

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

December 19 through December 25, 2024

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

Particulate monitoring and air sampling occurred from December 19 through December 25, 2024, at the community locations listed below and shown on Figure 1. The monitoring and sampling station located at Lahaina Recreational Center (AM-07) required relocation because the Lahaina Recreational Center was beginning operations again at the baseball field. Following conversations between Tetra Tech and the HDOH, that station was relocated to the Lahaina Pump Station #6 (AM-08) on December 20.

Community Location	Location ID	Dates
WW Pump Station #4	AM-02	12/19/2024 - 12/25/2024
Lahaina Intermediate School	AM-03	12/19/2024 - 12/25/2024
Opukea Townhomes	AM-05	12/19/2024 - 12/25/2024
Lahaina Recreational Center	AM-07	12/19/2024 - 12/20/2024
Lahaina Pump Station #6	AM-08	12/20/2024 - 12/25/2024

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 December 19 through December 25 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 with the exception of the relocation of the Lahaina Recreational Center sampling location, as described below:

- The air monitoring and sampling station located at Lahaina Recreation Center (AM-07) was relocated to Lahaina Pump Station #6 (AM-08) at the guidance of the HDOH on December 20 because the Lahaina Recreational center was resuming operations. As a result of the time needed for station removal and set up, only 9 hours of monitoring was conducted at Lahaina Recreational Center (AM-07) and 14 hours of monitoring was conducted at Lahaina Pump Station #6 (AM-08) on December 20.

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 20 samples for asbestos fibers were collected during this reporting period. With the approval of the HDOH, Tetra Tech field teams were not dispatched on December 24 or 25 in observance of the Christmas Day holiday. The field teams did not deploy air samples at any of the four air sampling stations on December 23, 24, or 25. Subsequently, samples were not collected on December 24 or 25 because of the approximate 24-hr sampling period for asbestos and heavy metals requirements described in the CAMSP. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- WW Pump Station #4 on December 22 and 23
- Lahaina Pump Station #6 on December 22

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m³) for respirable dust, and 10 mg/m³ and 15 mg/m³ for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM₁₀) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

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 PM₁₀ by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments



- Air Sampling Locations
- Lahaina Fire Perimeter

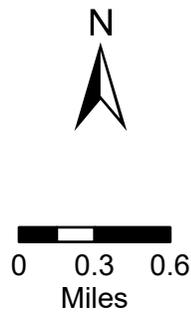


Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM₁₀
Maui Wildfires, Lahaina
December 19 through December 25, 2024

Screening Level		TWA Results 150 (µg/m ³)
12/19/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	9.0
	Lahaina Intermediate School (AM-03)	12
	Lahaina Recreation Center (AM-07)	18
12/20/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	7.4
	Lahaina Recreation Center (AM-07)	5.4*
	Lahaina Pump Station #6 (AM-08)	7.6**
12/21/2024	Opukea Townhomes (AM-05)	8.6
	WW Pump Station #4 (AM-02)	7.4
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Pump Station #6 (AM-08)	7.0
12/22/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	8.5
	Lahaina Pump Station #6 (AM-08)	10
12/23/2024	Opukea Townhomes (AM-05)	9.4
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Pump Station #6 (AM-08)	8.4
12/24/2024	Opukea Townhomes (AM-05)	9.1
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	7.9
	Lahaina Pump Station #6 (AM-08)	7.4
12/25/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Pump Station #6 (AM-08)	7.8

Notes:

µg/m³ = micrograms per cubic meter

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

* Data provided were from a reduced (9-hr) TWA calculation because station equipment was moved to Lahaina Pump Station #6 (AM-08)

** Data provided were from a reduced (14-hr) TWA calculation because station equipment was moved from Lahaina Recreation Center (AM-07)

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
December 19 through December 25, 2024

Analyte	Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc	
Units*	s/cc	µg/m ³																
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	
12/19/2024	Opukea Townhomes (AM-05)	<0.0024	0.000244	0.000537	0.00936	0.0000307	ND	0.00411	0.000981	0.0545	0.000962	0.0367	0.00239	0.000360	0.00000319	0.00344	ND	
	WW Pump Station #4 (AM-02)	<0.0027	0.000352	0.000907	0.00850	0.0000162	ND	0.00296	0.000585	0.0452	0.00134	0.0183	0.00278	0.000300	0.00000139	0.00220	ND	
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000684	0.000246	0.00578	0.0000329	ND	0.00445	0.000903	0.0427	0.000366	0.0206	0.00205	0.000277	0.0000287	0.00000155	0.00269	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000199	0.00168	0.0179	0.000105	ND	0.0112	0.00296	0.0313	0.00229	0.110	0.00143	0.00634	0.0000623	0.00000550	0.00829	0.284
12/20/2024	Opukea Townhomes (AM-05)	<0.0024	0.000162	0.000254	0.00622	0.0000116	ND	0.00246	0.000451	0.0537	0.000521	0.0133	0.00316	0.00212	0.000224	0.00000119	0.00265	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000285	0.000386	0.00850	0.0000170	ND	0.00302	0.000676	0.0435	0.000710	0.0183	0.00242	0.00255	0.000248	0.00000138	0.00322	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000854	0.000197	0.00389	0.0000194	ND	0.00275	0.000531	0.0512	0.000303	0.0128	0.00246	0.00217	0.000206	0.00000970	0.00237	ND
	Lahaina Recreation Center (AM-07)	<0.0027	0.000218	0.000640	0.00900	0.0000461	ND	0.00623	0.00144	0.0310	0.00135	0.0457	0.00179	0.00412	0.000362	0.00000231	0.00473	ND
12/21/2024	Opukea Townhomes (AM-05)	<0.0024	0.000186	0.000196	0.00488	0.00000768	ND	0.00195	0.000288	0.0649	0.000557	0.00862	0.00494	0.00157	0.000195	0.00000108	0.00141	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000270	0.000500	0.00739	0.0000137	ND	0.00237	0.000444	0.0435	0.00112	0.0140	0.00215	0.00154	0.000197	0.00000130	0.00189	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000817	0.000158	0.00352	0.0000196	ND	0.00233	0.000361	0.0524	0.000469	0.0100	0.00208	0.00169	0.000182	0.00000102	0.00154	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000150	0.000262	0.00404	0.00000934	ND	0.00238	0.000351	0.0292	0.000442	0.0102	0.00179	0.00160	0.000214	0.00000123	0.00162	ND
12/22/2024	Opukea Townhomes (AM-05)	<0.0024	0.000133	0.000225	0.00471	0.00000923	ND	0.00258	0.000373	0.0513	0.000380	0.0104	0.00335	0.00163	0.000233	0.00000148	0.00189	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000245	0.000320	0.00612	0.0000116	ND	0.00229	0.000409	0.0341	0.000691	0.0124	0.00210	0.00162	0.000223	0.00000148	0.00201	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000492	0.000151	0.00285	0.0000135	ND	0.00189	0.000319	0.0409	0.000299	0.00874	0.00231	0.00140	0.000198	0.00000133	0.00148	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000165	0.000710	0.00528	0.0000116	ND	0.00314	0.000392	0.0334	0.00119	0.0142	0.00177	0.00182	0.000252	0.00000168	0.00184	ND
12/23/2024	Opukea Townhomes (AM-05)	<0.0024	0.000183	0.000554	0.0106	0.0000250	ND	0.00423	0.000924	0.0637	0.00111	0.0301	0.00283	0.00270	0.000282	0.00000285	0.00337	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000190	0.000974	0.0104	0.0000243	ND	0.00443	0.000772	0.0530	0.00249	0.0250	0.00210	0.00244	0.000266	0.00000204	0.00286	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000479	0.000258	0.00465	0.0000290	ND	0.00314	0.000623	0.0458	0.000475	0.0176	0.00197	0.00208	0.000237	0.00000202	0.00218	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000164	0.000642	0.00500	0.0000141	ND	0.00291	0.000414	0.0294	0.00112	0.0154	0.00164	0.00172	0.000258	0.00000202	0.00194	ND
12/24/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
12/25/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Pump Station #6 (AM-08)																	
95% Upper Confidence Limit ²	NA	0.000230	0.000680	0.00845	0.0000310	NA	0.00421	0.000900	0.0497	0.00124	0.0292	0.00271	0.00267	0.000300	0.00000220	0.00320	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
Christmas and following day holiday observance

