (AM-02)	<0.0024	0.000882	0.000540	0.00896	0.0000192	0.000197	0.00286	0.000636	0.0399	0.00432	0.0187	0.00125	0.00198	0.000311	0.00000557	0.00213	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000697	0.000398	0.00364	0.0000190	0.000174	0.00210	0.000323	0.0527	0.00340	0.00873	0.00155	0.00124	0.000282	0.00000498	0.00119	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000657	0.000554	0.00350	0.00000890	0.000162	ND	0.000245	0.0323	0.00322	0.00830	0.00183	0.00105	0.000253	0.00000444	0.00100	ND
1/15/2025	Opukea Townhomes (AM-05)	<0.0024	0.000499	0.000375	0.00569	0.0000125	0.000146	0.00233	0.000481	0.0494	0.00314	0.0152	0.00234	0.00135	0.000248	0.00000331	0.00146	ND
	WW Pump Station #4 (AM-02)	<0.0030	0.000649	0.000365	0.0117	0.0000148	0.000155	0.00266	0.000484	0.0313	0.00363	0.0141	0.00153	0.00157	0.000261	0.00000350	0.00155	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000393	0.000256	0.00322	0.0000200	0.000133	0.00227	0.000379	0.0528	0.00277	0.00921	0.00155	0.00126	0.000227	0.00000299	0.00106	ND
Lahaina Pump Station #6 (AM-08)	<0.0024	0.000427	0.000718	0.00496	0.0000142	0.000131	0.00240	0.000446	0.0488	0.00584	0.0140	0.00225	0.00149	0.000232	0.00000283	0.00126	ND	
95% Upper Confidence Limit ²	NA	0.000730	0.000670	0.00728	0.0000260	0.000340	0.00409	0.000630	0.0516	0.00663	0.0183	0.00196	0.00181	0.000270	0.00000470	0.00197	NA	

Notes:

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

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

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Asbestos sample voided due to blockage failure and inability to calculate run time

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 9 through January 15, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/9/2025	AM-02	WW Pump Station #4	0.7	SE	76	69	763.8
1/9/2025	AM-03	Lahaina Intermediate School	1.0	SE	76	70	755.1
1/9/2025	AM-05	Opukea Townhomes	0.9	SE	77	68	764.2
1/9/2025	AM-08	Lahaina Pump Station #6	1.3	SE	76	69	764.1
1/10/2025	AM-02	WW Pump Station #4	1.2	SSE	79	63	763.2
1/10/2025	AM-03	Lahaina Intermediate School	1.5	SSE	78	64	754.5
1/10/2025	AM-05	Opukea Townhomes	1.3	SSE	79	63	763.6
1/10/2025	AM-08	Lahaina Pump Station #6	2.1	S	78	64	763.4
1/11/2025	AM-02	WW Pump Station #4	1.0	SSE	77	60	763.4
1/11/2025	AM-03	Lahaina Intermediate School	1.1	SE	76	63	754.8
1/11/2025	AM-05	Opukea Townhomes	1.2	SSE	78	60	763.8
1/11/2025	AM-08	Lahaina Pump Station #6	1.6	SSE	77	62	763.7
1/12/2025	AM-02	WW Pump Station #4	1.0	SSE	76	65	763.6
1/12/2025	AM-03	Lahaina Intermediate School	1.1	SE	75	68	754.4
1/12/2025	AM-05	Opukea Townhomes	1.1	SE	77	65	763.3
1/12/2025	AM-08	Lahaina Pump Station #6	1.5	SSE	76	65	763.6
1/13/2025	AM-02	WW Pump Station #4	0.9	SSE	77	67	763.2
1/13/2025	AM-03	Lahaina Intermediate School	1.1	SSE	76	68	753.7
1/13/2025	AM-05	Opukea Townhomes	1.0	SSE	78	67	762.6
1/13/2025	AM-08	Lahaina Pump Station #6	1.5	S	77	66	763.0
1/14/2025	AM-02	WW Pump Station #4	0.9	SSE	77	69	763.6
1/14/2025	AM-03	Lahaina Intermediate School	1.1	SE	76	70	754.2
1/14/2025	AM-05	Opukea Townhomes	1.1	SSE	78	69	763.0
1/14/2025	AM-08	Lahaina Pump Station #6	1.6	SE	77	69	763.4
1/15/2025	AM-02	WW Pump Station #4	1.0	SSE	76	66	763.4
1/15/2025	AM-03	Lahaina Intermediate School	1.0	SE	74	69	754.0
1/15/2025	AM-05	Opukea Townhomes	1.1	SSE	77	66	762.8
1/15/2025	AM-08	Lahaina Pump Station #6	1.5	SSE	75	66	763.2

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

Appendix 1



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

EMSL Order: 042500779
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: 01/15/2025 09:35 AM
Analysis Date: 01/16/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM05-010925-AB **Sample Description:** DL914498

EMSL Sample Number: 042500779-0001 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7293.3
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: G.Barry
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	

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

Comment

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: 042500779
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: 042500779-0001			Customer Sample: MFL-AM05-010925-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	E7	None Detected									
B1	A7	None Detected									
B2	H4	None Detected									
B2	C5	None Detected									

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



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Customer PO: 1207085
Project ID: N/A

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Received Date: 01/15/2025 09:35 AM
Analysis Date: 01/16/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM02-010925-AB	Sample Description:	DL914462
EMSL Sample Number:	042500779-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7312.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

Approved Signatory

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EMSL Order ID: 042500779
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: 042500779-0002			Customer Sample: MFL-AM02-010925-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	B8	None Detected									
B5	D5	None Detected									
B5	J6	None Detected									
B6	G9	None Detected									
B6	E5	None Detected									

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Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM03-010925-AB **Sample Description:** DL914455

EMSL Sample Number: 042500779-0003 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7237.5
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: G.Barry
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	

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

Comment

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

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0003			Customer Sample: MFL-AM03-010925-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	I8	None Detected									
C1	G4	None Detected									
C1	B6	None Detected									
C2	A3	None Detected									
C2	F4	None Detected									

Abbreviations used:
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 XCGBLD - Crosses Countable Grid Bar Length Doubled



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Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-010925-AB	Sample Description:	DL914457
EMSL Sample Number:	042500779-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7490.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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Project ID: Maui Fires Lahaina

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

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0004			Customer Sample: MFL-AM08-010925-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	A4	None Detected									
C5	F7	None Detected									
C5	J3	None Detected									
C7	H8	None Detected									
C7	D7	None Detected									

Abbreviations used:
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Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-010925-AB	Sample Description:	DL914489
EMSL Sample Number:	042500779-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc):	N/A

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

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

Comment

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 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:		042500779-0005		Customer Sample:		MFL-FB01-010925-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	B8	None Detected									
D1	E4	None Detected									
D1	I7	None Detected									
D2	C6	None Detected									
D2	H5	None Detected									
D2	J3	None Detected									
D2	J8	None Detected									
D3	A8	None Detected									
D3	D5	None Detected									
D3	I3	None Detected									

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

Customer Sample Number:	MFL-AM05-011025-AB	Sample Description:	DL914508
EMSL Sample Number:	042500779-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7173.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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EMSL Order ID: 042500779
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: 042500779-0006			Customer Sample: MFL-AM05-011025-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	E4	None Detected									
D5	A7	None Detected									
D6	B2	None Detected									
D6	C7	None Detected									

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



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EMSL Order: 042500779
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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Phone: (703) 489-2674
Fax: N/A
Received Date: 01/15/2025 09:35 AM
Analysis Date: 01/17/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM02-011025-AB	Sample Description:	DL914511
EMSL Sample Number:	042500779-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7241.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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EMSL Order ID: **042500779**
 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: 042500779-0007			Customer Sample: MFL-AM02-011025-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	B4	None Detected									
E1	C5	None Detected									
E2	A6	None Detected									
E2	D7	None Detected									
E3	G6	None Detected									

Abbreviations used:
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Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM03-011025-AB	Sample Description:	DL914465
EMSL Sample Number:	042500779-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7238.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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EMSL Order ID: **042500779**
 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: 042500779-0008			Customer Sample: MFL-AM03-011025-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J9	None Detected									
E5	I8	None Detected									
E6	H5	None Detected									
E6	G4	None Detected									
E7	A7	None Detected									

Abbreviations used:
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-011025-AB	Sample Description:	DL914458
EMSL Sample Number:	042500779-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7227.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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EMSL Order ID: **042500779**
 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: 042500779-0009			Customer Sample: MFL-AM08-011025-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	C6	None Detected									
F1	D7	None Detected									
F2	J5	None Detected									
F2	I4	None Detected									
F3	B9	None Detected									

Abbreviations used:
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Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-011025-AB	Sample Description:	DL914491
EMSL Sample Number:	042500779-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc):	N/A

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

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

Comment

Approved Signatory

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Client: Tetra Tech

Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0010		Customer Sample: MFL-FB01-011025-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	J6	None Detected									
F5	J4	None Detected									
F5	I3	None Detected									
F5	I1	None Detected									
F6	A7	None Detected									
F6	A9	None Detected									
F6	B10	None Detected									
F7	D3	None Detected									
F7	D5	None Detected									
F7	E4	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM05-011125-AB **Sample Description:** DL914520

EMSL Sample Number: 042500779-0011 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7328.3
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: Random (4.00) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: S. Richey
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 4
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	1	1	< 46.36	< 0.0024	Not Applicable	- 0.0024
Total Amphibole	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0038
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Total Asbestos Structures	CD/ADX	1	1	< 46.36	< 0.0024	Not Applicable	- 0.0024
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0038
Total All Structures	-	1	1	< 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 ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Total Amphibole (PCMe)	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024
Total All Structures (PCMe)	-	0	0	< 46.36	< 0.0024	Not Applicable	- 0.0024

Comment

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EMSL Order ID: 042500779
 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: 042500779-0011										Customer Sample: MFL-AM05-011125-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	A5	B	1	1	3.16	0.25	CDQ	Chrysotile		2025_Asbestos_004, 2025_Asbestos_005	
G1	C6	None Detected									
G2	J8	None Detected									
G2	H7	None Detected									
G3	J6	None Detected									

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



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Customer PO: 1207085
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Analysis Date: 01/21/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM02-011125-AB	Sample Description:	DL914479
EMSL Sample Number:	042500779-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7171.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

Approved Signatory

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EMSL Order ID: 042500779
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: 042500779-0012			Customer Sample: MFL-AM02-011125-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					
G7	B8	None Detected									
G7	C4	None Detected									
G7	G9	None Detected									
G8	G9	None Detected									
G8	C7	None Detected									

*Abbreviations used:
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Analysis Date: 01/21/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM03-011125-AB **Sample Description:** DL914473

EMSL Sample Number: 042500779-0013 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7305.3
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² 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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.36	< 0.0024	Not Applicable - 0.0024	

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

Comment

Approved Signatory

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EMSL Order ID: 042500779

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: 042500779-0013			Customer Sample: MFL-AM03-011125-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	G2	None Detected									
H1	C4	None Detected									
H2	B1	None Detected									
H2	F3	None Detected									
H2	H6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Analysis Date: 01/21/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-011125-AB	Sample Description:	DL914459
EMSL Sample Number:	042500779-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7230.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

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

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0014			Customer Sample: MFL-AM08-011125-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	J8	None Detected									
H5	G3	None Detected									
H5	D7	None Detected									
H6	B7	None Detected									
H6	G9	None Detected									

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



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Analysis Date: 01/21/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-FB01-011125-AB	Sample Description:	DL914488
EMSL Sample Number:	042500779-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.18			
Total Amphibole	ADX	0	0	< 23.18			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
Total All Structures	-	0	0	< 23.18			

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

Comment

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EMSL Order ID: **042500779**
 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: 042500779-0015		Customer Sample: MFL-FB01-011125-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	A10	None Detected									
I2	C6	None Detected									
I2	E7	None Detected									
I2	G7	None Detected									
I2	I8	None Detected									
I3	A6	None Detected									
I3	C7	None Detected									
I3	E9	None Detected									
I3	G6	None Detected									
I3	I8	None Detected									

Abbreviations used:
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 XCGBLD - Crosses Countable Grid Bar Length Doubled



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Report Date: 01/22/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM05-011225-AB	Sample Description:	DL914467
EMSL Sample Number:	042500779-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7235.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

Approved Signatory

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EMSL Order ID: 042500779
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: 042500779-0016			Customer Sample: MFL-AM05-011225-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	B8	None Detected									
15	E9	None Detected									
15	H7	None Detected									
16	J7	None Detected									
16	D5	None Detected									

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



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

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 1560 Broadway, Suite 1400
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Project: Maui Fires Lahaina

Phone: (703) 489-2674
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Received Date: 01/15/2025 09:35 AM
Analysis Date: 01/21/2025
Report Date: 01/22/2025

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

Customer Sample Number:	MFL-AM02-011225-AB	Sample Description:	DL914484
EMSL Sample Number:	042500779-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7236.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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EMSL Order ID: **042500779**
 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:		042500779-0017		Customer Sample:		MFL-AM02-011225-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J3	None Detected									
J1	G4	None Detected									
J1	E7	None Detected									
J2	A6	None Detected									
J2	E9	None Detected									

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



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Analysis Date: 01/21/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM03-011225-AB **Sample Description:** DL914456

EMSL Sample Number: 042500779-0018 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7190.5
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 2
 Target Analytical Sensitivity (Structures/cc): 0.001

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

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

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

Comment

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EMSL Order ID: 042500779
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: 042500779-0018			Customer Sample: MFL-AM03-011225-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	I3	None Detected									
J5	E3	None Detected									
J5	A5	None Detected									
J6	H5	None Detected									
J6	E9	None Detected									

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



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Phone: (703) 489-2674
Fax: N/A
Received Date: 01/15/2025 09:35 AM
Analysis Date: 01/21/2025
Report Date: 01/22/2025

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

Customer Sample Number:	MFL-AM08-011225-AB	Sample Description:	DL914475
EMSL Sample Number:	042500779-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7217.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

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

Analytical Bench Sheet Data

EMSL Sample ID: 042500779-0019			Customer Sample: MFL-AM08-011225-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					
K2	I9	None Detected									
K2	G7	None Detected									
K2	C6	None Detected									
K3	A8	None Detected									
K3	I10	None Detected									

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



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Analysis Date: 01/21/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-011225-AB	Sample Description:	DL914505
EMSL Sample Number:	042500779-0020	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc):	N/A

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

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

Comment

Approved Signatory

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EMSL Order ID: 042500779

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:		042500779-0020		Customer Sample:		MFL-FB01-011225-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	J1	None Detected									
K5	H2	None Detected									
K5	F3	None Detected									
K5	D3	None Detected									
K5	B5	None Detected									
K6	A10	None Detected									
K6	C7	None Detected									
K6	E8	None Detected									
K6	G10	None Detected									
K6	I8	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Fax: N/A
Received Date: 01/15/2025 09:35 AM
Analysis Date: 01/16/2025
Report Date: 01/22/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	Lab Blank	Sample Description: Lab Blank
EMSL Sample Number:	042500779-0021	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: G.Barry
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	2	
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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.18			
Total Amphibole	ADX	0	0	< 23.18			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	CD/ADX	0	0	< 23.18			
Other Minerals	-	0	0	< 23.18			
Total All Structures	-	0	0	< 23.18			

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

Comment

Approved Signatory

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.