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
December 19, through December 25, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
12/19/2024	AM-02	WW Pump Station #4	0.7	S	77	74	762.9
12/19/2024	AM-03	Lahaina Intermediate School	1.1	SE	77	67	753.3
12/19/2024	AM-05	Opukea Townhomes	1.0	E	78	67	762.3
12/19/2024	AM-07	Lahaina Recreational Center	1.3	SE	76	73	762.0
12/20/2024	AM-02	WW Pump Station #4	0.8	S	78	73	762.5
12/20/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	70	752.9
12/20/2024	AM-05	Opukea Townhomes	1.0	ESE	79	67	761.9
12/20/2024	AM-07	Lahaina Recreational Center	1.0	E	72	72	761.5
12/20/2024	AM-08	Lahaina Pump Station #6	1.5	SSW	79	70	760.8
12/21/2024	AM-02	WW Pump Station #4	0.8	SE	77	73	762.8
12/21/2024	AM-03	Lahaina Intermediate School	1.0	ESE	76	70	753.1
12/21/2024	AM-05	Opukea Townhomes	1.2	ESE	77	67	762.2
12/21/2024	AM-08	Lahaina Pump Station #6	1.5	SE	76	72	762.8
12/22/2024	AM-02	WW Pump Station #4	1.1	SSE	78	69	764.3
12/22/2024	AM-03	Lahaina Intermediate School	1.5	ESE	77	62	754.6
12/22/2024	AM-05	Opukea Townhomes	1.3	E	79	62	763.6
12/22/2024	AM-08	Lahaina Pump Station #6	1.8	S	77	68	764.3
12/23/2024	AM-02	WW Pump Station #4	0.9	S	78	67	764.8
12/23/2024	AM-03	Lahaina Intermediate School	1.1	SE	77	64	755.1
12/23/2024	AM-05	Opukea Townhomes	1.2	SE	79	61	764.2
12/23/2024	AM-08	Lahaina Pump Station #6	2.2	SSW	78	68	764.8
12/24/2024	AM-02	WW Pump Station #4	0.9	SSE	78	68	764.8
12/24/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	64	755.1
12/24/2024	AM-05	Opukea Townhomes	1.1	ESE	79	62	764.2
12/24/2024	AM-08	Lahaina Pump Station #6	1.6	S	78	65	764.8
12/25/2024	AM-02	WW Pump Station #4	0.9	SSE	78	67	764.2
12/25/2024	AM-03	Lahaina Intermediate School	1.1	SE	77	62	754.5
12/25/2024	AM-05	Opukea Townhomes	1.2	SE	79	61	763.6
12/25/2024	AM-08	Lahaina Pump Station #6	1.6	S	77	65	764.2

Notes:

°F - Fahrenheit

mBar - millibar

mph - miles per hour

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.



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EMSL Order: 04-518
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

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

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM05-121924-AB **Sample Description:** DL697992

EMSL Sample Number: 000004518-0001 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7141.2
 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

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: 000004518

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:		000004518-0001		Customer Sample:		MFL-AM05-121924-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					
A6	B3	None Detected									
A6	E7	None Detected									
A6	H6	None Detected									
A7	G6	None Detected									
A7	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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Analysis Date: 01/03/2025
Report Date: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM02-121924-AB **Sample Description:** DL697981

EMSL Sample Number: 000004518-0002 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 6521.4
 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): 0.0009 Limit of Detection (Structures/cc): 0.0027

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	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

Comment

Approved Signatory

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EMSL Order ID: **000004518**
 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:		000004518-0002					Customer Sample:		MFL-AM02-121924-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	I3	None Detected									
B1	E7	None Detected									
B1	A4	None Detected									
B2	I7	None Detected									
B2	D2	None Detected									

Abbreviations used:
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 XCGBLD - Crosses Countable Grid Bar Length Doubled



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Analysis Date: 01/03/2025
Report Date: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM03-121924-AB	Sample Description:	DL698443
EMSL Sample Number:	000004518-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7224.4
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:	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: 000004518
 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: 000004518-0003			Customer Sample: MFL-AM03-121924-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	A6	None Detected									
B5	D4	None Detected									
B5	I6	None Detected									
B6	C3	None Detected									
B6	H6	None Detected									

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



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Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM07-121924-AB **Sample Description:** DL697485

EMSL Sample Number: 000004518-0004 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7208.1
 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 %: 8
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		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: 000004518

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:		000004518-0004		Customer Sample:		MFL-AM07-121924-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	I5	None Detected									
C1	E4	None Detected									
C1	B4	None Detected									
C2	J7	None Detected									
C2	C8	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-121924-AB **Sample Description:** DL697987

EMSL Sample Number: 000004518-0005 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): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 10
 Minimum Level of analysis (chrysotile): CD Analyst: G.Barry
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		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: 000004518-0005		Customer Sample: MFL-FB01-121924-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	I8	None Detected									
C5	G4	None Detected									
C5	E7	None Detected									
C5	B4	None Detected									
C6	A6	None Detected									
C6	F3	None Detected									
C6	J5	None Detected									
C7	I3	None Detected									
C7	H7	None Detected									
C7	D5	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: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM05-122024-AB **Sample Description:** DL698505

EMSL Sample Number: 000004518-0006 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7227.3
 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

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EMSL Order ID: 000004518

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:		000004518-0006		Customer Sample:		MFL-AM05-122024-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A3	None Detected									
D1	E7	None Detected									
D1	I6	None Detected									
D2	C8	None Detected									
D2	H9	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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

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

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM02-122024-AB **Sample Description:** DL698508

EMSL Sample Number: 000004518-0007 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 6480.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 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): 0.0009 Limit of Detection (Structures/cc): 0.0027

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	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

Comment

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EMSL Order ID: 000004518

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:		000004518-0007		Customer Sample:		MFL-AM02-122024-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	B7	None Detected									
D5	F7	None Detected									
D5	J7	None Detected									
D6	D6	None Detected									
D6	H6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

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Analysis Date: 01/04/2025
Report Date: 01/07/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM03-122024-AB	Sample Description:	DL698539
EMSL Sample Number:	000004518-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7188.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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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EMSL Order ID: 000004518

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: 000004518-0008		Customer Sample: MFL-AM03-122024-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J7	None Detected									
E1	F4	None Detected									
E1	A6	None Detected									
E2	C3	None Detected									
E2	H2	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: 01/04/2025
Report Date: 01/07/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM07-122024-AB	Sample Description:	DL698338
EMSL Sample Number:	000004518-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	5572.9
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:	6
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		

Estimated Particulate Loading on Filter %: 8
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 38.63	< 0.0027	Not Applicable - 0.0027	

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: 000004518-0009		Customer Sample: MFL-AM07-122024-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	E7	None Detected									
E5	I4	None Detected									
E6	B7	None Detected									
E7	H2	None Detected									
E7	D6	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: 01/02/2025 09:30 AM
Analysis Date: 01/04/2025
Report Date: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-122024-AB **Sample Description:** DL698364

EMSL Sample Number: 000004518-0010 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 (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: 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

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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:		000004518-0010		Customer Sample:		MFL-FB01-122024-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	J8	None Detected									
F1	F4	None Detected									
F1	B6	None Detected									
F2	A3	None Detected									
F2	D5	None Detected									
F2	J7	None Detected									
F3	C8	None Detected									
F3	E3	None Detected									
F3	G6	None Detected									
F4	H7	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: 01/04/2025
Report Date: 01/07/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM05-122124-AB	Sample Description:	DL698043
EMSL Sample Number:	000004518-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7179.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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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EMSL Order ID: **000004518**
 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:		000004518-0011						Customer Sample:		MFL-AM05-122124-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	A8	None Detected									
F5	E4	None Detected									
F5	J6	None Detected									
F6	B9	None Detected									
F6	F4	None Detected									

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



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EMSL Order: 04-518
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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Phone: (703) 489-2674
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Received Date: 01/02/2025 09:30 AM
Analysis Date: 01/04/2025
Report Date: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM02-122124-AB **Sample Description:** DL697990

EMSL Sample Number: 000004518-0012 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 6793.3
 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): 0.0009 Limit of Detection (Structures/cc): 0.0027

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	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

Comment

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EMSL Order ID: 000004518

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:		000004518-0012		Customer Sample:		MFL-AM02-122124-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	I7	None Detected									
G1	F3	None Detected									
G1	C5	None Detected									
G2	J5	None Detected									
G2	D6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM03-122124-AB **Sample Description:** DL698003

EMSL Sample Number: 000004518-0013 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7187.2
 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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EMSL Order ID: **000004518**
 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: 000004518-0013			Customer Sample: MFL-AM03-122124-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	D2	None Detected									
G5	E5	None Detected									
G5	I9	None Detected									
G6	B7	None Detected									
G6	G4	None Detected									

Abbreviations used:
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Report Date: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM08-122124-AB **Sample Description:** DL698493

EMSL Sample Number: 000004518-0014 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7379.5
 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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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: 000004518-0014		Customer Sample: MFL-AM08-122124-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	E5	None Detected									
H1	J3	None Detected									
H2	H7	None Detected									
H2	F4	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: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-122124-AB **Sample Description:** DL698383

EMSL Sample Number: 000004518-0015 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 (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: 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

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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: 000004518-0015		Customer Sample: MFL-FB01-122124-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	A8	None Detected									
H5	C5	None Detected									
H5	F3	None Detected									
H5	I4	None Detected									
H6	B5	None Detected									
H6	D8	None Detected									
H6	G7	None Detected									
H7	A9	None Detected									
H7	A6	None Detected									
H7	F7	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: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM05-122224-AB	Sample Description:	DL698249
EMSL Sample Number:	000004518-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7207.4
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		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: **000004518**
 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:		000004518-0016		Customer Sample:		MFL-AM05-122224-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	J5	None Detected									
I1	E7	None Detected									
I1	A5	None Detected									
I2	H3	None Detected									
I2	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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Fax: N/A
Received Date: 01/02/2025 09:30 AM
Analysis Date: 01/04/2025
Report Date: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM02-122224-AB **Sample Description:** DL698548

EMSL Sample Number: 000004518-0017 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 6860.8
 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 %: 7
 Target Analytical Sensitivity (Structures/cc): 0.001

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

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

Comment
 Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 000004518

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: 000004518-0017			Customer Sample: MFL-AM02-122224-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	H8	None Detected									
I5	F3	None Detected									
I5	C6	None Detected									
I6	D4	None Detected									
I6	I3	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM03-122224-AB	Sample Description:	DL698367
EMSL Sample Number:	000004518-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7244.0
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

Approved Signatory

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EMSL Order ID: 000004518
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: 000004518-0018		Customer Sample: MFL-AM03-122224-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	B3	None Detected									
J1	G2	None Detected									
J1	J5	None Detected									
J2	H5	None Detected									
J2	C6	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: 01/07/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-122224-AB	Sample Description:	DL698256
EMSL Sample Number:	000004518-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7242.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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
 Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 000004518

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:		000004518-0019		Customer Sample:		MFL-AM08-122224-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	H8	None Detected									
J5	G6	None Detected									
J5	B7	None Detected									
J6	J8	None Detected									
J6	D7	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-122224-AB **Sample Description:** DL698125

EMSL Sample Number: 000004518-0020 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 (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: 10
 Minimum Level of analysis (chrysotile): CD Analyst: G.Barry
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		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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ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID:		000004518-0020		Customer Sample:		MFL-FB01-122224-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	J7	None Detected									
K1	E9	None Detected									
K1	D5	None Detected									
K2	B3	None Detected									
K2	C7	None Detected									
K2	F9	None Detected									
K2	I6	None Detected									
K3	J7	None Detected									
K3	E8	None Detected									
K3	A7	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: 01/07/2025

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:	000004518-0021	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 %:	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: 000004518

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: 000004518-0021		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	J7	None Detected									
A1	H4	None Detected									
A1	E3	None Detected									
A1	A6	None Detected									
A2	B2	None Detected									
A2	D7	None Detected									
A2	G5	None Detected									
A3	A3	None Detected									
A3	F2	None Detected									
A3	H6	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) 720-3675
EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

[Empty box for Order Number / Lab Use Only]

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

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

RECEIVED
EMSL
CINNAMINSON, NJ
12/19/24 11:39 AM

Project Information

Project Name/No: **Maui Fires Lahaina** Purchase Order: **1207085**

EMSL LIMS Project ID: (if applicable, EMSL will provide) US State where samples collected: **HI** State of Connecticut (CT) must select project location: Commercial (Taxable) Residential (Non-Taxable)

Sampled By Name: **Shaina A.L. Epstein** Sampled By Signature: [Signature] No. of Samples In Shipment: **20**

Turn-Around-Time (TAT)