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

EMSL Order ID: **042500779**
 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:		042500779-0021		Customer Sample:		Lab Blank					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J8	None Detected									
A1	H5	None Detected									
A1	F2	None Detected									
A1	D4	None Detected									
A2	I3	None Detected									
A2	E7	None Detected									
A2	B6	None Detected									
A3	A4	None Detected									
A3	E4	None Detected									
A3	I2	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

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

#042500779

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

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

Project Information		Purchase Order: 1207085
Project Name/No: Maui Fires Lahaina	US State where samples collected: HI	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
EMSL LIMS Project ID: (If applicable, EMSL will provide)	Sampled By Name: Shaina Epstein	Sampled By Signature: <i>[Signature]</i>
		No. of Samples in Shipment: 20

Turn-around-Time (TAT)

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

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

Test Selection

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-010925-AB	DL914498	7,293.349	01/09/25 1057
MFL-AM02-010925-AB	DL914462	7,312.125	01/09/25 1115
MFL-AM03-010925-AB	DL914455	7,237.454	01/09/25 1253
MFL-AM08-010925-AB	DL914457	7,490.032	01/09/25 1312
MFL-FB01-010925-AB	DL914489	0	01/09/25 1200
MFL-AM05-011025-AB	DL914508	7,173.023	01/10/25 1052
MFL-AM02-011025-AB	DL914511	7,241.025	01/10/25 1121
MFL-AM03-011025-AB	DL914465	7,238.714	01/10/25 1247

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

All samples received acceptable for analysis.

Method of Shipment: Fedex	Sample Condition Upon Receipt:
Relinquished by: Shaina Epstein	Received by: <i>[Signature]</i> FF
Date/Time: 01/13/25 1100	Date/Time: 1/15/25
Relinquished by:	Received by:
Date/Time:	Date/Time:

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.

2020

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

Reviewed by:

Kierra Johnson 01/23/2025 and Shanna Vasser 01/24/2025

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

Collection date(s): 01/09/2025 – 01/12/2025

Report No: 42500779

- √ 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> / cinnaaslab@EMSL.com

EMSL Order: 042501250
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: 01/20/2025 09:30 AM
Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM05-011325-AB	Sample Description:	DL914527
EMSL Sample Number:	042501250-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7397.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² 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 %:	4		
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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Amphibole	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Asbestos Structures	CD/ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total All Structures	-	0	0	< 57.06	< 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 ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Amphibole (PCMe)	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total All Structures (PCMe)	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	

Comment

Approved Signatory

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

EMSL Order ID: 042501250
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:		042501250-0001					Customer Sample:		MFL-AM05-011325-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	C6	None Detected									
D5	E7	None Detected									
D6	J4	None Detected									
D6	H3	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: 042501250
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: 01/20/2025 09:30 AM
Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM02-011325-AB	Sample Description:	DL914478
EMSL Sample Number:	042501250-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7170.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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

EMSL Order ID: 042501250
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: 042501250-0002			Customer Sample: MFL-AM02-011325-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	B7	None Detected									
E1	C8	None Detected									
E2	J5	None Detected									
E2	I4	None Detected									
E3	A7	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: 042501250
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: 01/20/2025 09:30 AM
Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM03-011325-AB	Sample Description:	DL915157
EMSL Sample Number:	042501250-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7130.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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

EMSL Order ID: 042501250
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: 042501250-0003			Customer Sample: MFL-AM03-011325-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A4	None Detected									
E5	B6	None Detected									
E6	J8	None Detected									
E6	I7	None Detected									
E7	D3	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: 042501250
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: 01/20/2025 09:30 AM
Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-011325-AB	Sample Description:	DL915193
EMSL Sample Number:	042501250-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7283.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 042501250
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: 042501250-0004			Customer Sample: MFL-AM08-011325-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	C4	None Detected									
F1	D5	None Detected									
F2	A6	None Detected									
F2	B7	None Detected									
F3	G5	None Detected									

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



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Customer PO: 1207085
Project ID: N/A

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Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-011325-AB **Sample Description:** DL915161

EMSL Sample Number: 042501250-0005 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L) : 0.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0131
 Chi² 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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 22.82			
Total Amphibole (PCMe)	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	-	0	0	< 22.82			

Comment

Approved Signatory

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EMSL Order ID: 042501250

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:		042501250-0005						Customer Sample:		MFL-FB01-011325-AB	
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A6	None Detected									
F5	A8	None Detected									
F5	C7	None Detected									
F5	C9	None Detected									
F6	J5	None Detected									
F6	J3	None Detected									
F6	I4	None Detected									
F7	B4	None Detected									
F7	B6	None Detected									
F7	C3	None Detected									

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



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Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-LB01-011325-AB	Sample Description:	DL915173
EMSL Sample Number:	042501250-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc):	N/A

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 22.82			
Total Amphibole (PCMe)	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	-	0	0	< 22.82			

Comment

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Client: Tetra Tech

Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID:		042501250-0006						Customer Sample:		MFL-LB01-011325-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	J7	None Detected									
G1	J5	None Detected									
G1	I6	None Detected									
G1	I4	None Detected									
G2	H3	None Detected									
G2	H1	None Detected									
G2	F2	None Detected									
G3	A7	None Detected									
G3	A9	None Detected									
G3	C8	None Detected									

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



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Analysis Date: 01/21/2025
Report Date: 01/23/2025

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

Customer Sample Number:	MFL-AM05-011425-AB	Sample Description:	DL915263
EMSL Sample Number:	042501250-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7085.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: **042501250**
 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: 042501250-0007			Customer Sample: MFL-AM05-011425-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	D6	None Detected									
G5	E7	None Detected									
G6	A5	None Detected									
G6	B4	None Detected									
G7	J8	None Detected									

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



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Received Date: 01/20/2025 09:30 AM
Analysis Date: 01/21/2025
Report Date: 01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM03-011425-AB	Sample Description:	DL915192
EMSL Sample Number:	042501250-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7208.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 042501250
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Project ID: Maui Fires Lahaina

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

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0008			Customer Sample: MFL-AM03-011425-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	A3	None Detected									
H1	B4	None Detected									
H2	C6	None Detected									
H2	D7	None Detected									
H3	F10	None Detected									

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



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Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM08-011425-AB **Sample Description:** DL915179

EMSL Sample Number: 042501250-0009 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7260.3
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0131
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: S. Richey
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 4
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: **042501250**
 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: 042501250-0009			Customer Sample: MFL-AM08-011425-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	B9	None Detected									
H5	C10	None Detected									
H6	J7	None Detected									
H6	I8	None Detected									
H7	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: 042501250
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-011425-AB	Sample Description:	DL915188
EMSL Sample Number:	042501250-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 22.82			
Total Amphibole (PCMe)	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	-	0	0	< 22.82			

Comment

Approved Signatory

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EMSL Order ID: 042501250

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: 042501250-0010		Customer Sample: MFL-FB01-011425-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	J6	None Detected									
I1	J4	None Detected									
I1	I5	None Detected									
I1	I3	None Detected									
I2	G7	None Detected									
I2	G5	None Detected									
I2	F6	None Detected									
I3	A4	None Detected									
I3	A6	None Detected									
I3	B5	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Received Date: 01/20/2025 09:30 AM
Analysis Date: 01/22/2025
Report Date: 01/23/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM05-011525-AB	Sample Description:	DL915261
EMSL Sample Number:	042501250-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7300.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 042501250
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: 042501250-0011			Customer Sample: MFL-AM05-011525-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	C4	None Detected									
15	D6	None Detected									
16	J7	None Detected									
16	I8	None Detected									
17	H5	None Detected									

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



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Fax: N/A
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Analysis Date: 01/22/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM02-011525-AB	Sample Description:	DL915174
EMSL Sample Number:	042501250-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7354.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0010	Limit of Detection (Structures/cc):	0.0030

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Amphibole	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Asbestos Structures	CD/ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total All Structures	-	0	0	< 57.06	< 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 ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Amphibole (PCMe)	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total All Structures (PCMe)	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	

Comment

Approved Signatory

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EMSL Order ID: **042501250**
 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: 042501250-0012			Customer Sample: MFL-AM02-011525-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B7	None Detected									
J1	C8	None Detected									
J2	E9	None Detected									
J2	F10	None Detected									

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



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EMSL Order: 042501250
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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Fax: N/A
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Analysis Date: 01/22/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM03-011525-AB	Sample Description:	DL915210
EMSL Sample Number:	042501250-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7198.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

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

Analytical Bench Sheet Data

EMSL Sample ID: 042501250-0013			Customer Sample: MFL-AM03-011525-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	I6	None Detected									
J5	H7	None Detected									
J6	A3	None Detected									
J6	B4	None Detected									
J7	G8	None Detected									

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



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Customer PO: 1207085
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Analysis Date: 01/22/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-011525-AB	Sample Description:	DL915159
EMSL Sample Number:	042501250-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7213.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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.



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

EMSL Order ID: 042501250
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: 042501250-0014			Customer Sample: MFL-AM08-011525-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	B3	None Detected									
K1	C2	None Detected									
K2	E9	None Detected									
K2	F10	None Detected									
K3	D6	None Detected									

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



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

EMSL Order: 042501250
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: 01/20/2025 09:30 AM
Analysis Date: 01/22/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-011525-AB	Sample Description:	DL915171
EMSL Sample Number:	042501250-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 22.82			
Total Amphibole (PCMe)	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	-	0	0	< 22.82			

Comment


 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.



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

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

EMSL Order ID: 042501250

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: 042501250-0015		Customer Sample: MFL-FB01-011525-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	A4	None Detected									
K5	A6	None Detected									
K5	D7	None Detected									
K5	D9	None Detected									
K6	B6	None Detected									
K6	B8	None Detected									
K6	C7	None Detected									
K7	J5	None Detected									
K7	J3	None Detected									
K7	I4	None Detected									

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



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

EMSL Order: 042501250
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: 01/20/2025 09:30 AM
Analysis Date: 01/21/2025
Report Date: 01/23/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	Lab Blank	Sample Description: Lab Blank
EMSL Sample Number:	042501250-0016	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: 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 ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 22.82			
Total Amphibole (PCMe)	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures (PCMe)	-	0	0	< 22.82			

Comment

Approved Signatory

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

EMSL Order ID: **042501250**
 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:		042501250-0016						Customer Sample:		Lab Blank	
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B3	None Detected									
D1	B5	None Detected									
D1	C4	None Detected									
D1	C6	None Detected									
D2	H7	None Detected									
D2	H9	None Detected									
D2	I8	None Detected									
D3	F6	None Detected									
D3	F8	None Detected									
D3	G7	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

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

#042501250

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

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN 2015 AM 9:34

Project Name/No: Maui Fires Lahaina		Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	US State where samples collected: HI	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input checked="" type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: Shaina Epstein	Sampled By Signature: <i>[Signature]</i>	No. of Samples In Shipment: 14 ¹⁵
Turn-Around-Time (TAT) <input type="checkbox"/> 3 Hour <input type="checkbox"/> 4-4.5 Hour (AHERA ONLY) <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 32 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week <small>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.</small>		

PCM Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA PLM - Bulk (reporting limit) <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)	TEM - Air <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* TEM - Bulk <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%) Other Test (please specify)	TEM - Settled Dust <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 Soil - Rock - Vermiculite (reporting limit)* <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> PLM EPA 600/R-93/118 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
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

*Please call with your project-specific requirements.

Positive Stop - Clearly Identified Homogeneous Area (HA) Filter Pore Size (Air Samples) 0.8um 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-011325-AB	DL914527	7,397.064	01/13/25 1109
MFL-AM02-011325-AB	DL914478	7,170.875	01/13/25 1124
MFL-AM03-011325-AB	DL915157	7,130.710	01/13/25 1255
MFL-AM08-011325-AB	DL915193	7,283.725	01/13/25 1316
MFL-FB01-011325-AB	DL915161	0	01/13/25 1200
MFL-LB01-011325-AB	DL915173	0	01/13/25 1200
MFL-AM05-011425-AB	DL915263	7,085.239	01/14/25 1049
MFL-AM02-011425-AD	DL915249	935.066	01/14/25 0850

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

*Voided sample low volume

All samples received acceptable for analysis.

(15) *[Signature]*

Method of Shipment: Fedex	Sample Condition Upon Receipt:
Relinquished by: Shaina Epstein Date/Time: 01/16/25 1100	Received by: <i>[Signature]</i> - Fedex Date/Time: 1/20/25 9:30 A
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 01/23/2025 and Shanna Vasser 01/24/2025

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

Collection date(s): 01/13/2025 – 01/15/2025

Report No: 42501250

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

Discrepancies:

- 4. MFL-AM02-011425-AB was listed on the CoC, but crossed off, voided (due to low sample volume), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None.