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

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

Test Selection

PCM Air

NIOSH 7400
 NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)

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

TEM - Air

AHERA 40 CFR, Part 763
 NIOSH 7402
 EPA Level II
 ISO 10312*

TEM - Bulk

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

TEM - Settled Dust

Microvac - ASTM D5755
 Wipe - ASTM D6480
 Qualitative via Filtration Prep
 Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*

PLM EPA 600/R-93/116 with milling prep (<0.25%)
 PLM EPA 600/R-93/116 with milling prep (<0.1%)
 TEM EPA 600/R-93/116 with milling prep (<0.1%)
 TEM Qualitative via Filtration Prep
 TEM Qualitative via Drop Mount Prep

Other Test (please specify)

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-121924-AB	DL697992	7,141.228	12/19/24 1056
MFL-AM02-121924-AB	DL697981	6,521.393	12/19/24 1112
MFL-AM03-121924-AB	DL698443	7,224.372	12/19/24 1257
MFL-AM07-121924-AB	DL697985	7,208.119	12/19/24 1317
MFL-FB01-121924-AB	DL697987	0	12/19/24 1200
MFL-AM05-122024-AB	DL698505	7,227.263	12/20/24 1101
MFL-AM02-122024-AB	DL698508	6,479.992	12/20/24 1117
MFL-AM03-122024-AB	DL698539	7,188.633	12/20/24 1255

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)
All samples received acceptable for analysis. (20) p

Method of Shipment: **Fedex** Sample Condition Upon Receipt:

Relinquished by: [Signature] Date/Time: **12/23/24 1100** Received by: [Signature] - FedEx Date/Time: **1/2/25 9:30 A**

Relinquished by: [Signature] Date/Time: Received by: 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.

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

Reviewed by:

Kierra Johnson 01/07/2025 and Shanna Vasser 01/07/2025

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

Collection date(s): 12/19/2024 – 12/22/2024

Report No: 04-518

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

EMSL Order: 04-520
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:
Analysis Date: 01/03/2025
Report Date: 01/03/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM05-122324-AB	Sample Description:	DL697978
EMSL Sample Number:	000004520-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7233.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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

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.

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

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

EMSL Order ID: 000004520

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: 000004520-0001			Customer Sample: MFL-AM05-122324-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	I6	None Detected									
I5	F8	None Detected									
I5	C8	None Detected									
I6	I6	None Detected									
I6	B4	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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EMSL Order: 04-520
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:
Analysis Date: 01/03/2025
Report Date: 01/03/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM02-122324-AB	Sample Description:	DL698110
EMSL Sample Number:	000004520-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6941.1
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 %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0009	Limit of Detection (Structures/cc):	0.0027

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.36	< 0.0027	Not Applicable - 0.0027	

Comment
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **000004520**
 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: 000004520-0002			Customer Sample: MFL-AM02-122324-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					
J2	J7	None Detected									
J2	G9	None Detected									
J2	D1	None Detected									
J3	J1	None Detected									
J3	D3	None Detected									

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



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Attn: Chelsea Saber
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 1560 Broadway, Suite 1400
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Phone: (703) 489-2674
Fax: N/A
Received Date:
Analysis Date: 01/03/2025
Report Date: 01/03/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM03-122324-AB	Sample Description:	DL698002
EMSL Sample Number:	000004520-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7205.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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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<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order ID: **000004520**
 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: 000004520-0003			Customer Sample: MFL-AM03-122324-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	J2	None Detected									
J5	F3	None Detected									
J5	D7	None Detected									
J6	H7	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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EMSL Order: 04-520
Customer ID: TTDC42
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Attn: Chelsea Saber
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 1560 Broadway, Suite 1400
 Denver, CO, 80202

Phone: (703) 489-2674
Fax: N/A
Received Date:
Analysis Date: 01/03/2025
Report Date: 01/03/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-122324-AB	Sample Description:	DL698007
EMSL Sample Number:	000004520-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7289.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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

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: 000004520

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: 000004520-0004			Customer Sample: MFL-AM08-122324-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	A8	None Detected									
K2	C5	None Detected									
K2	E7	None Detected									
K3	G2	None Detected									
K3	B6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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

EMSL Order: 04-520
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:
Analysis Date: 01/03/2025
Report Date: 01/03/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-122324-AB **Sample Description:** DL694734

EMSL Sample Number: 000004520-0005 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): 0.0129
 Chi² 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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 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: **000004520**
 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: 000004520-0005		Customer Sample: MFL-FB01-122324-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	C3	None Detected									
K5	E8	None Detected									
K5	G3	None Detected									
K5	I6	None Detected									
K6	A3	None Detected									
K6	C4	None Detected									
K6	E3	None Detected									
K6	G9	None Detected									
K6	I6	None Detected									

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



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

EMSL Order: 04-520
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:
Analysis Date: 01/03/2025
Report Date: 01/03/2025

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:	000004520-0006	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): 0.0129
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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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: 000004520

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: 000004520-0006		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					
I2	A6	None Detected									
I2	C9	None Detected									
I2	E7	None Detected									
I2	G2	None Detected									
I2	I1	None Detected									
I3	A9	None Detected									
I3	C10	None Detected									
I3	E7	None Detected									
I3	G5	None Detected									
I3	I10	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled

04-520



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: CinnAsstlab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

[Empty box for Order Number / Lab Use Only]

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

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

RECEIVED
EMSL
CINNAMINSON, NJ
25 JAN -2 AM 9:30

Project Information

Project Name/No: **Maui Fires Lahaina** Purchase Order: **1207085**

EMSL LIMS Project ID: (If applicable, EMSL will provide) US State where samples collected: **HI** State of Connecticut (CT) must select project location: Commercial (Taxable) Residential (Non-Taxable)

Sampled By Name: **Shaina Epstein** Sampled By Signature: [Signature] No. of Samples in Shipment: **5**

Turn-Around-Time (TAT)

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

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

Test Selection

PCM Air

NIOSH 7400
 NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)

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

TEM - Air

AHERA 40 CFR, Part 763
 NIOSH 7402
 EPA Level II
 ISO 10312*

TEM - Bulk

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

TEM - Settled Dust

Microvac - ASTM D5755
 Wipe - ASTM D6480
 Qualitative via Filtration Prep
 Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*

PLM EPA 600/R-93/116 with milling prep (<0.25%)
 PLM EPA 600/R-93/116 with milling prep (<0.1%)
 TEM EPA 600/R-93/116 with milling prep (<0.1%)
 TEM Qualitative via Filtration Prep
 TEM Qualitative via Drop Mount Prep

Other Test (please specify)

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-122324-AB	DL697978	7,233.175	12/23/24 1054
MFL-AM02-122324-AB	DL698110	6,941.095	12/23/24 1113
MFL-AM03-122324-AB	DL698002	7,205.188	12/23/24 1259
MFL-AM08-122324-AB	DL698007	7,289.587	12/23/24 1317
MFL-FB01-122324-AB	DL694734	0	12/23/24 1200

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

All samples received acceptable for analysis.

58

Method of Shipment: **Fedex** Sample Condition Upon Receipt:

Relinquished by: [Signature] Date/Time: **12/26/24 1100** Received by: [Signature] Date/Time: **1/2/25 9:30A**

Relinquished by: [Signature] Date/Time: Received by: [Signature] 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.

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

Reviewed by:

Kierra Johnson 01/06/2025 and Shanna Vasser 01/07/2025

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

Collection date(s): 12/23/2024

Report No: 04-520

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

Discrepancies: None.

Notes: None.



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

January 09, 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 12/30/24 12:14.

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: 01/09/25 14:31

SUBMITTED: 12/30/24

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-AM05-121924-HM	4123049-01	Air	12/19/24 23:59	12/30/24 12:14
MFL-AM02-121924-HM	4123049-02	Air	12/19/24 23:59	12/30/24 12:14
MFL-AM03-121924-HM	4123049-03	Air	12/19/24 23:59	12/30/24 12:14
MFL-AM07-121924-HM	4123049-04	Air	12/19/24 23:59	12/30/24 12:14
MFL-AM05-122024-HM	4123049-05	Air	12/20/24 23:59	12/30/24 12:14
MFL-AM02-122024-HM	4123049-06	Air	12/20/24 23:59	12/30/24 12:14
MFL-AM03-122024-HM	4123049-07	Air	12/20/24 23:59	12/30/24 12:14
MFL-AM07-122024-HM	4123049-08	Air	12/20/24 23:59	12/30/24 12:14
MFL-FB01-122024-HM	4123049-09	Air	12/20/24 00:00	12/30/24 12:14
MFL-AM05-122124-HM	4123049-10	Air	12/21/24 23:59	12/30/24 12:14
MFL-AM02-122124-HM	4123049-11	Air	12/21/24 23:59	12/30/24 12:14
MFL-AM03-122124-HM	4123049-12	Air	12/21/24 23:59	12/30/24 12:14
MFL-AM08-122124-HM	4123049-13	Air	12/21/24 23:59	12/30/24 12:14
MFL-AM05-122224-HM	4123049-14	Air	12/22/24 23:59	12/30/24 12:14
MFL-AM02-122224-HM	4123049-15	Air	12/22/24 23:59	12/30/24 12:14
MFL-AM03-122224-HM	4123049-16	Air	12/22/24 23:59	12/30/24 12:14
MFL-AM08-122224-HM	4123049-17	Air	12/22/24 23:59	12/30/24 12:14
MFL-FB01-122224-HM	4123049-18	Air	12/22/24 00:00	12/30/24 12:14
MFL-AM05-122324-HM	4123049-19	Air	12/23/24 23:59	12/30/24 12:14
MFL-AM02-122324-HM	4123049-20	Air	12/23/24 23:59	12/30/24 12:14
MFL-AM03-122324-HM	4123049-21	Air	12/23/24 23:59	12/30/24 12:14



CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.

1777 Sentry Pkwy, Bldg 12

Blue Bell, PA 19422

ATTN: Ms. Chelsea Saber

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

MFL-AM08-122324-HM

4123049-22

Air

FILE #: 4205.00.003.001

REPORTED: 01/09/25 14:31

SUBMITTED: 12/30/24

AQS SITE CODE:

SITE CODE: Lahaina fires

12/23/24 23:59

12/30/24 12:14



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: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-121924-HM **Lab ID:** 4123049-01 **Sampled:** 12/19/24 23:59
Matrix: Air **Sample Volume:** 1662.763 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 01:09
Comments: Q8529579 - 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	0.0378	
Arsenic	7440-38-2	0.537		0.00917	
Barium	7440-39-3	9.36	QB-01	1.05	
Beryllium	7440-41-7	0.0307		0.00313	
Cadmium	7440-43-9	0.0403	U	0.0725	
Chromium	7440-47-3	4.11		2.16	
Cobalt	7440-48-4	0.981		0.0427	
Copper	7440-50-8	54.5		2.57	
Lead	7439-92-1	0.962		0.209	
Manganese	7439-96-5	36.7		1.85	
Molybdenum	7439-98-7	2.96	QB-01	0.351	
Nickel	7440-02-0	2.39	GC-BS	0.638	
Selenium	7782-49-2	0.360		0.00877	
Thallium	7440-28-0	0.00319	QB-04	5.76E-4	
Vanadium	7440-62-2	3.44		0.0518	
Zinc	7440-66-6	31.0	U	75.1	



CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-121924-HM **Lab ID:** 4123049-02 **Sampled:** 12/19/24 23:59
Matrix: Air **Sample Volume:** 2161.021 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 01:24
Comments: Q8529576 - 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	0.352	SL	0.0291	
Arsenic	7440-38-2	0.907		0.00705	
Barium	7440-39-3	8.50	QB-01	0.806	
Beryllium	7440-41-7	0.0162		0.00241	
Cadmium	7440-43-9	0.0343	U	0.0558	
Chromium	7440-47-3	2.96		1.66	
Cobalt	7440-48-4	0.585		0.0328	
Copper	7440-50-8	45.2		1.98	
Lead	7439-92-1	1.34		0.161	
Manganese	7439-96-5	18.3		1.42	
Molybdenum	7439-98-7	2.78	QB-01	0.270	
Nickel	7440-02-0	1.80	GC-BS	0.491	
Selenium	7782-49-2	0.300		0.00675	
Thallium	7440-28-0	0.00139	QB-04	4.43E-4	
Vanadium	7440-62-2	2.20		0.0398	
Zinc	7440-66-6	30.9	U	57.8	



CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-121924-HM **Lab ID:** 4123049-03 **Sampled:** 12/19/24 23:59
Matrix: Air **Sample Volume:** 1977.269 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 01:40
Comments: Q8529596 - 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	0.0684	SL	0.0318	
Arsenic	7440-38-2	0.246		0.00771	
Barium	7440-39-3	5.78	QB-01	0.880	
Beryllium	7440-41-7	0.0329		0.00263	
Cadmium	7440-43-9	0.0156	U	0.0610	
Chromium	7440-47-3	4.45		1.82	
Cobalt	7440-48-4	0.903		0.0359	
Copper	7440-50-8	42.7		2.16	
Lead	7439-92-1	0.366		0.176	
Manganese	7439-96-5	20.6		1.56	
Molybdenum	7439-98-7	2.05	QB-01	0.295	
Nickel	7440-02-0	2.77	GC-BS	0.536	
Selenium	7782-49-2	0.287		0.00737	
Thallium	7440-28-0	0.00155	QB-04	4.85E-4	
Vanadium	7440-62-2	2.69		0.0435	
Zinc	7440-66-6	9.75	U	63.2	