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

January 29, 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 01/20/25 09:35.

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

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 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: 01/29/25 11:06

SUBMITTED: 01/20/25

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-AM05-010925-HM	5012123-01	Air	01/09/25 23:59	01/20/25 09:35
MFL-AM02-010925-HM	5012123-02	Air	01/09/25 23:59	01/20/25 09:35
MFL-AM03-010925-HM	5012123-03	Air	01/09/25 23:59	01/20/25 09:35
MFL-AM08-010925-HM	5012123-04	Air	01/09/25 23:59	01/20/25 09:35
MFL-AM05-011025-HM	5012123-05	Air	01/10/25 23:59	01/20/25 09:35
MFL-AM02-011025-HM	5012123-06	Air	01/10/25 23:59	01/20/25 09:35
MFL-AM03-011025-HM	5012123-07	Air	01/10/25 23:59	01/20/25 09:35
MFL-AM08-011025-HM	5012123-08	Air	01/10/25 23:59	01/20/25 09:35
MFL-FB01-011025-HM	5012123-09	Air	01/10/25 00:00	01/20/25 09:35
MFL-AM05-011125-HM	5012123-10	Air	01/11/25 23:59	01/20/25 09:35
MFL-AM02-011125-HM	5012123-11	Air	01/11/25 23:59	01/20/25 09:35
MFL-AM03-011125-HM	5012123-12	Air	01/11/25 23:59	01/20/25 09:35
MFL-AM08-011125-HM	5012123-13	Air	01/11/25 23:59	01/20/25 09:35
MFL-LB01-011125-HM	5012123-14	Air	01/11/25 00:00	01/20/25 09:35
MFL-AM05-011225-HM	5012123-15	Air	01/12/25 23:59	01/20/25 09:35
MFL-AM02-011225-HM	5012123-16	Air	01/12/25 23:59	01/20/25 09:35
MFL-AM03-011225-HM	5012123-17	Air	01/12/25 23:59	01/20/25 09:35
MFL-AM08-011225-HM	5012123-18	Air	01/12/25 23:59	01/20/25 09:35
MFL-FB01-011225-HM	5012123-19	Air	01/12/25 00:00	01/20/25 09:35
MFL-AM05-011325-HM	5012123-20	Air	01/13/25 23:59	01/20/25 09:35
MFL-AM02-011325-HM	5012123-21	Air	01/13/25 23:59	01/20/25 09:35



CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
 1777 Sentry Pkwy, Bldg 12
 Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber

FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
AQS SITE CODE:

PHONE: (703) 885-5495	FAX:			SITE CODE:	Lahaina fires
MFL-AM03-011325-HM	5012123-22	Air	01/13/25 23:59	01/20/25 09:35	
MFL-AM08-011325-HM	5012123-23	Air	01/13/25 23:59	01/20/25 09:35	
MFL-AM05-011425-HM	5012123-24	Air	01/14/25 23:59	01/20/25 09:35	
MFL-AM02-011425-HM	5012123-25	Air	01/14/25 23:59	01/20/25 09:35	
MFL-AM03-011425-HM	5012123-26	Air	01/14/25 23:59	01/20/25 09:35	
MFL-AM08-011425-HM	5012123-27	Air	01/14/25 23:59	01/20/25 09:35	
MFL-FB01-011425-HM	5012123-28	Air	01/14/25 00:00	01/20/25 09:35	
MFL-AM05-011525-HM	5012123-29	Air	01/15/25 23:59	01/20/25 09:35	
MFL-AM02-011525-HM	5012123-30	Air	01/15/25 23:59	01/20/25 09:35	
MFL-AM03-011525-HM	5012123-31	Air	01/15/25 23:59	01/20/25 09:35	
MFL-AM08-011525-HM	5012123-32	Air	01/15/25 23:59	01/20/25 09:35	



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 Blue Bell, PA 19422
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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-010925-HM **Lab ID:** 5012123-01 **Sampled:** 01/09/25 23:59
Matrix: Air **Sample Volume:** 1964.272 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/23/25 23:32
Comments: Q8515099 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.138	SL	0.0290	
Arsenic	7440-38-2	0.138		0.00736	
Barium	7440-39-3	4.78		1.28	
Beryllium	7440-41-7	0.00586		0.00157	
Cadmium	7440-43-9	0.0180		0.00424	
Chromium	7440-47-3	1.67	U	2.02	
Cobalt	7440-48-4	0.195		0.0431	
Copper	7440-50-8	55.5		0.623	
Lead	7439-92-1	0.386		0.111	
Manganese	7439-96-5	5.93	QB-01	0.461	
Molybdenum	7439-98-7	2.61		0.326	
Nickel	7440-02-0	1.26		0.612	
Selenium	7782-49-2	0.218		0.00837	
Thallium	7440-28-0	0.00148		7.13E-4	
Vanadium	7440-62-2	1.03	QB-01	0.0379	
Zinc	7440-66-6	12.1	U	94.4	



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 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-010925-HM **Lab ID:** 5012123-02 **Sampled:** 01/09/25 23:59
Matrix: Air **Sample Volume:** 2086.381 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/23/25 23:45
Comments: Q8515098 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.244	SL	0.0273	
Arsenic	7440-38-2	0.363		0.00693	
Barium	7440-39-3	12.3		1.20	
Beryllium	7440-41-7	0.0167		0.00148	
Cadmium	7440-43-9	0.0324		0.00399	
Chromium	7440-47-3	2.55		1.90	
Cobalt	7440-48-4	0.562		0.0406	
Copper	7440-50-8	29.6		0.586	
Lead	7439-92-1	3.42		0.104	
Manganese	7439-96-5	18.5	QB-01	0.434	
Molybdenum	7439-98-7	1.33		0.307	
Nickel	7440-02-0	1.62		0.576	
Selenium	7782-49-2	0.265		0.00788	
Thallium	7440-28-0	0.00193		6.71E-4	
Vanadium	7440-62-2	2.08	QB-01	0.0357	
Zinc	7440-66-6	24.8	U	88.9	



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 AQS SITE CODE:
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Description: MFL-AM03-010925-HM **Lab ID:** 5012123-03 **Sampled:** 01/09/25 23:59
Matrix: Air **Sample Volume:** 1857.153 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/23/25 17:17
Comments: Q8515097 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0664	SL	0.0307	
Arsenic	7440-38-2	0.0891		0.00779	
Barium	7440-39-3	2.78		1.35	
Beryllium	7440-41-7	0.0115		0.00166	
Cadmium	7440-43-9	0.0185		0.00449	
Chromium	7440-47-3	2.13	U	2.14	
Cobalt	7440-48-4	0.228		0.0456	
Copper	7440-50-8	56.5		0.659	
Lead	7439-92-1	0.196		0.117	
Manganese	7439-96-5	5.97	QB-01	0.488	
Molybdenum	7439-98-7	1.81		0.345	
Nickel	7440-02-0	1.21		0.647	
Selenium	7782-49-2	0.220		0.00885	
Thallium	7440-28-0	0.00168		7.54E-4	
Vanadium	7440-62-2	1.08	QB-01	0.0401	
Zinc	7440-66-6	12.2	U	99.9	



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 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-010925-HM **Lab ID:** 5012123-04 **Sampled:** 01/09/25 23:59
Matrix: Air **Sample Volume:** 1909.212 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 00:00
Comments: Q8515095 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.152	SL	0.0298	
Arsenic	7440-38-2	1.17		0.00758	
Barium	7440-39-3	5.54		1.31	
Beryllium	7440-41-7	0.0166		0.00162	
Cadmium	7440-43-9	0.0283		0.00436	
Chromium	7440-47-3	2.65		2.08	
Cobalt	7440-48-4	0.483		0.0443	
Copper	7440-50-8	31.8		0.641	
Lead	7439-92-1	1.02		0.114	
Manganese	7439-96-5	16.1	QB-01	0.475	
Molybdenum	7439-98-7	1.38		0.336	
Nickel	7440-02-0	1.66		0.630	
Selenium	7782-49-2	0.258		0.00861	
Thallium	7440-28-0	0.00201		7.34E-4	
Vanadium	7440-62-2	1.72	QB-01	0.0390	
Zinc	7440-66-6	13.3	U	97.1	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-011025-HM **Lab ID:** 5012123-05 **Sampled:** 01/10/25 23:59
Matrix: Air **Sample Volume:** 1944.621 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 00:16
Comments: Q8515093 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.191	SL	0.0293	
Arsenic	7440-38-2	1.17		0.00744	
Barium	7440-39-3	15.2		1.29	
Beryllium	7440-41-7	0.0577		0.00159	
Cadmium	7440-43-9	0.186		0.00428	
Chromium	7440-47-3	8.47		2.04	
Cobalt	7440-48-4	2.01		0.0435	
Copper	7440-50-8	67.3		0.629	
Lead	7439-92-1	5.49		0.112	
Manganese	7439-96-5	61.8	QB-01	0.466	
Molybdenum	7439-98-7	2.75		0.330	
Nickel	7440-02-0	4.46		0.618	
Selenium	7782-49-2	0.339		0.00845	
Thallium	7440-28-0	0.00406		7.20E-4	
Vanadium	7440-62-2	5.74	QB-01	0.0383	
Zinc	7440-66-6	49.2	U	95.4	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-011025-HM **Lab ID:** 5012123-06 **Sampled:** 01/10/25 23:59
Matrix: Air **Sample Volume:** 2058.309 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 00:33
Comments: Q8515092 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.254	SL	0.0277
Arsenic	7440-38-2	1.00		0.00703
Barium	7440-39-3	16.3		1.22
Beryllium	7440-41-7	0.0383		0.00150
Cadmium	7440-43-9	0.667		0.00405
Chromium	7440-47-3	5.90		1.93
Cobalt	7440-48-4	1.27		0.0411
Copper	7440-50-8	53.5		0.594
Lead	7439-92-1	3.43		0.106
Manganese	7439-96-5	36.3	QB-01	0.440
Molybdenum	7439-98-7	1.71		0.311
Nickel	7440-02-0	3.11		0.584
Selenium	7782-49-2	0.267		0.00798
Thallium	7440-28-0	0.00208		6.81E-4
Vanadium	7440-62-2	3.71	QB-01	0.0362
Zinc	7440-66-6	34.5	U	90.1



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-011025-HM **Lab ID:** 5012123-07 **Sampled:** 01/10/25 23:59
Matrix: Air **Sample Volume:** 1811.231 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 00:49
Comments: Q8515089 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0525	SL	0.0314	
Arsenic	7440-38-2	0.373		0.00799	
Barium	7440-39-3	8.25		1.38	
Beryllium	7440-41-7	0.116		0.00171	
Cadmium	7440-43-9	0.0522		0.00460	
Chromium	7440-47-3	8.33		2.19	
Cobalt	7440-48-4	1.70		0.0467	
Copper	7440-50-8	68.5		0.676	
Lead	7439-92-1	0.616		0.120	
Manganese	7439-96-5	40.0	QB-01	0.500	
Molybdenum	7439-98-7	1.95		0.354	
Nickel	7440-02-0	4.13		0.664	
Selenium	7782-49-2	0.348		0.00907	
Thallium	7440-28-0	0.00237		7.73E-4	
Vanadium	7440-62-2	4.64	QB-01	0.0411	
Zinc	7440-66-6	16.0	U	102	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-011025-HM **Lab ID:** 5012123-08 **Sampled:** 01/10/25 23:59
Matrix: Air **Sample Volume:** 1909.212 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 01:04
Comments: Q8515088 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.0861	SL	0.0298
Arsenic	7440-38-2	0.498		0.00758
Barium	7440-39-3	3.34		1.31
Beryllium	7440-41-7	0.0113		0.00162
Cadmium	7440-43-9	0.0381		0.00436
Chromium	7440-47-3	2.79		2.08
Cobalt	7440-48-4	0.393		0.0443
Copper	7440-50-8	46.1		0.641
Lead	7439-92-1	0.488		0.114
Manganese	7439-96-5	9.79	QB-01	0.475
Molybdenum	7439-98-7	1.59		0.336
Nickel	7440-02-0	1.15		0.630
Selenium	7782-49-2	0.179		0.00861
Thallium	7440-28-0	8.16E-4		7.34E-4
Vanadium	7440-62-2	1.21	QB-01	0.0390
Zinc	7440-66-6	10.4	U	97.1



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 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-011025-HM **Lab ID:** 5012123-09 **Sampled:** 01/10/25 00:00
Matrix: Air **Sample Volume:** 1944.621 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 01:18
Comments: Q8515086 Field Blank - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0178	SL, U	0.0293	
Arsenic	7440-38-2	0.00917	FB-01	0.00744	
Barium	7440-39-3	1.07	U	1.29	
Beryllium	7440-41-7	6.75E-4	U	0.00159	
Cadmium	7440-43-9	0.00383	U	0.00428	
Chromium	7440-47-3	1.29	U	2.04	
Cobalt	7440-48-4	0.0199	U	0.0435	
Copper	7440-50-8	2.38	FB-01	0.629	
Lead	7439-92-1	0.0507	U	0.112	
Manganese	7439-96-5	0.457	QB-01, U	0.466	
Molybdenum	7439-98-7	0.248	U	0.330	
Nickel	7440-02-0	0.429	U	0.618	
Selenium	7782-49-2	9.10E-4	U	0.00845	
Thallium	7440-28-0	3.78E-4	U	7.20E-4	
Vanadium	7440-62-2	0.0437	FB-01, QB-01	0.0383	
Zinc	7440-66-6	16.3	U	95.4	