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FILE #: 4205.00.003.001
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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM07-121924-HM **Lab ID:** 4123049-04 **Sampled:** 12/19/24 23:59
Matrix: Air **Sample Volume:** 1454.265 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 01:54
Comments: Q8529594 - 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	0.199	SL	0.0432	
Arsenic	7440-38-2	1.68		0.0105	
Barium	7440-39-3	17.9	QB-01	1.20	
Beryllium	7440-41-7	0.105		0.00358	
Cadmium	7440-43-9	0.0442	U	0.0829	
Chromium	7440-47-3	11.2		2.47	
Cobalt	7440-48-4	2.96		0.0488	
Copper	7440-50-8	31.3		2.94	
Lead	7439-92-1	2.29		0.239	
Manganese	7439-96-5	110		2.11	
Molybdenum	7439-98-7	1.43	QB-01	0.402	
Nickel	7440-02-0	6.34	GC-BS	0.729	
Selenium	7782-49-2	0.623		0.0100	
Thallium	7440-28-0	0.00550	QB-04	6.59E-4	
Vanadium	7440-62-2	8.29		0.0592	
Zinc	7440-66-6	284		85.9	



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Description: MFL-AM05-122024-HM **Lab ID:** 4123049-05 **Sampled:** 12/20/24 23:59
Matrix: Air **Sample Volume:** 1846.329 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/02/25 22:31
Comments: Q8529592 - 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	0.162	SL	0.0340	
Arsenic	7440-38-2	0.254		0.00826	
Barium	7440-39-3	6.22	QB-01	0.943	
Beryllium	7440-41-7	0.0116		0.00282	
Cadmium	7440-43-9	0.0113	U	0.0653	
Chromium	7440-47-3	2.46		1.95	
Cobalt	7440-48-4	0.451		0.0384	
Copper	7440-50-8	53.7	QM-07	2.32	
Lead	7439-92-1	0.521		0.189	
Manganese	7439-96-5	13.3		1.67	
Molybdenum	7439-98-7	3.16	QB-01, QM-07	0.316	
Nickel	7440-02-0	2.12	GC-BS	0.575	
Selenium	7782-49-2	0.224		0.00790	
Thallium	7440-28-0	0.00119	QB-04	5.19E-4	
Vanadium	7440-62-2	2.65		0.0466	
Zinc	7440-66-6	15.6	U	67.7	



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 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-122024-HM **Lab ID:** 4123049-06 **Sampled:** 12/20/24 23:59
Matrix: Air **Sample Volume:** 2149.339 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 02:10
Comments: Q8529591 - 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	0.285	SL	0.0292
Arsenic	7440-38-2	0.386		0.00709
Barium	7440-39-3	8.50	QB-01	0.810
Beryllium	7440-41-7	0.0170		0.00242
Cadmium	7440-43-9	0.0127	U	0.0561
Chromium	7440-47-3	3.02		1.67
Cobalt	7440-48-4	0.676		0.0330
Copper	7440-50-8	43.5		1.99
Lead	7439-92-1	0.710		0.162
Manganese	7439-96-5	18.3		1.43
Molybdenum	7439-98-7	2.42	QB-01	0.272
Nickel	7440-02-0	2.55	GC-BS	0.494
Selenium	7782-49-2	0.248		0.00678
Thallium	7440-28-0	0.00138	QB-04	4.46E-4
Vanadium	7440-62-2	3.22		0.0400
Zinc	7440-66-6	15.8	U	58.1



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 SUBMITTED: 12/30/24
 AQS SITE CODE:
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Description: MFL-AM03-122024-HM **Lab ID:** 4123049-07 **Sampled:** 12/20/24 23:59
Matrix: Air **Sample Volume:** 1973.958 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 02:24
Comments: Q8529590 - 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	0.0854	SL	0.0318	
Arsenic	7440-38-2	0.197		0.00772	
Barium	7440-39-3	3.89	QB-01	0.882	
Beryllium	7440-41-7	0.0194		0.00264	
Cadmium	7440-43-9	0.0137	U	0.0611	
Chromium	7440-47-3	2.75		1.82	
Cobalt	7440-48-4	0.531		0.0359	
Copper	7440-50-8	51.2		2.17	
Lead	7439-92-1	0.303		0.176	
Manganese	7439-96-5	12.8		1.56	
Molybdenum	7439-98-7	2.46	QB-01	0.296	
Nickel	7440-02-0	2.17	GC-BS	0.537	
Selenium	7782-49-2	0.206		0.00739	
Thallium	7440-28-0	9.70E-4	QB-04	4.85E-4	
Vanadium	7440-62-2	2.37		0.0436	
Zinc	7440-66-6	8.64	U	63.3	



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 SUBMITTED: 12/30/24
 AQS SITE CODE:
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Description: MFL-AM07-122024-HM **Lab ID:** 4123049-08 **Sampled:** 12/20/24 23:59
Matrix: Air **Sample Volume:** 1337.4 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 02:38
Comments: Q8529589 - 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	0.218	SL	0.0470	
Arsenic	7440-38-2	0.640		0.0114	
Barium	7440-39-3	9.00	QB-01	1.30	
Beryllium	7440-41-7	0.0461		0.00389	
Cadmium	7440-43-9	0.0617	U	0.0901	
Chromium	7440-47-3	6.23		2.69	
Cobalt	7440-48-4	1.44		0.0530	
Copper	7440-50-8	31.0		3.20	
Lead	7439-92-1	1.35		0.260	
Manganese	7439-96-5	45.7		2.30	
Molybdenum	7439-98-7	1.79	QB-01	0.437	
Nickel	7440-02-0	4.12	GC-BS	0.793	
Selenium	7782-49-2	0.362		0.0109	
Thallium	7440-28-0	0.00231	QB-04	7.17E-4	
Vanadium	7440-62-2	4.73		0.0644	
Zinc	7440-66-6	18.0	U	93.4	



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 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
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Description: MFL-FB01-122024-HM **Lab ID:** 4123049-09 **Sampled:** 12/20/24 00:00
Matrix: Air **Sample Volume:** 1846.329 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 02:52
Comments: Q8529586 FB - 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	0.0242	SL, U	0.0340	
Arsenic	7440-38-2	0.00625	U	0.00826	
Barium	7440-39-3	1.44	FB-01, QB-01	0.943	
Beryllium	7440-41-7	1.28E-4	U	0.00282	
Cadmium	7440-43-9	4.31E-4	U	0.0653	
Chromium	7440-47-3	0.852	U	1.95	
Cobalt	7440-48-4	0.0106	U	0.0384	
Copper	7440-50-8	0.251	U	2.32	
Lead	7439-92-1	0.0182	U	0.189	
Manganese	7439-96-5	0.143	U	1.67	
Molybdenum	7439-98-7	0.135	QB-01, U	0.316	
Nickel	7440-02-0	0.430	GC-BS, U	0.575	
Selenium	7782-49-2	0.00166	U	0.00790	
Thallium	7440-28-0	1.51E-4	QB-04, U	5.19E-4	
Vanadium	7440-62-2	ND	U	0.0466	
Zinc	7440-66-6	1.91	U	67.7	