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 SUBMITTED: 01/20/25
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Description: MFL-AM05-011125-HM **Lab ID:** 5012123-10 **Sampled:** 01/11/25 23:59
Matrix: Air **Sample Volume:** 2045.159 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 01:31
Comments: Q8515084 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.210	SL	0.0278	
Arsenic	7440-38-2	0.152		0.00707	
Barium	7440-39-3	3.62		1.23	
Beryllium	7440-41-7	0.00667		0.00151	
Cadmium	7440-43-9	0.0375		0.00407	
Chromium	7440-47-3	1.94		1.94	
Cobalt	7440-48-4	0.226		0.0414	
Copper	7440-50-8	48.4		0.598	
Lead	7439-92-1	0.295		0.107	
Manganese	7439-96-5	6.42	QB-01	0.443	
Molybdenum	7439-98-7	1.47		0.313	
Nickel	7440-02-0	0.964		0.588	
Selenium	7782-49-2	0.193		0.00803	
Thallium	7440-28-0	5.26E-4	U	6.85E-4	
Vanadium	7440-62-2	0.724	QB-01	0.0364	
Zinc	7440-66-6	10.3	U	90.7	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
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Description: MFL-AM02-011125-HM **Lab ID:** 5012123-11 **Sampled:** 01/11/25 23:59
Matrix: Air **Sample Volume:** 2035.979 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 02:37
Comments: Q8515083 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.193	SL	0.0280	
Arsenic	7440-38-2	0.223		0.00710	
Barium	7440-39-3	5.64	LJ, QX	1.23	
Beryllium	7440-41-7	0.0117		0.00152	
Cadmium	7440-43-9	0.0172		0.00409	
Chromium	7440-47-3	2.40		1.95	
Cobalt	7440-48-4	0.352		0.0416	
Copper	7440-50-8	32.1		0.601	
Lead	7439-92-1	0.789		0.107	
Manganese	7439-96-5	11.0	QB-01	0.445	
Molybdenum	7439-98-7	1.07		0.315	
Nickel	7440-02-0	1.23		0.591	
Selenium	7782-49-2	0.237		0.00807	
Thallium	7440-28-0	8.33E-4		6.88E-4	
Vanadium	7440-62-2	1.21	QB-01	0.0366	
Zinc	7440-66-6	16.1	U	91.1	



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 AQS SITE CODE:
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Description: MFL-AM03-011125-HM **Lab ID:** 5012123-12 **Sampled:** 01/11/25 23:59
Matrix: Air **Sample Volume:** 1996.554 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 03:06
Comments: Q8515082 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.0408	SL	0.0285
Arsenic	7440-38-2	0.253		0.00724
Barium	7440-39-3	5.31	LJ, QX	1.25
Beryllium	7440-41-7	0.0693		0.00155
Cadmium	7440-43-9	0.0120		0.00417
Chromium	7440-47-3	5.30		1.99
Cobalt	7440-48-4	1.08		0.0424
Copper	7440-50-8	58.7		0.613
Lead	7439-92-1	0.304		0.109
Manganese	7439-96-5	27.3	QB-01	0.454
Molybdenum	7439-98-7	1.68		0.321
Nickel	7440-02-0	2.50		0.602
Selenium	7782-49-2	0.318		0.00823
Thallium	7440-28-0	0.00161		7.02E-4
Vanadium	7440-62-2	3.11	QB-01	0.0373
Zinc	7440-66-6	9.56	U	92.9



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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: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-011125-HM **Lab ID:** 5012123-13 **Sampled:** 01/11/25 23:59
Matrix: Air **Sample Volume:** 1990.276 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 03:20
Comments: Q8515081 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.143	SL	0.0286	
Arsenic	7440-38-2	0.207		0.00727	
Barium	7440-39-3	2.78	LJ, QX	1.26	
Beryllium	7440-41-7	0.00475		0.00155	
Cadmium	7440-43-9	0.0102		0.00419	
Chromium	7440-47-3	1.74	U	1.99	
Cobalt	7440-48-4	0.157		0.0425	
Copper	7440-50-8	37.1		0.615	
Lead	7439-92-1	0.276		0.110	
Manganese	7439-96-5	4.47	QB-01	0.455	
Molybdenum	7439-98-7	1.16		0.322	
Nickel	7440-02-0	0.829		0.604	
Selenium	7782-49-2	0.200		0.00826	
Thallium	7440-28-0	5.04E-4	U	7.04E-4	
Vanadium	7440-62-2	0.547	QB-01	0.0374	
Zinc	7440-66-6	14.9	U	93.2	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-LB01-011125-HM **Lab ID:** 5012123-14 **Sampled:** 01/11/25 00:00
Matrix: Air **Sample Volume:** 2045.159 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 03:33
Comments: Q8522485 Lab Blank - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0200	SL, U	0.0278	
Arsenic	7440-38-2	0.00508	U	0.00707	
Barium	7440-39-3	0.839	LJ, QX, U	1.23	
Beryllium	7440-41-7	3.09E-4	U	0.00151	
Cadmium	7440-43-9	0.00141	U	0.00407	
Chromium	7440-47-3	0.810	U	1.94	
Cobalt	7440-48-4	0.0127	U	0.0414	
Copper	7440-50-8	0.502	U	0.598	
Lead	7439-92-1	0.0270	U	0.107	
Manganese	7439-96-5	0.235	QB-01, U	0.443	
Molybdenum	7439-98-7	0.163	U	0.313	
Nickel	7440-02-0	0.372	U	0.588	
Selenium	7782-49-2	0.00303	U	0.00803	
Thallium	7440-28-0	7.27E-5	U	6.85E-4	
Vanadium	7440-62-2	0.0354	QB-01, U	0.0364	
Zinc	7440-66-6	2.38	U	90.7	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-011225-HM **Lab ID:** 5012123-15 **Sampled:** 01/12/25 23:59
Matrix: Air **Sample Volume:** 2011.932 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 03:47
Comments: Q8522490 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.126	SL	0.0283	
Arsenic	7440-38-2	0.286		0.00719	
Barium	7440-39-3	4.96	LJ, QX	1.25	
Beryllium	7440-41-7	0.00922		0.00154	
Cadmium	7440-43-9	0.0193		0.00414	
Chromium	7440-47-3	2.43		1.97	
Cobalt	7440-48-4	0.318		0.0421	
Copper	7440-50-8	41.7		0.608	
Lead	7439-92-1	1.72		0.108	
Manganese	7439-96-5	9.66	QB-01	0.450	
Molybdenum	7439-98-7	2.20		0.319	
Nickel	7440-02-0	1.34		0.598	
Selenium	7782-49-2	0.171		0.00817	
Thallium	7440-28-0	8.24E-4		6.96E-4	
Vanadium	7440-62-2	1.01	QB-01	0.0370	
Zinc	7440-66-6	14.0	U	92.2	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-011225-HM **Lab ID:** 5012123-16 **Sampled:** 01/12/25 23:59
Matrix: Air **Sample Volume:** 2082.923 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 04:01
Comments: Q8522487 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.307	SL	0.0273
Arsenic	7440-38-2	0.186		0.00694
Barium	7440-39-3	6.52	LJ, QX	1.20
Beryllium	7440-41-7	0.00926		0.00148
Cadmium	7440-43-9	0.0200		0.00400
Chromium	7440-47-3	1.99		1.91
Cobalt	7440-48-4	0.278		0.0406
Copper	7440-50-8	43.1		0.587
Lead	7439-92-1	0.791		0.105
Manganese	7439-96-5	8.50	QB-01	0.435
Molybdenum	7439-98-7	1.35		0.308
Nickel	7440-02-0	1.10		0.577
Selenium	7782-49-2	0.194		0.00789
Thallium	7440-28-0	6.21E-4	U	6.73E-4
Vanadium	7440-62-2	0.952	QB-01	0.0358
Zinc	7440-66-6	17.0	U	89.0



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 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-011225-HM **Lab ID:** 5012123-17 **Sampled:** 01/12/25 23:59
Matrix: Air **Sample Volume:** 2051.425 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 04:14
Comments: Q8522484 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.0502	SL	0.0278
Arsenic	7440-38-2	0.0672		0.00705
Barium	7440-39-3	2.10	LJ, QX	1.22
Beryllium	7440-41-7	0.0107		0.00151
Cadmium	7440-43-9	0.00486		0.00406
Chromium	7440-47-3	1.58	U	1.94
Cobalt	7440-48-4	0.172		0.0412
Copper	7440-50-8	55.6		0.596
Lead	7439-92-1	0.146		0.106
Manganese	7439-96-5	4.16	QB-01	0.442
Molybdenum	7439-98-7	1.84		0.312
Nickel	7440-02-0	0.914		0.586
Selenium	7782-49-2	0.157		0.00801
Thallium	7440-28-0	3.74E-4	U	6.83E-4
Vanadium	7440-62-2	0.550	QB-01	0.0363
Zinc	7440-66-6	6.41	U	90.4



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 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-011225-HM **Lab ID:** 5012123-18 **Sampled:** 01/12/25 23:59
Matrix: Air **Sample Volume:** 2056.69 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 04:28
Comments: Q8522483 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.118	SL	0.0277	
Arsenic	7440-38-2	0.867		0.00703	
Barium	7440-39-3	2.65	LJ, QX	1.22	
Beryllium	7440-41-7	0.00507		0.00150	
Cadmium	7440-43-9	0.00739		0.00405	
Chromium	7440-47-3	1.92	U	1.93	
Cobalt	7440-48-4	0.174		0.0411	
Copper	7440-50-8	40.7		0.595	
Lead	7439-92-1	0.351		0.106	
Manganese	7439-96-5	5.61	QB-01	0.441	
Molybdenum	7439-98-7	1.21		0.312	
Nickel	7440-02-0	0.856		0.585	
Selenium	7782-49-2	0.170		0.00799	
Thallium	7440-28-0	4.73E-4	U	6.81E-4	
Vanadium	7440-62-2	0.582	QB-01	0.0362	
Zinc	7440-66-6	9.46	U	90.2	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-011225-HM **Lab ID:** 5012123-19 **Sampled:** 01/12/25 00:00
Matrix: Air **Sample Volume:** 2011.932 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 06:06
Comments: Q8522479 Field Blank - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.0894	FB-01, SL	0.0283
Arsenic	7440-38-2	0.00925	FB-01	0.00719
Barium	7440-39-3	0.971	LJ, QX, U	1.25
Beryllium	7440-41-7	5.28E-4	U	0.00154
Cadmium	7440-43-9	0.00180	U	0.00414
Chromium	7440-47-3	0.966	U	1.97
Cobalt	7440-48-4	0.0213	U	0.0421
Copper	7440-50-8	7.67	FB-01	0.608
Lead	7439-92-1	0.0787	U	0.108
Manganese	7439-96-5	0.447	QB-01, U	0.450
Molybdenum	7439-98-7	0.289	U	0.319
Nickel	7440-02-0	0.524	U	0.598
Selenium	7782-49-2	0.00175	U	0.00817
Thallium	7440-28-0	2.48E-4	U	6.96E-4
Vanadium	7440-62-2	0.0465	FB-01, QB-01	0.0370
Zinc	7440-66-6	6.62	U	92.2



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-011325-HM **Lab ID:** 5012123-20 **Sampled:** 01/13/25 23:59
Matrix: Air **Sample Volume:** 1988.334 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 06:19
Comments: Q8522482 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.970	SL	0.0286	
Arsenic	7440-38-2	0.434		0.00727	
Barium	7440-39-3	4.20	LJ, QX	1.26	
Beryllium	7440-41-7	0.00653		0.00155	
Cadmium	7440-43-9	0.265		0.00419	
Chromium	7440-47-3	1.60	U	2.00	
Cobalt	7440-48-4	0.216		0.0426	
Copper	7440-50-8	44.5		0.615	
Lead	7439-92-1	6.05		0.110	
Manganese	7439-96-5	6.46	QB-01	0.456	
Molybdenum	7439-98-7	2.52		0.322	
Nickel	7440-02-0	1.02		0.605	
Selenium	7782-49-2	0.252		0.00826	
Thallium	7440-28-0	0.00574		7.05E-4	
Vanadium	7440-62-2	0.777	QB-01	0.0375	
Zinc	7440-66-6	49.7	U	93.3	



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 SUBMITTED: 01/20/25
 AQS SITE CODE:
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Description: MFL-AM02-011325-HM **Lab ID:** 5012123-21 **Sampled:** 01/13/25 23:59
Matrix: Air **Sample Volume:** 2109.982 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 06:38
Comments: Q8522481 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	1.21	SL	0.0270
Arsenic	7440-38-2	0.542		0.00686
Barium	7440-39-3	7.03	LJ, QX	1.19
Beryllium	7440-41-7	0.0119		0.00147
Cadmium	7440-43-9	0.300		0.00395
Chromium	7440-47-3	2.03		1.88
Cobalt	7440-48-4	0.359		0.0401
Copper	7440-50-8	36.3		0.580
Lead	7439-92-1	6.92		0.103
Manganese	7439-96-5	10.9	QB-01	0.430
Molybdenum	7439-98-7	1.22		0.304
Nickel	7440-02-0	1.27		0.570
Selenium	7782-49-2	0.285		0.00779
Thallium	7440-28-0	0.00617		6.64E-4
Vanadium	7440-62-2	1.29	QB-01	0.0353
Zinc	7440-66-6	55.3	U	87.9



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 AQS SITE CODE:
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Description: MFL-AM03-011325-HM **Lab ID:** 5012123-22 **Sampled:** 01/13/25 23:59
Matrix: Air **Sample Volume:** 2036.058 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 06:56
Comments: Q8522477 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.961	SL	0.0280
Arsenic	7440-38-2	0.460		0.00710
Barium	7440-39-3	2.93	LJ, QX	1.23
Beryllium	7440-41-7	0.0136		0.00152
Cadmium	7440-43-9	0.293		0.00409
Chromium	7440-47-3	1.79	U	1.95
Cobalt	7440-48-4	0.249		0.0416
Copper	7440-50-8	55.5		0.601
Lead	7439-92-1	6.41		0.107
Manganese	7439-96-5	6.68	QB-01	0.445
Molybdenum	7439-98-7	1.64		0.315
Nickel	7440-02-0	1.01		0.591
Selenium	7782-49-2	0.265		0.00807
Thallium	7440-28-0	0.00621		6.88E-4
Vanadium	7440-62-2	0.792	QB-01	0.0366
Zinc	7440-66-6	49.6	U	91.1



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 AQS SITE CODE:
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Description: MFL-AM08-011325-HM **Lab ID:** 5012123-23 **Sampled:** 01/13/25 23:59
Matrix: Air **Sample Volume:** 1826.74 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 07:15
Comments: Q8522473 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	1.02	SL	0.0312
Arsenic	7440-38-2	0.809		0.00792
Barium	7440-39-3	4.49	LJ, QX	1.37
Beryllium	7440-41-7	0.00815		0.00169
Cadmium	7440-43-9	0.324		0.00456
Chromium	7440-47-3	1.87	U	2.17
Cobalt	7440-48-4	0.269		0.0463
Copper	7440-50-8	49.8		0.670
Lead	7439-92-1	6.44		0.119
Manganese	7439-96-5	8.62	QB-01	0.496
Molybdenum	7439-98-7	1.77		0.351
Nickel	7440-02-0	1.14		0.658
Selenium	7782-49-2	0.267		0.00900
Thallium	7440-28-0	0.00622		7.67E-4
Vanadium	7440-62-2	0.859	QB-01	0.0408
Zinc	7440-66-6	52.9	U	102



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 REPORTED: 01/29/25 11:06
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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-011425-HM **Lab ID:** 5012123-24 **Sampled:** 01/14/25 23:59
Matrix: Air **Sample Volume:** 1913.725 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/23/25 20:51
Comments: Q8522472 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.845	SL	0.0298	
Arsenic	7440-38-2	0.728		0.00756	
Barium	7440-39-3	5.18		1.31	
Beryllium	7440-41-7	0.0126		0.00162	
Cadmium	7440-43-9	0.210		0.00435	
Chromium	7440-47-3	2.14		2.07	
Cobalt	7440-48-4	0.358		0.0442	
Copper	7440-50-8	67.5		0.639	
Lead	7439-92-1	4.21		0.114	
Manganese	7439-96-5	11.8	QB-01	0.474	
Molybdenum	7439-98-7	3.22		0.335	
Nickel	7440-02-0	1.22		0.628	
Selenium	7782-49-2	0.288		0.00859	
Thallium	7440-28-0	0.00556		7.32E-4	
Vanadium	7440-62-2	1.35	QB-01	0.0389	
Zinc	7440-66-6	44.4	U	96.9	



CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-011425-HM **Lab ID:** 5012123-25 **Sampled:** 01/14/25 23:59
Matrix: Air **Sample Volume:** 2060.851 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 07:34
Comments: Q8522471 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.882	SL	0.0276
Arsenic	7440-38-2	0.540		0.00702
Barium	7440-39-3	8.96	LJ, QX	1.22
Beryllium	7440-41-7	0.0192		0.00150
Cadmium	7440-43-9	0.197		0.00404
Chromium	7440-47-3	2.86		1.93
Cobalt	7440-48-4	0.636		0.0411
Copper	7440-50-8	39.9		0.594
Lead	7439-92-1	4.32		0.106
Manganese	7439-96-5	18.7	QB-01	0.440
Molybdenum	7439-98-7	1.25		0.311
Nickel	7440-02-0	1.98		0.583
Selenium	7782-49-2	0.311		0.00797
Thallium	7440-28-0	0.00557		6.80E-4
Vanadium	7440-62-2	2.13	QB-01	0.0362
Zinc	7440-66-6	49.0	U	90.0



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-011425-HM **Lab ID:** 5012123-26 **Sampled:** 01/14/25 23:59
Matrix: Air **Sample Volume:** 1997.39 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 07:51
Comments: Q8522470 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.697	SL	0.0285
Arsenic	7440-38-2	0.398		0.00724
Barium	7440-39-3	3.64	LJ, QX	1.25
Beryllium	7440-41-7	0.0190		0.00155
Cadmium	7440-43-9	0.174		0.00417
Chromium	7440-47-3	2.10		1.99
Cobalt	7440-48-4	0.323		0.0424
Copper	7440-50-8	52.7		0.613
Lead	7439-92-1	3.40		0.109
Manganese	7439-96-5	8.73	QB-01	0.454
Molybdenum	7439-98-7	1.55		0.321
Nickel	7440-02-0	1.24		0.602
Selenium	7782-49-2	0.282		0.00823
Thallium	7440-28-0	0.00498		7.01E-4
Vanadium	7440-62-2	1.19	QB-01	0.0373
Zinc	7440-66-6	36.2	U	92.9



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 REPORTED: 01/29/25 11:06
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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-011425-HM **Lab ID:** 5012123-27 **Sampled:** 01/14/25 23:59
Matrix: Air **Sample Volume:** 1882.465 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 08:07
Comments: Q8522469 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.657	SL	0.0303	
Arsenic	7440-38-2	0.554		0.00768	
Barium	7440-39-3	3.50	LJ, QX	1.33	
Beryllium	7440-41-7	0.00890		0.00164	
Cadmium	7440-43-9	0.162		0.00443	
Chromium	7440-47-3	1.70	U	2.11	
Cobalt	7440-48-4	0.245		0.0449	
Copper	7440-50-8	32.3		0.650	
Lead	7439-92-1	3.22		0.116	
Manganese	7439-96-5	8.30	QB-01	0.481	
Molybdenum	7439-98-7	1.83		0.341	
Nickel	7440-02-0	1.05		0.639	
Selenium	7782-49-2	0.253		0.00873	
Thallium	7440-28-0	0.00444		7.44E-4	
Vanadium	7440-62-2	1.00	QB-01	0.0396	
Zinc	7440-66-6	38.9	U	98.5	



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 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-011425-HM **Lab ID:** 5012123-28 **Sampled:** 01/14/25 00:00
Matrix: Air **Sample Volume:** 1913.725 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 08:23
Comments: Q8522459 Field Blank - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0220	SL, U	0.0298	
Arsenic	7440-38-2	0.00569	U	0.00756	
Barium	7440-39-3	0.907	LJ, QX, U	1.31	
Beryllium	7440-41-7	2.18E-4	U	0.00162	
Cadmium	7440-43-9	7.88E-4	U	0.00435	
Chromium	7440-47-3	0.837	U	2.07	
Cobalt	7440-48-4	0.0119	U	0.0442	
Copper	7440-50-8	0.960	FB-01	0.639	
Lead	7439-92-1	0.0317	U	0.114	
Manganese	7439-96-5	0.191	QB-01, U	0.474	
Molybdenum	7439-98-7	0.165	U	0.335	
Nickel	7440-02-0	0.384	U	0.628	
Selenium	7782-49-2	ND	U	0.00859	
Thallium	7440-28-0	5.80E-5	U	7.32E-4	
Vanadium	7440-62-2	0.0295	QB-01, U	0.0389	
Zinc	7440-66-6	3.78	U	96.9	



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 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-011525-HM **Lab ID:** 5012123-29 **Sampled:** 01/15/25 23:59
Matrix: Air **Sample Volume:** 1979.214 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 08:36
Comments: Q8522468 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.499	SL	0.0288	
Arsenic	7440-38-2	0.375		0.00731	
Barium	7440-39-3	5.69	LJ, QX	1.27	
Beryllium	7440-41-7	0.0125		0.00156	
Cadmium	7440-43-9	0.146		0.00421	
Chromium	7440-47-3	2.33		2.01	
Cobalt	7440-48-4	0.481		0.0427	
Copper	7440-50-8	49.4		0.618	
Lead	7439-92-1	3.14		0.110	
Manganese	7439-96-5	15.2	QB-01	0.458	
Molybdenum	7439-98-7	2.34		0.324	
Nickel	7440-02-0	1.35		0.607	
Selenium	7782-49-2	0.248		0.00830	
Thallium	7440-28-0	0.00331		7.08E-4	
Vanadium	7440-62-2	1.46	QB-01	0.0376	
Zinc	7440-66-6	30.4	U	93.7	



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-011525-HM **Lab ID:** 5012123-30 **Sampled:** 01/15/25 23:59
Matrix: Air **Sample Volume:** 2046.533 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 09:44
Comments: Q8522467 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.649	SL	0.0278
Arsenic	7440-38-2	0.365		0.00707
Barium	7440-39-3	11.7		1.22
Beryllium	7440-41-7	0.0148		0.00151
Cadmium	7440-43-9	0.155		0.00407
Chromium	7440-47-3	2.66		1.94
Cobalt	7440-48-4	0.484		0.0413
Copper	7440-50-8	31.3		0.598
Lead	7439-92-1	3.63		0.107
Manganese	7439-96-5	14.1	QB-01	0.443
Molybdenum	7439-98-7	1.53		0.313
Nickel	7440-02-0	1.57		0.588
Selenium	7782-49-2	0.261		0.00803
Thallium	7440-28-0	0.00350		6.84E-4
Vanadium	7440-62-2	1.55	QB-01	0.0364
Zinc	7440-66-6	38.9	U	90.6



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 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-011525-HM **Lab ID:** 5012123-31 **Sampled:** 01/15/25 23:59
Matrix: Air **Sample Volume:** 2027.521 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 10:03
Comments: Q8522463 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.393	SL	0.0281
Arsenic	7440-38-2	0.256		0.00713
Barium	7440-39-3	3.22		1.24
Beryllium	7440-41-7	0.0200		0.00152
Cadmium	7440-43-9	0.133		0.00411
Chromium	7440-47-3	2.27		1.96
Cobalt	7440-48-4	0.379		0.0417
Copper	7440-50-8	52.8		0.603
Lead	7439-92-1	2.77		0.108
Manganese	7439-96-5	9.21	QB-01	0.447
Molybdenum	7439-98-7	1.55		0.316
Nickel	7440-02-0	1.26		0.593
Selenium	7782-49-2	0.227		0.00810
Thallium	7440-28-0	0.00299		6.91E-4
Vanadium	7440-62-2	1.06	QB-01	0.0368
Zinc	7440-66-6	23.4	U	91.5



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FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-011525-HM **Lab ID:** 5012123-32 **Sampled:** 01/15/25 23:59
Matrix: Air **Sample Volume:** 1721.574 m³ **Received:** 01/20/25 09:35
Filter ID: **Analysis Date:** 01/24/25 10:20
Comments: Q8522458 - 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/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.427	SL	0.0331	
Arsenic	7440-38-2	0.718		0.00840	
Barium	7440-39-3	4.96		1.46	
Beryllium	7440-41-7	0.0142		0.00180	
Cadmium	7440-43-9	0.131		0.00484	
Chromium	7440-47-3	2.40		2.31	
Cobalt	7440-48-4	0.446		0.0491	
Copper	7440-50-8	48.8		0.711	
Lead	7439-92-1	5.84		0.127	
Manganese	7439-96-5	14.0	QB-01	0.526	
Molybdenum	7439-98-7	2.25		0.372	
Nickel	7440-02-0	1.49		0.698	
Selenium	7782-49-2	0.232		0.00955	
Thallium	7440-28-0	0.00283		8.14E-4	
Vanadium	7440-62-2	1.26	QB-01	0.0433	
Zinc	7440-66-6	29.4	U	108	



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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 2501056 - B5A2302

Calibration Blank (2501056-CCB1)

Prepared & Analyzed: 01/23/25

Antimony	0.891		ng/l							
Arsenic	-4.04		ng/l							U
Barium	3.47		ng/l							
Beryllium	-0.791		ng/l							U
Cadmium	0.167		ng/l							
Chromium	4.10		ng/l							
Cobalt	0.210		ng/l							
Copper	16.1		ng/l							
Lead	2.23		ng/l							
Manganese	4.84		ng/l							
Molybdenum	25.4		ng/l							
Nickel	-2.05		ng/l							U
Selenium	-15.2		ng/l							U
Thallium	1.16		ng/l							
Vanadium	2.77		ng/l							
Zinc	-14.8		ng/l							U

Calibration Blank (2501056-CCB2)

Prepared & Analyzed: 01/23/25

Antimony	0.469		ng/l							
Arsenic	-3.68		ng/l							U
Barium	1.02		ng/l							
Beryllium	-1.12		ng/l							U
Cadmium	-0.0370		ng/l							U
Chromium	2.87		ng/l							
Cobalt	0.129		ng/l							
Copper	-0.452		ng/l							U
Lead	1.40		ng/l							
Manganese	3.97		ng/l							
Molybdenum	7.41		ng/l							
Nickel	-1.11		ng/l							U
Selenium	-7.13		ng/l							U
Thallium	0.959		ng/l							
Vanadium	-12.1		ng/l							U
Zinc	-32.4		ng/l							U

Calibration Blank (2501056-CCB3)

Prepared & Analyzed: 01/23/25

Antimony	0.484		ng/l							
Arsenic	0.823		ng/l							
Barium	1.58		ng/l							
Beryllium	-1.53		ng/l							U

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FILE #: 4205.00.003.001
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 SUBMITTED: 01/20/25
 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 2501056 - B5A2302

Calibration Blank (2501056-CCB3) Contin

Prepared & Analyzed: 01/23/25

Cadmium	0.0520		ng/l							
Chromium	2.96		ng/l							
Cobalt	0.242		ng/l							
Copper	3.70		ng/l							
Lead	1.84		ng/l							
Manganese	4.19		ng/l							
Molybdenum	6.27		ng/l							
Nickel	-1.80		ng/l							U
Selenium	-11.9		ng/l							U
Thallium	0.956		ng/l							
Vanadium	-40.1		ng/l							U
Zinc	-12.9		ng/l							U

Calibration Blank (2501056-CCB4)

Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	0.615		ng/l							
Arsenic	4.97		ng/l							
Barium	3.00		ng/l							
Beryllium	-1.62		ng/l							U
Cadmium	0.186		ng/l							
Chromium	2.35		ng/l							
Cobalt	0.173		ng/l							
Copper	0.519		ng/l							
Lead	1.67		ng/l							
Manganese	2.78		ng/l							
Molybdenum	4.72		ng/l							
Nickel	0.838		ng/l							
Selenium	-11.2		ng/l							U
Thallium	0.720		ng/l							
Vanadium	-51.4		ng/l							U
Zinc	-22.0		ng/l							U