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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-122124-HM **Lab ID:** 4123049-10 **Sampled:** 12/21/24 23:59
Matrix: Air **Sample Volume:** 1879.166 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 03:05
Comments: Q8529585 - 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	0.186	SL	0.0334	
Arsenic	7440-38-2	0.196		0.00811	
Barium	7440-39-3	4.88	QB-01	0.926	
Beryllium	7440-41-7	0.00768		0.00277	
Cadmium	7440-43-9	0.0107	U	0.0642	
Chromium	7440-47-3	1.95		1.91	
Cobalt	7440-48-4	0.288		0.0377	
Copper	7440-50-8	64.9		2.28	
Lead	7439-92-1	0.557		0.185	
Manganese	7439-96-5	8.62		1.64	
Molybdenum	7439-98-7	4.94	QB-01	0.311	
Nickel	7440-02-0	1.57	GC-BS	0.565	
Selenium	7782-49-2	0.195		0.00776	
Thallium	7440-28-0	0.00108	QB-04	5.10E-4	
Vanadium	7440-62-2	1.41		0.0458	
Zinc	7440-66-6	11.0	U	66.5	



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 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-122124-HM **Lab ID:** 4123049-11 **Sampled:** 12/21/24 23:59
Matrix: Air **Sample Volume:** 2122.442 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/02/25 18:45
Comments: Q8529613 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	0.270	SL	0.0296	
Arsenic	7440-38-2	0.500		0.00718	
Barium	7440-39-3	7.39	QB-01	0.820	
Beryllium	7440-41-7	0.0137		0.00245	
Cadmium	7440-43-9	0.0192	U	0.0568	
Chromium	7440-47-3	2.37		1.69	
Cobalt	7440-48-4	0.444		0.0334	
Copper	7440-50-8	43.5		2.02	
Lead	7439-92-1	1.12		0.164	
Manganese	7439-96-5	14.0		1.45	
Molybdenum	7439-98-7	2.15	QB-01	0.275	
Nickel	7440-02-0	1.54	GC-BS	0.500	
Selenium	7782-49-2	0.197		0.00687	
Thallium	7440-28-0	0.00130	QB-04	4.52E-4	
Vanadium	7440-62-2	1.89		0.0406	
Zinc	7440-66-6	17.4	U	58.9	



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 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
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Description: MFL-AM03-122124-HM **Lab ID:** 4123049-12 **Sampled:** 12/21/24 23:59
Matrix: Air **Sample Volume:** 1818.227 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 03:19
Comments: Q8529612 - 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	0.0817	SL	0.0345	
Arsenic	7440-38-2	0.158		0.00838	
Barium	7440-39-3	3.52	QB-01	0.957	
Beryllium	7440-41-7	0.0196		0.00286	
Cadmium	7440-43-9	0.0114	U	0.0663	
Chromium	7440-47-3	2.33		1.98	
Cobalt	7440-48-4	0.361		0.0390	
Copper	7440-50-8	52.4		2.35	
Lead	7439-92-1	0.469		0.191	
Manganese	7439-96-5	10.0		1.69	
Molybdenum	7439-98-7	2.08	QB-01	0.321	
Nickel	7440-02-0	1.69	GC-BS	0.583	
Selenium	7782-49-2	0.182		0.00802	
Thallium	7440-28-0	0.00102	QB-04	5.27E-4	
Vanadium	7440-62-2	1.54		0.0473	
Zinc	7440-66-6	9.12	U	68.7	



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 SUBMITTED: 12/30/24
 AQS SITE CODE:
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Description: MFL-AM08-122124-HM **Lab ID:** 4123049-13 **Sampled:** 12/21/24 23:59
Matrix: Air **Sample Volume:** 1740.084 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 04:24
Comments: Q8529611 - 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	0.150	SL	0.0361	
Arsenic	7440-38-2	0.262		0.00876	
Barium	7440-39-3	4.04	QB-01	1.00	
Beryllium	7440-41-7	0.00934		0.00299	
Cadmium	7440-43-9	0.0144	U	0.0693	
Chromium	7440-47-3	2.38		2.07	
Cobalt	7440-48-4	0.351		0.0408	
Copper	7440-50-8	29.2		2.46	
Lead	7439-92-1	0.442		0.200	
Manganese	7439-96-5	10.2		1.77	
Molybdenum	7439-98-7	1.79	QB-01	0.336	
Nickel	7440-02-0	1.60	GC-BS	0.610	
Selenium	7782-49-2	0.214		0.00838	
Thallium	7440-28-0	0.00123	QB-04	5.51E-4	
Vanadium	7440-62-2	1.62		0.0495	
Zinc	7440-66-6	9.80	U	71.8	



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 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-122224-HM **Lab ID:** 4123049-14 **Sampled:** 12/22/24 23:59
Matrix: Air **Sample Volume:** 1802.7 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 04:38
Comments: Q8529608 - 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	0.133	SL	0.0348	
Arsenic	7440-38-2	0.225		0.00846	
Barium	7440-39-3	4.71	QB-01	0.966	
Beryllium	7440-41-7	0.00923		0.00289	
Cadmium	7440-43-9	0.00917	U	0.0669	
Chromium	7440-47-3	2.58		1.99	
Cobalt	7440-48-4	0.373		0.0394	
Copper	7440-50-8	51.3		2.37	
Lead	7439-92-1	0.380		0.193	
Manganese	7439-96-5	10.4		1.71	
Molybdenum	7439-98-7	3.35	QB-01	0.324	
Nickel	7440-02-0	1.63	GC-BS	0.588	
Selenium	7782-49-2	0.233		0.00809	
Thallium	7440-28-0	0.00148	QB-04	5.32E-4	
Vanadium	7440-62-2	1.89		0.0477	
Zinc	7440-66-6	8.32	U	69.3	



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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-122224-HM **Lab ID:** 4123049-15 **Sampled:** 12/22/24 23:59
Matrix: Air **Sample Volume:** 2127.781 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 04:52
Comments: Q8529607 - 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	0.245	SL	0.0295	
Arsenic	7440-38-2	0.320		0.00716	
Barium	7440-39-3	6.12	QB-01	0.818	
Beryllium	7440-41-7	0.0116		0.00245	
Cadmium	7440-43-9	0.0113	U	0.0567	
Chromium	7440-47-3	2.29		1.69	
Cobalt	7440-48-4	0.409		0.0333	
Copper	7440-50-8	34.1		2.01	
Lead	7439-92-1	0.691		0.164	
Manganese	7439-96-5	12.4		1.45	
Molybdenum	7439-98-7	2.10	QB-01	0.275	
Nickel	7440-02-0	1.62	GC-BS	0.499	
Selenium	7782-49-2	0.223		0.00685	
Thallium	7440-28-0	0.00148	QB-04	4.50E-4	
Vanadium	7440-62-2	2.01		0.0404	
Zinc	7440-66-6	13.8	U	58.7	