Calibration Blank (2501056-CCB5)

Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	0.790		ng/l							
Arsenic	0.335		ng/l							
Barium	2.66		ng/l							
Beryllium	-1.64		ng/l							U
Cadmium	0.0795		ng/l							
Chromium	4.00		ng/l							
Cobalt	0.0791		ng/l							
Copper	6.48		ng/l							

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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 2501056 - B5A2302

Calibration Blank (2501056-CCB5) Contin

Prepared: 01/23/25 Analyzed: 01/24/25

Lead	2.40		ng/l							
Manganese	4.00		ng/l							
Molybdenum	8.71		ng/l							
Nickel	-1.61		ng/l							U
Selenium	-1.02		ng/l							U
Thallium	1.25		ng/l							
Vanadium	-60.2		ng/l							U
Zinc	-15.3		ng/l							U

Calibration Blank (2501056-CCB6)

Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	0.487		ng/l							
Arsenic	1.21		ng/l							
Barium	2.67		ng/l							
Beryllium	-1.91		ng/l							U
Cadmium	0.224		ng/l							
Chromium	3.71		ng/l							
Cobalt	0.119		ng/l							
Copper	3.83		ng/l							
Lead	1.79		ng/l							
Manganese	3.37		ng/l							
Molybdenum	5.13		ng/l							
Nickel	1.30		ng/l							
Selenium	-7.35		ng/l							U
Thallium	0.871		ng/l							
Vanadium	-56.6		ng/l							U
Zinc	-22.7		ng/l							U

Calibration Blank (2501056-CCB7)

Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	0.959		ng/l							
Arsenic	-0.622		ng/l							U
Barium	2.25		ng/l							
Beryllium	-1.68		ng/l							U
Cadmium	0.399		ng/l							
Chromium	3.68		ng/l							
Cobalt	0.433		ng/l							
Copper	15.6		ng/l							
Lead	3.37		ng/l							
Manganese	6.02		ng/l							
Molybdenum	9.62		ng/l							
Nickel	-2.03		ng/l							U

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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: 01/29/25 11:06
 SUBMITTED: 01/20/25
 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 2501056 - B5A2302

Calibration Blank (2501056-CCB7) Contin

Prepared: 01/23/25 Analyzed: 01/24/25

Selenium	-2.90		ng/l							U
Thallium	1.41		ng/l							U
Vanadium	-55.9		ng/l							U
Zinc	1.85		ng/l							

Calibration Check (2501056-CCV1)

Prepared & Analyzed: 01/23/25

Antimony	20300		ng/l	20008		101	90-110			
Arsenic	20000		ng/l	20004		100	90-110			
Barium	200000		ng/l	200200		99.7	90-110			
Beryllium	5080		ng/l	5002.5		101	90-110			
Cadmium	20500		ng/l	20014		102	90-110			
Chromium	252000		ng/l	240050		105	90-110			
Cobalt	50900		ng/l	50020		102	90-110			
Copper	2.07E6		ng/l	2.0020E6		103	90-110			
Lead	201000		ng/l	200060		100	90-110			
Manganese	500000		ng/l	498900		100	90-110			
Molybdenum	50400		ng/l	50005		101	90-110			
Nickel	123000		ng/l	120040		102	90-110			
Selenium	20200		ng/l	20002		101	90-110			
Thallium	494		ng/l	499.95		98.7	90-110			
Vanadium	20000		ng/l	20030		99.6	90-110			
Zinc	508000		ng/l	500000		102	90-110			

Calibration Check (2501056-CCV2)

Prepared & Analyzed: 01/23/25

Antimony	20400		ng/l	20008		102	90-110			
Arsenic	20100		ng/l	20004		100	90-110			
Barium	198000		ng/l	200200		98.8	90-110			
Beryllium	5090		ng/l	5002.5		102	90-110			
Cadmium	20400		ng/l	20014		102	90-110			
Chromium	250000		ng/l	240050		104	90-110			
Cobalt	50100		ng/l	50020		100	90-110			
Copper	2.04E6		ng/l	2.0020E6		102	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	501000		ng/l	498900		100	90-110			
Molybdenum	49700		ng/l	50005		99.4	90-110			
Nickel	120000		ng/l	120040		100	90-110			
Selenium	20500		ng/l	20002		102	90-110			
Thallium	487		ng/l	499.95		97.3	90-110			
Vanadium	20100		ng/l	20030		100	90-110			
Zinc	506000		ng/l	500000		101	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501056 - B5A2302

Calibration Check (2501056-CCV3)

Prepared & Analyzed: 01/23/25

Antimony	20500		ng/l	20008		103	90-110			
Arsenic	20500		ng/l	20004		102	90-110			
Barium	207000		ng/l	200200		103	90-110			
Beryllium	5060		ng/l	5002.5		101	90-110			
Cadmium	20500		ng/l	20014		102	90-110			
Chromium	253000		ng/l	240050		105	90-110			
Cobalt	50700		ng/l	50020		101	90-110			
Copper	2.07E6		ng/l	2.0020E6		103	90-110			
Lead	202000		ng/l	200060		101	90-110			
Manganese	508000		ng/l	498900		102	90-110			
Molybdenum	50900		ng/l	50005		102	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20500		ng/l	20002		102	90-110			
Thallium	488		ng/l	499.95		97.6	90-110			
Vanadium	20300		ng/l	20030		101	90-110			
Zinc	515000		ng/l	500000		103	90-110			

Calibration Check (2501056-CCV4)

Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	21200		ng/l	20008		106	90-110			
Arsenic	20800		ng/l	20004		104	90-110			
Barium	217000		ng/l	200200		109	90-110			
Beryllium	5220		ng/l	5002.5		104	90-110			
Cadmium	21300		ng/l	20014		106	90-110			
Chromium	260000		ng/l	240050		108	90-110			
Cobalt	51900		ng/l	50020		104	90-110			
Copper	2.15E6		ng/l	2.0020E6		107	90-110			
Lead	209000		ng/l	200060		104	90-110			
Manganese	523000		ng/l	498900		105	90-110			
Molybdenum	52900		ng/l	50005		106	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	21300		ng/l	20002		106	90-110			
Thallium	490		ng/l	499.95		98.0	90-110			
Vanadium	20900		ng/l	20030		104	90-110			
Zinc	526000		ng/l	500000		105	90-110			

Calibration Check (2501056-CCV5)

Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	21200		ng/l	20008		106	90-110			
Arsenic	21100		ng/l	20004		105	90-110			
Barium	223000		ng/l	200200		112	90-110			LJ, QX
Beryllium	5230		ng/l	5002.5		105	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501056 - B5A2302

Calibration Check (2501056-CCV5) Contin

Prepared: 01/23/25 Analyzed: 01/24/25

Cadmium	21300		ng/l	20014		107	90-110			
Chromium	262000		ng/l	240050		109	90-110			
Cobalt	52600		ng/l	50020		105	90-110			
Copper	2.16E6		ng/l	2.0020E6		108	90-110			
Lead	209000		ng/l	200060		105	90-110			
Manganese	528000		ng/l	498900		106	90-110			
Molybdenum	54000		ng/l	50005		108	90-110			
Nickel	127000		ng/l	120040		106	90-110			
Selenium	21500		ng/l	20002		107	90-110			
Thallium	494		ng/l	499.95		98.8	90-110			
Vanadium	21100		ng/l	20030		105	90-110			
Zinc	533000		ng/l	500000		107	90-110			

Calibration Check (2501056-CCV6)

Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	20700		ng/l	20008		103	90-110			
Arsenic	20600		ng/l	20004		103	90-110			
Barium	212000		ng/l	200200		106	90-110			
Beryllium	5320		ng/l	5002.5		106	90-110			
Cadmium	20800		ng/l	20014		104	90-110			
Chromium	253000		ng/l	240050		105	90-110			
Cobalt	50800		ng/l	50020		102	90-110			
Copper	2.16E6		ng/l	2.0020E6		108	90-110			
Lead	204000		ng/l	200060		102	90-110			
Manganese	521000		ng/l	498900		104	90-110			
Molybdenum	51900		ng/l	50005		104	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20800		ng/l	20002		104	90-110			
Thallium	462		ng/l	499.95		92.4	90-110			
Vanadium	20300		ng/l	20030		101	90-110			
Zinc	517000		ng/l	500000		103	90-110			

Calibration Check (2501056-CCV7)

Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	21500		ng/l	20008		107	90-110			
Arsenic	21300		ng/l	20004		106	90-110			
Barium	210000		ng/l	200200		105	90-110			
Beryllium	5290		ng/l	5002.5		106	90-110			
Cadmium	21600		ng/l	20014		108	90-110			
Chromium	263000		ng/l	240050		109	90-110			
Cobalt	52400		ng/l	50020		105	90-110			
Copper	2.20E6		ng/l	2.0020E6		110	90-110			

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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 2501056 - B5A2302

Calibration Check (2501056-CCV7) Contin

Prepared: 01/23/25 Analyzed: 01/24/25

Lead	212000		ng/l	200060		106	90-110			
Manganese	542000		ng/l	498900		109	90-110			
Molybdenum	53300		ng/l	50005		107	90-110			
Nickel	126000		ng/l	120040		105	90-110			
Selenium	21300		ng/l	20002		107	90-110			
Thallium	491		ng/l	499.95		98.1	90-110			
Vanadium	21300		ng/l	20030		106	90-110			
Zinc	534000		ng/l	500000		107	90-110			

High Cal Check (2501056-HCV1)

Prepared & Analyzed: 01/23/25

Antimony	41000		ng/l	40016		103	95-105			
Arsenic	40400		ng/l	40008		101	95-105			
Barium	403000		ng/l	400400		101	95-105			
Beryllium	10100		ng/l	10005		101	95-105			
Cadmium	40500		ng/l	40028		101	95-105			
Chromium	481000		ng/l	480100		100	95-105			
Cobalt	99800		ng/l	100040		99.8	95-105			
Copper	3.98E6		ng/l	4.0040E6		99.5	95-105			
Lead	405000		ng/l	400120		101	95-105			
Manganese	1.00E6		ng/l	997800		101	95-105			
Molybdenum	101000		ng/l	100010		101	95-105			
Nickel	239000		ng/l	240070		99.4	95-105			
Selenium	41200		ng/l	40004		103	95-105			
Thallium	1010		ng/l	999.90		101	95-105			
Vanadium	40700		ng/l	40060		102	95-105			
Zinc	1.00E6		ng/l	1.0000E6		100	95-105			

Initial Cal Blank (2501056-ICB1)

Prepared & Analyzed: 01/23/25

Antimony	0.661		ng/l							
Arsenic	-3.77		ng/l							U
Barium	4.23		ng/l							
Beryllium	-0.789		ng/l							U
Cadmium	0.241		ng/l							
Chromium	5.87		ng/l							
Cobalt	0.190		ng/l							
Copper	13.4		ng/l							
Lead	2.96		ng/l							
Manganese	6.34		ng/l							
Molybdenum	10.4		ng/l							
Nickel	-2.72		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501056 - B5A2302

Initial Cal Blank (2501056-ICB1) Continuu

Prepared & Analyzed: 01/23/25

Selenium	-5.30		ng/l							U
Thallium	0.840		ng/l							
Vanadium	17.4		ng/l							
Zinc	-29.5		ng/l							U

Initial Cal Check (2501056-ICV1)

Prepared & Analyzed: 01/23/25

Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5110		ng/l	5000.0		102	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	49800		ng/l	50000		99.6	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	510		ng/l	500.00		102	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	517000		ng/l	500000		103	90-110			

Interference Check A (2501056-IFA1)

Prepared & Analyzed: 01/23/25

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
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	303000		ng/l	300000		101	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501056 - B5A2302

Interference Check B (2501056-IFB1)

Prepared & Analyzed: 01/23/25

Antimony	20600		ng/l	20008		103	80-120			
Arsenic	20400		ng/l	20004		102	80-120			
Barium	200000		ng/l	200200		100	80-120			
Beryllium	4860		ng/l	5002.5		97.1	80-120			
Cadmium	20000		ng/l	20014		100	80-120			
Chromium	243000		ng/l	240050		101	80-120			
Cobalt	49900		ng/l	50020		99.7	80-120			
Copper	1.92E6		ng/l	2.0020E6		96.0	80-120			
Lead	205000		ng/l	200060		103	80-120			
Manganese	502000		ng/l	498900		101	80-120			
Molybdenum	358000		ng/l	350000		102	80-120			
Nickel	117000		ng/l	120040		97.7	80-120			
Selenium	19700		ng/l	20002		98.6	80-120			
Thallium	513		ng/l	499.95		103	80-120			
Vanadium	19100		ng/l	20030		95.2	80-120			
Zinc	472000		ng/l	500000		94.4	80-120			

Batch B5A2302 - ICP-MS Extraction

Blank (B5A2302-BLK1)

Prepared & Analyzed: 01/23/25

Antimony	ND	0.0350	ng/m ³ Air							SL, U
Arsenic	ND	0.00889	ng/m ³ Air							U
Barium	ND	1.54	ng/m ³ Air							U
Beryllium	ND	0.00190	ng/m ³ Air							U
Cadmium	ND	0.00512	ng/m ³ Air							U
Chromium	ND	2.44	ng/m ³ Air							U
Cobalt	ND	0.0520	ng/m ³ Air							U
Copper	ND	0.752	ng/m ³ Air							U
Lead	ND	0.134	ng/m ³ Air							U
Manganese	ND	0.557	ng/m ³ Air							QB-01, U
Molybdenum	ND	0.394	ng/m ³ Air							U
Nickel	ND	0.739	ng/m ³ Air							U
Selenium	ND	0.0101	ng/m ³ Air							U
Thallium	ND	8.61E-4	ng/m ³ Air							U
Vanadium	ND	0.0458	ng/m ³ Air							QB-01, U
Zinc	ND	114	ng/m ³ Air							U

LCS (B5A2302-BS1)

Prepared & Analyzed: 01/23/25

Antimony	0.884	0.0350	ng/m ³ Air	1.3835		63.9	80-120			SL
Arsenic	2.74	0.00889	ng/m ³ Air	2.7664		99.2	80-120			
Barium	28.5	1.54	ng/m ³ Air	27.686		103	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A2302 - ICP-MS Extraction

LCS (B5A2302-BS1) Continued

Prepared & Analyzed: 01/23/25

Beryllium	1.35	0.00190	ng/m ³ Air	1.3836		97.5	80-120			
Cadmium	1.40	0.00512	ng/m ³ Air	1.3839		101	80-120			
Chromium	15.4	2.44	ng/m ³ Air	13.832		112	80-120			
Cobalt	1.39	0.0520	ng/m ³ Air	1.3835		100	80-120			
Copper	29.6	0.752	ng/m ³ Air	27.686		107	80-120			
Lead	13.9	0.134	ng/m ³ Air	13.833		101	80-120			
Manganese	9.00	0.557	ng/m ³ Air	8.2792		109	80-120			QB-01
Molybdenum	1.50	0.394	ng/m ³ Air	1.3831		109	80-120			
Nickel	3.20	0.739	ng/m ³ Air	2.7667		115	80-120			
Selenium	2.81	0.0101	ng/m ³ Air	2.7661		102	80-120			
Thallium	0.137	8.61E-4	ng/m ³ Air	0.13828		99.3	80-120			
Vanadium	2.85	0.0458	ng/m ³ Air	2.7700		103	80-120			QB-01
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5A2302-BS2)

Prepared & Analyzed: 01/23/25

Antimony	0.844	0.0350	ng/m ³ Air	1.3835		61.0	80-120			SL
Arsenic	2.70	0.00889	ng/m ³ Air	2.7664		97.6	80-120			
Barium	28.4	1.54	ng/m ³ Air	27.686		103	80-120			
Beryllium	1.35	0.00190	ng/m ³ Air	1.3836		97.2	80-120			
Cadmium	1.38	0.00512	ng/m ³ Air	1.3839		99.6	80-120			
Chromium	15.3	2.44	ng/m ³ Air	13.832		111	80-120			
Cobalt	1.36	0.0520	ng/m ³ Air	1.3835		98.6	80-120			
Copper	28.9	0.752	ng/m ³ Air	27.686		104	80-120			
Lead	13.8	0.134	ng/m ³ Air	13.833		99.7	80-120			
Manganese	8.94	0.557	ng/m ³ Air	8.2792		108	80-120			QB-01
Molybdenum	1.46	0.394	ng/m ³ Air	1.3831		106	80-120			
Nickel	3.14	0.739	ng/m ³ Air	2.7667		113	80-120			
Selenium	2.73	0.0101	ng/m ³ Air	2.7661		98.5	80-120			
Thallium	0.136	8.61E-4	ng/m ³ Air	0.13828		98.2	80-120			
Vanadium	2.82	0.0458	ng/m ³ Air	2.7700		102	80-120			QB-01
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5A2302-BS3)

Prepared & Analyzed: 01/23/25

Antimony	1.39	0.0350	ng/m ³ Air	1.3835		100	80-120			SL
Arsenic	2.74	0.00889	ng/m ³ Air	2.7664		99.1	80-120			
Barium	27.5	1.54	ng/m ³ Air	27.686		99.5	80-120			
Beryllium	1.34	0.00190	ng/m ³ Air	1.3836		96.8	80-120			
Cadmium	1.41	0.00512	ng/m ³ Air	1.3839		102	80-120			
Chromium	14.5	2.44	ng/m ³ Air	13.832		105	80-120			
Cobalt	1.37	0.0520	ng/m ³ Air	1.3835		99.0	80-120			

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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 B5A2302 - ICP-MS Extraction

LCS (B5A2302-BS3) Continued

Prepared & Analyzed: 01/23/25

Copper	28.5	0.752	ng/m ³ Air	27.686		103	80-120			
Lead	13.8	0.134	ng/m ³ Air	13.833		99.6	80-120			
Manganese	8.81	0.557	ng/m ³ Air	8.2792		106	80-120			QB-01
Molybdenum	1.35	0.394	ng/m ³ Air	1.3831		97.6	80-120			
Nickel	2.79	0.739	ng/m ³ Air	2.7667		101	80-120			
Selenium	2.76	0.0101	ng/m ³ Air	2.7661		99.9	80-120			
Thallium	0.136	8.61E-4	ng/m ³ Air	0.13828		98.5	80-120			
Vanadium	2.81	0.0458	ng/m ³ Air	2.7700		101	80-120			QB-01
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5A2302-BS4)

Prepared & Analyzed: 01/23/25

Antimony	1.37	0.0350	ng/m ³ Air	1.3835		98.8	80-120			SL
Arsenic	2.73	0.00889	ng/m ³ Air	2.7664		98.7	80-120			
Barium	27.8	1.54	ng/m ³ Air	27.686		100	80-120			
Beryllium	1.36	0.00190	ng/m ³ Air	1.3836		98.5	80-120			
Cadmium	1.37	0.00512	ng/m ³ Air	1.3839		99.0	80-120			
Chromium	14.2	2.44	ng/m ³ Air	13.832		103	80-120			
Cobalt	1.35	0.0520	ng/m ³ Air	1.3835		97.4	80-120			
Copper	28.1	0.752	ng/m ³ Air	27.686		102	80-120			
Lead	13.6	0.134	ng/m ³ Air	13.833		98.5	80-120			
Manganese	8.53	0.557	ng/m ³ Air	8.2792		103	80-120			QB-01
Molybdenum	1.33	0.394	ng/m ³ Air	1.3831		96.2	80-120			
Nickel	2.74	0.739	ng/m ³ Air	2.7667		99.1	80-120			
Selenium	2.74	0.0101	ng/m ³ Air	2.7661		98.9	80-120			
Thallium	0.135	8.61E-4	ng/m ³ Air	0.13828		97.8	80-120			
Vanadium	2.77	0.0458	ng/m ³ Air	2.7700		100	80-120			QB-01
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

Duplicate (B5A2302-DUP1)

Source: 5012123-03

Prepared & Analyzed: 01/23/25

Antimony	0.0639	0.0307	ng/m ³ Air		0.0664		3.74	10		SL
Arsenic	0.0804	0.00779	ng/m ³ Air		0.0891		10.2	10		
Barium	2.80	1.35	ng/m ³ Air		2.78		0.556	10		
Beryllium	0.0107	0.00166	ng/m ³ Air		0.0115		6.55	10		
Cadmium	0.0142	0.00449	ng/m ³ Air		0.0185		26.4	10		
Chromium	2.21	2.14	ng/m ³ Air		ND			10		
Cobalt	0.214	0.0456	ng/m ³ Air		0.228		6.34	10		
Copper	53.1	0.659	ng/m ³ Air		56.5		6.26	10		
Lead	0.164	0.117	ng/m ³ Air		0.196		18.1	10		
Manganese	5.55	0.488	ng/m ³ Air		5.97		7.27	10		QB-01
Molybdenum	1.63	0.345	ng/m ³ Air		1.81		10.5	10		

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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 B5A2302 - ICP-MS Extraction

Duplicate (B5A2302-DUP1) Continued Source: 5012123-03 Prepared & Analyzed: 01/23/25

Nickel	1.19	0.647	ng/m ³ Air		1.21			1.89	10	
Selenium	0.208	0.00885	ng/m ³ Air		0.220			5.77	10	
Thallium	0.00159	7.54E-4	ng/m ³ Air		0.00168			5.54	10	
Vanadium	1.03	0.0401	ng/m ³ Air		1.08			4.77	10	QB-01
Zinc	ND	99.9	ng/m ³ Air		ND				10	U

Duplicate (B5A2302-DUP2) Source: 5012123-24 Prepared & Analyzed: 01/23/25

Antimony	0.832	0.0298	ng/m ³ Air		0.845			1.57	10	SL
Arsenic	0.670	0.00756	ng/m ³ Air		0.728			8.39	10	
Barium	5.03	1.31	ng/m ³ Air		5.18			2.99	10	
Beryllium	0.0114	0.00162	ng/m ³ Air		0.0126			10.1	10	
Cadmium	0.220	0.00435	ng/m ³ Air		0.210			4.39	10	
Chromium	ND	2.07	ng/m ³ Air		2.14				10	U
Cobalt	0.338	0.0442	ng/m ³ Air		0.358			5.60	10	
Copper	66.0	0.639	ng/m ³ Air		67.5			2.24	10	
Lead	4.07	0.114	ng/m ³ Air		4.21			3.26	10	
Manganese	11.1	0.474	ng/m ³ Air		11.8			5.80	10	QB-01
Molybdenum	3.08	0.335	ng/m ³ Air		3.22			4.31	10	
Nickel	1.10	0.628	ng/m ³ Air		1.22			10.2	10	
Selenium	0.281	0.00859	ng/m ³ Air		0.288			2.32	10	
Thallium	0.00547	7.32E-4	ng/m ³ Air		0.00556			1.68	10	
Vanadium	1.24	0.0389	ng/m ³ Air		1.35			8.65	10	QB-01
Zinc	ND	96.9	ng/m ³ Air		ND				10	U

Duplicate (B5A2302-DUP3) Source: 5012123-11 Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	0.193	0.0280	ng/m ³ Air		0.193			0.224	10	SL
Arsenic	0.228	0.00710	ng/m ³ Air		0.223			2.17	10	
Barium	5.69	1.23	ng/m ³ Air		5.64			0.854	10	LJ, QX
Beryllium	0.0122	0.00152	ng/m ³ Air		0.0117			4.21	10	
Cadmium	0.0173	0.00409	ng/m ³ Air		0.0172			0.536	10	
Chromium	2.41	1.95	ng/m ³ Air		2.40			0.779	10	
Cobalt	0.358	0.0416	ng/m ³ Air		0.352			1.50	10	
Copper	32.5	0.601	ng/m ³ Air		32.1			1.07	10	
Lead	0.791	0.107	ng/m ³ Air		0.789			0.323	10	
Manganese	11.1	0.445	ng/m ³ Air		11.0			0.699	10	QB-01
Molybdenum	1.08	0.315	ng/m ³ Air		1.07			0.601	10	
Nickel	1.25	0.591	ng/m ³ Air		1.23			1.57	10	
Selenium	0.237	0.00807	ng/m ³ Air		0.237			0.314	10	
Thallium	7.70E-4	6.88E-4	ng/m ³ Air		8.33E-4			7.91	10	
Vanadium	1.23	0.0366	ng/m ³ Air		1.21			1.36	10	QB-01

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A2302 - ICP-MS Extraction

Duplicate (B5A2302-DUP3) Continued Source: 5012123-11 Prepared: 01/23/25 Analyzed: 01/24/25

Zinc	ND	91.1	ng/m ³ Air		ND				10	U
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Duplicate (B5A2302-DUP4) Source: 5012123-18 Prepared: 01/23/25 Analyzed: 01/24/25

Antimony	0.118	0.0277	ng/m ³ Air		0.118			0.415	10	SL
Arsenic	0.872	0.00703	ng/m ³ Air		0.867			0.532	10	
Barium	2.67	1.22	ng/m ³ Air		2.65			0.659	10	LJ, QX
Beryllium	0.00514	0.00150	ng/m ³ Air		0.00507			1.26	10	
Cadmium	0.00718	0.00405	ng/m ³ Air		0.00739			2.95	10	
Chromium	ND	1.93	ng/m ³ Air		ND				10	U
Cobalt	0.173	0.0411	ng/m ³ Air		0.174			0.677	10	
Copper	40.9	0.595	ng/m ³ Air		40.7			0.523	10	
Lead	0.351	0.106	ng/m ³ Air		0.351			0.0429	10	
Manganese	5.60	0.441	ng/m ³ Air		5.61			0.0814	10	QB-01
Molybdenum	1.22	0.312	ng/m ³ Air		1.21			0.307	10	
Nickel	0.848	0.585	ng/m ³ Air		0.856			0.966	10	
Selenium	0.166	0.00799	ng/m ³ Air		0.170			2.26	10	
Thallium	ND	6.81E-4	ng/m ³ Air		ND				10	U
Vanadium	0.578	0.0362	ng/m ³ Air		0.582			0.805	10	QB-01
Zinc	ND	90.2	ng/m ³ Air		ND				10	U

Matrix Spike (B5A2302-MS1) Source: 5012123-03 Prepared & Analyzed: 01/23/25

Antimony	0.786	0.0307	ng/m ³ Air	1.2120	0.0664	59.4	80-120			SL
Arsenic	2.44	0.00779	ng/m ³ Air	2.4235	0.0891	97.0	80-120			
Barium	26.8	1.35	ng/m ³ Air	24.255	2.78	99.0	80-120			
Beryllium	1.20	0.00166	ng/m ³ Air	1.2121	0.0115	97.8	80-120			
Cadmium	1.25	0.00449	ng/m ³ Air	1.2124	0.0185	102	80-120			
Chromium	14.3	2.14	ng/m ³ Air	12.118	ND	118	80-120			
Cobalt	1.40	0.0456	ng/m ³ Air	1.2120	0.228	96.7	80-120			
Copper	79.5	0.659	ng/m ³ Air	24.255	56.5	94.5	80-120			
Lead	12.5	0.117	ng/m ³ Air	12.119	0.196	101	80-120			
Manganese	13.0	0.488	ng/m ³ Air	7.2532	5.97	96.4	80-120			QB-01
Molybdenum	2.93	0.345	ng/m ³ Air	1.2117	1.81	92.2	80-120			
Nickel	3.46	0.647	ng/m ³ Air	2.4238	1.21	93.0	80-120			
Selenium	2.58	0.00885	ng/m ³ Air	2.4233	0.220	97.4	80-120			
Thallium	0.119	7.54E-4	ng/m ³ Air	0.12114	0.00168	97.2	80-120			
Vanadium	3.44	0.0401	ng/m ³ Air	2.4267	1.08	97.3	80-120			QB-01
Zinc	ND	99.9	ng/m ³ Air	72.692	ND		80-120			U

Matrix Spike (B5A2302-MS2) Source: 5012123-24 Prepared & Analyzed: 01/23/25

Antimony	1.53	0.0298	ng/m ³ Air	1.1762	0.845	58.4	80-120			SL
Arsenic	2.96	0.00756	ng/m ³ Air	2.3519	0.728	95.0	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A2302 - ICP-MS Extraction

Matrix Spike (B5A2302-MS2) Continued Source: 5012123-24 Prepared & Analyzed: 01/23/25

Barium	28.9	1.31	ng/m ³ Air	23.538	5.18	101	80-120			
Beryllium	1.19	0.00162	ng/m ³ Air	1.1763	0.0126	100	80-120			
Cadmium	1.36	0.00435	ng/m ³ Air	1.1765	0.210	97.7	80-120			
Chromium	13.8	2.07	ng/m ³ Air	11.760	2.14	98.8	80-120			
Cobalt	1.49	0.0442	ng/m ³ Air	1.1762	0.358	96.0	80-120			
Copper	88.9	0.639	ng/m ³ Air	23.538	67.5	91.0	80-120			
Lead	15.7	0.114	ng/m ³ Air	11.761	4.21	98.0	80-120			
Manganese	18.2	0.474	ng/m ³ Air	7.0388	11.8	91.7	80-120			QB-01
Molybdenum	4.31	0.335	ng/m ³ Air	1.1758	3.22	92.8	80-120			
Nickel	3.42	0.628	ng/m ³ Air	2.3521	1.22	93.7	80-120			
Selenium	2.56	0.00859	ng/m ³ Air	2.3517	0.288	96.7	80-120			
Thallium	0.116	7.32E-4	ng/m ³ Air	0.11756	0.00556	94.2	80-120			
Vanadium	3.56	0.0389	ng/m ³ Air	2.3550	1.35	93.7	80-120			QB-01
Zinc	113	96.9	ng/m ³ Air	70.543	ND	160	80-120			

Matrix Spike Dup (B5A2302-MSD1) Source: 5012123-03 Prepared & Analyzed: 01/23/25

Antimony	0.782	0.0307	ng/m ³ Air	1.2120	0.0664	59.0	80-120	0.580	20	SL
Arsenic	2.45	0.00779	ng/m ³ Air	2.4235	0.0891	97.4	80-120	0.462	20	
Barium	27.0	1.35	ng/m ³ Air	24.255	2.78	100	80-120	0.831	20	
Beryllium	1.19	0.00166	ng/m ³ Air	1.2121	0.0115	97.6	80-120	0.244	20	
Cadmium	1.24	0.00449	ng/m ³ Air	1.2124	0.0185	101	80-120	0.969	20	
Chromium	14.4	2.14	ng/m ³ Air	12.118	ND	119	80-120	0.814	20	
Cobalt	1.42	0.0456	ng/m ³ Air	1.2120	0.228	98.1	80-120	1.26	20	
Copper	81.8	0.659	ng/m ³ Air	24.255	56.5	104	80-120	2.91	20	
Lead	12.3	0.117	ng/m ³ Air	12.119	0.196	99.7	80-120	1.53	20	
Manganese	13.4	0.488	ng/m ³ Air	7.2532	5.97	102	80-120	3.23	20	QB-01
Molybdenum	2.93	0.345	ng/m ³ Air	1.2117	1.81	92.3	80-120	0.0307	20	
Nickel	3.44	0.647	ng/m ³ Air	2.4238	1.21	92.0	80-120	0.704	20	
Selenium	2.60	0.00885	ng/m ³ Air	2.4233	0.220	98.3	80-120	0.768	20	
Thallium	0.119	7.54E-4	ng/m ³ Air	0.12114	0.00168	96.7	80-120	0.506	20	
Vanadium	3.46	0.0401	ng/m ³ Air	2.4267	1.08	98.1	80-120	0.560	20	QB-01
Zinc	ND	99.9	ng/m ³ Air	72.692	ND		80-120		20	U

Matrix Spike Dup (B5A2302-MSD2) Source: 5012123-24 Prepared & Analyzed: 01/23/25

Antimony	1.58	0.0298	ng/m ³ Air	1.1762	0.845	62.9	80-120	3.39	20	SL
Arsenic	3.02	0.00756	ng/m ³ Air	2.3519	0.728	97.5	80-120	2.00	20	
Barium	29.0	1.31	ng/m ³ Air	23.538	5.18	101	80-120	0.481	20	
Beryllium	1.17	0.00162	ng/m ³ Air	1.1763	0.0126	98.7	80-120	1.46	20	
Cadmium	1.40	0.00435	ng/m ³ Air	1.1765	0.210	101	80-120	2.64	20	
Chromium	14.0	2.07	ng/m ³ Air	11.760	2.14	101	80-120	1.55	20	

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A2302 - ICP-MS Extraction

Matrix Spike Dup (B5A2302-MSD2) ContiSource: 5012123-24 Prepared & Analyzed: 01/23/25

Cobalt	1.51	0.0442	ng/m ³ Air	1.1762	0.358	98.2	80-120	1.74	20	
Copper	92.2	0.639	ng/m ³ Air	23.538	67.5	105	80-120	3.55	20	
Lead	16.0	0.114	ng/m ³ Air	11.761	4.21	100	80-120	1.56	20	
Manganese	18.8	0.474	ng/m ³ Air	7.0388	11.8	100	80-120	3.22	20	QB-01
Molybdenum	4.41	0.335	ng/m ³ Air	1.1758	3.22	102	80-120	2.43	20	
Nickel	3.51	0.628	ng/m ³ Air	2.3521	1.22	97.3	80-120	2.43	20	
Selenium	2.65	0.00859	ng/m ³ Air	2.3517	0.288	100	80-120	3.19	20	
Thallium	0.118	7.32E-4	ng/m ³ Air	0.11756	0.00556	95.5	80-120	1.29	20	
Vanadium	3.62	0.0389	ng/m ³ Air	2.3550	1.35	96.5	80-120	1.81	20	QB-01
Zinc	118	96.9	ng/m ³ Air	70.543	ND	168	80-120	4.72	20	

Post Spike (B5A2302-PS1) Source: 5012123-03 Prepared & Analyzed: 01/23/25

Antimony	0.306	0.0307	ng/m ³ Air	0.24231	0.0664	99.0	75-125			SL
Arsenic	1.27	0.00779	ng/m ³ Air	1.2115	0.0891	97.6	75-125			
Barium	5.12	1.35	ng/m ³ Air	2.4231	2.78	96.4	75-125			
Beryllium	0.252	0.00166	ng/m ³ Air	0.24231	0.0115	99.5	75-125			
Cadmium	0.141	0.00449	ng/m ³ Air	0.12115	0.0185	101	75-125			
Chromium	3.31	2.14	ng/m ³ Air	1.2115	ND	274	75-125			
Cobalt	0.468	0.0456	ng/m ³ Air	0.24231	0.228	99.1	75-125			
Copper	68.6	0.659	ng/m ³ Air	12.115	56.5	99.8	75-125			
Lead	24.5	0.117	ng/m ³ Air	24.231	0.196	100	75-125			
Manganese	8.35	0.488	ng/m ³ Air	2.4231	5.97	97.9	75-125			QB-01
Molybdenum	2.96	0.345	ng/m ³ Air	1.2115	1.81	94.7	75-125			
Nickel	3.58	0.647	ng/m ³ Air	2.4231	1.21	97.9	75-125			
Selenium	1.39	0.00885	ng/m ³ Air	1.2115	0.220	96.4	75-125			
Thallium	0.0620	7.54E-4	ng/m ³ Air	6.0577E-2	0.00168	99.6	75-125			
Vanadium	2.28	0.0401	ng/m ³ Air	1.2115	1.08	99.3	75-125			QB-01
Zinc	ND	99.9	ng/m ³ Air	24.231	ND		75-125			U

Post Spike (B5A2302-PS2) Source: 5012123-24 Prepared & Analyzed: 01/23/25

Antimony	1.08	0.0298	ng/m ³ Air	0.23514	0.845	101	75-125			SL
Arsenic	1.89	0.00756	ng/m ³ Air	1.1757	0.728	99.0	75-125			
Barium	7.54	1.31	ng/m ³ Air	2.3514	5.18	101	75-125			
Beryllium	0.248	0.00162	ng/m ³ Air	0.23514	0.0126	100	75-125			
Cadmium	0.330	0.00435	ng/m ³ Air	0.11757	0.210	102	75-125			
Chromium	3.31	2.07	ng/m ³ Air	1.1757	2.14	99.2	75-125			
Cobalt	0.598	0.0442	ng/m ³ Air	0.23514	0.358	102	75-125			
Copper	80.5	0.639	ng/m ³ Air	11.757	67.5	111	75-125			
Lead	28.0	0.114	ng/m ³ Air	23.514	4.21	101	75-125			
Manganese	14.0	0.474	ng/m ³ Air	2.3514	11.8	96.7	75-125			QB-01

Eastern Research Group

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

FILE #: 4205.00.003.001
 REPORTED: 01/29/25 11:06
 SUBMITTED: 01/20/25
 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 B5A2302 - ICP-MS Extraction

Post Spike (B5A2302-PS2) Continued Source: 5012123-24 Prepared & Analyzed: 01/23/25

Molybdenum	4.37	0.335	ng/m ³ Air	1.1757	3.22	98.4	75-125			
Nickel	3.54	0.628	ng/m ³ Air	2.3514	1.22	98.7	75-125			
Selenium	1.47	0.00859	ng/m ³ Air	1.1757	0.288	101	75-125			
Thallium	0.0623	7.32E-4	ng/m ³ Air	5.8786E-2	0.00556	96.5	75-125			
Vanadium	2.52	0.0389	ng/m ³ Air	1.1757	1.35	99.3	75-125			QB-01
Zinc	ND	96.9	ng/m ³ Air	23.514	ND		75-125			U

Dilution Check (B5A2302-SRL1) Source: 5012123-03 Prepared & Analyzed: 01/23/25

Antimony	ND	0.153	ng/m ³ Air		ND				10	SL, U
Arsenic	0.0885	0.0389	ng/m ³ Air		0.0891			0.594	10	
Barium	ND	6.75	ng/m ³ Air		ND				10	U
Beryllium	0.0104	0.00832	ng/m ³ Air		0.0115			9.83	10	
Cadmium	ND	0.0224	ng/m ³ Air		ND				10	U
Chromium	ND	10.7	ng/m ³ Air		ND				10	U
Cobalt	0.228	0.228	ng/m ³ Air		0.228			0.0130	10	
Copper	56.6	3.29	ng/m ³ Air		56.5			0.0278	10	
Lead	ND	0.587	ng/m ³ Air		ND				10	U
Manganese	5.94	2.44	ng/m ³ Air		5.97			0.552	10	QB-01
Molybdenum	1.79	1.73	ng/m ³ Air		1.81			1.29	10	
Nickel	ND	3.24	ng/m ³ Air		ND				10	U
Selenium	0.232	0.0442	ng/m ³ Air		0.220			5.45	10	
Thallium	ND	0.00377	ng/m ³ Air		ND				10	U
Vanadium	1.11	0.201	ng/m ³ Air		1.08			3.00	10	QB-01
Zinc	ND	499	ng/m ³ Air		ND				10	U

Dilution Check (B5A2302-SRL2) Source: 5012123-24 Prepared & Analyzed: 01/23/25

Antimony	0.831	0.149	ng/m ³ Air		0.845			1.64	10	SL
Arsenic	0.725	0.0378	ng/m ³ Air		0.728			0.401	10	
Barium	ND	6.55	ng/m ³ Air		ND				10	U
Beryllium	0.00982	0.00808	ng/m ³ Air		0.0126			24.9	10	
Cadmium	0.206	0.0218	ng/m ³ Air		0.210			2.00	10	
Chromium	ND	10.4	ng/m ³ Air		ND				10	U
Cobalt	0.369	0.221	ng/m ³ Air		0.358			2.94	10	
Copper	69.3	3.20	ng/m ³ Air		67.5			2.52	10	
Lead	4.10	0.570	ng/m ³ Air		4.21			2.52	10	
Manganese	11.9	2.37	ng/m ³ Air		11.8			1.42	10	QB-01
Molybdenum	3.22	1.67	ng/m ³ Air		3.22			0.216	10	
Nickel	ND	3.14	ng/m ³ Air		ND				10	U
Selenium	0.292	0.0429	ng/m ³ Air		0.288			1.38	10	
Thallium	0.00723	0.00366	ng/m ³ Air		0.00556			26.1	10	

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FILE #: 4205.00.003.001
REPORTED: 01/29/25 11:06
SUBMITTED: 01/20/25
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 B5A2302 - ICP-MS Extraction

Dilution Check (B5A2302-SRL2) ContinueSource: 5012123-24 Prepared & Analyzed: 01/23/25

Vanadium	1.38	0.195	ng/m ³ Air		1.35			2.03	10	QB-01
Zinc	ND	485	ng/m ³ Air		ND				10	U



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SITE CODE: Lahaina fires

Notes and Definitions

U Under Detection Limit
SL The spike recovery was outside acceptance limits. Reported value may be biased low.
QX Compound does not meet QC criteria. Results should be considered an estimate.
QB-01 Analyte exceeds method blank criteria
LJ Identification of analyte is acceptable; reported value is an estimate.
FB-01 Analyte exceeds Field Blank criteria.
ND Analyte NOT DETECTED
NR Not Reported
MDL Method Detection Limit
RPD Relative Percent Difference

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

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

Reviewed by:

Kierra Johnson 01/29/2025 and Shanna Vasser 02/03/2025

Laboratory: Eastern Research Group – Morrisville, NC

Collection date(s): 01/09/2025 – 01/15/2025

Report No: 5012123

- √ 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, and vanadium in MFL-FB01-011025-HM; for antimony, arsenic, copper, and vanadium in MFL-FB01-011225-HM; and for copper in MFL-FB01-011425-HM.

Notes: None.