CERTIFICATE OF ANALYSIS

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 Blue Bell, PA 19422
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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-122224-HM **Lab ID:** 4123049-16 **Sampled:** 12/22/24 23:59
Matrix: Air **Sample Volume:** 1975.613 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 05:06
Comments: Q8529603 - 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	0.0492	SL	0.0318	
Arsenic	7440-38-2	0.151		0.00772	
Barium	7440-39-3	2.85	QB-01	0.881	
Beryllium	7440-41-7	0.0135		0.00264	
Cadmium	7440-43-9	0.0138	U	0.0610	
Chromium	7440-47-3	1.89		1.82	
Cobalt	7440-48-4	0.319		0.0359	
Copper	7440-50-8	40.9		2.17	
Lead	7439-92-1	0.299		0.176	
Manganese	7439-96-5	8.74		1.56	
Molybdenum	7439-98-7	2.31	QB-01	0.296	
Nickel	7440-02-0	1.40	GC-BS	0.537	
Selenium	7782-49-2	0.198		0.00738	
Thallium	7440-28-0	0.00133	QB-04	4.85E-4	
Vanadium	7440-62-2	1.48		0.0436	
Zinc	7440-66-6	6.51	U	63.2	



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 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-122224-HM **Lab ID:** 4123049-17 **Sampled:** 12/22/24 23:59
Matrix: Air **Sample Volume:** 1557.833 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 05:33
Comments: Q8529602 - 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	0.165	SL	0.0403	
Arsenic	7440-38-2	0.710		0.00979	
Barium	7440-39-3	5.28	QB-01	1.12	
Beryllium	7440-41-7	0.0116		0.00334	
Cadmium	7440-43-9	0.0300	U	0.0774	
Chromium	7440-47-3	3.14		2.31	
Cobalt	7440-48-4	0.392		0.0455	
Copper	7440-50-8	33.4		2.75	
Lead	7439-92-1	1.19		0.224	
Manganese	7439-96-5	14.2		1.97	
Molybdenum	7439-98-7	1.77	QB-01	0.375	
Nickel	7440-02-0	1.82	GC-BS	0.681	
Selenium	7782-49-2	0.252		0.00936	
Thallium	7440-28-0	0.00168	QB-04	6.15E-4	
Vanadium	7440-62-2	1.84		0.0552	
Zinc	7440-66-6	15.6	U	80.2	



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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-122224-HM **Lab ID:** 4123049-18 **Sampled:** 12/22/24 00:00
Matrix: Air **Sample Volume:** 1802.7 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 05:47
Comments: Q8529625 FB - 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	0.0223	SL, U	0.0348
Arsenic	7440-38-2	0.00795	U	0.00846
Barium	7440-39-3	1.24	FB-01, QB-01	0.966
Beryllium	7440-41-7	1.02E-4	U	0.00289
Cadmium	7440-43-9	7.91E-4	U	0.0669
Chromium	7440-47-3	0.928	U	1.99
Cobalt	7440-48-4	0.00984	U	0.0394
Copper	7440-50-8	0.831	U	2.37
Lead	7439-92-1	0.0479	U	0.193
Manganese	7439-96-5	0.180	U	1.71
Molybdenum	7439-98-7	0.161	QB-01, U	0.324
Nickel	7440-02-0	0.384	GC-BS, U	0.588
Selenium	7782-49-2	ND	U	0.00809
Thallium	7440-28-0	1.22E-4	QB-04, U	5.32E-4
Vanadium	7440-62-2	0.0187	U	0.0477
Zinc	7440-66-6	3.22	U	69.3



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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-122324-HM **Lab ID:** 4123049-19 **Sampled:** 12/23/24 23:59
Matrix: Air **Sample Volume:** 1834.766 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 06:01
Comments: Q8529601 - 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	0.183	SL	0.0342	
Arsenic	7440-38-2	0.554		0.00831	
Barium	7440-39-3	10.6	QB-01	0.949	
Beryllium	7440-41-7	0.0250		0.00284	
Cadmium	7440-43-9	0.0330	U	0.0657	
Chromium	7440-47-3	4.23		1.96	
Cobalt	7440-48-4	0.924		0.0387	
Copper	7440-50-8	63.7		2.33	
Lead	7439-92-1	1.11		0.190	
Manganese	7439-96-5	30.1		1.68	
Molybdenum	7439-98-7	2.83	QB-01	0.318	
Nickel	7440-02-0	2.70	GC-BS	0.578	
Selenium	7782-49-2	0.282		0.00795	
Thallium	7440-28-0	0.00285	QB-04	5.22E-4	
Vanadium	7440-62-2	3.37		0.0469	
Zinc	7440-66-6	23.1	U	68.1	



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 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-122324-HM **Lab ID:** 4123049-20 **Sampled:** 12/23/24 23:59
Matrix: Air **Sample Volume:** 2124.222 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 06:16
Comments: Q8529600 - 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	0.190	SL	0.0296	
Arsenic	7440-38-2	0.974		0.00718	
Barium	7440-39-3	10.4	QB-01	0.820	
Beryllium	7440-41-7	0.0243		0.00245	
Cadmium	7440-43-9	0.0538	U	0.0568	
Chromium	7440-47-3	4.43		1.69	
Cobalt	7440-48-4	0.772		0.0334	
Copper	7440-50-8	53.0		2.01	
Lead	7439-92-1	2.49		0.164	
Manganese	7439-96-5	25.0		1.45	
Molybdenum	7439-98-7	2.10	QB-01	0.275	
Nickel	7440-02-0	2.44	GC-BS	0.499	
Selenium	7782-49-2	0.266		0.00686	
Thallium	7440-28-0	0.00204	QB-04	4.51E-4	
Vanadium	7440-62-2	2.86		0.0405	
Zinc	7440-66-6	24.0	U	58.8	



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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-122324-HM **Lab ID:** 4123049-21 **Sampled:** 12/23/24 23:59
Matrix: Air **Sample Volume:** 1988.028 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 06:31
Comments: Q8529624 - 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	0.0479	SL	0.0316	
Arsenic	7440-38-2	0.258		0.00767	
Barium	7440-39-3	4.65	QB-01	0.876	
Beryllium	7440-41-7	0.0290		0.00262	
Cadmium	7440-43-9	0.0117	U	0.0606	
Chromium	7440-47-3	3.14		1.81	
Cobalt	7440-48-4	0.623		0.0357	
Copper	7440-50-8	45.8		2.15	
Lead	7439-92-1	0.475		0.175	
Manganese	7439-96-5	17.6		1.55	
Molybdenum	7439-98-7	1.97	QB-01	0.294	
Nickel	7440-02-0	2.08	GC-BS	0.534	
Selenium	7782-49-2	0.237		0.00733	
Thallium	7440-28-0	0.00202	QB-04	4.82E-4	
Vanadium	7440-62-2	2.18		0.0433	
Zinc	7440-66-6	10.2	U	62.9	



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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-122324-HM **Lab ID:** 4123049-22 **Sampled:** 12/23/24 23:59
Matrix: Air **Sample Volume:** 1535.973 m³ **Received:** 12/30/24 12:14
Filter ID: **Analysis Date:** 01/03/25 07:58
Comments: Q8529622 - 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	0.164	SL	0.0409	
Arsenic	7440-38-2	0.642		0.00993	
Barium	7440-39-3	5.00	QB-01	1.13	
Beryllium	7440-41-7	0.0141		0.00339	
Cadmium	7440-43-9	0.0372	U	0.0785	
Chromium	7440-47-3	2.91		2.34	
Cobalt	7440-48-4	0.414		0.0462	
Copper	7440-50-8	29.4		2.79	
Lead	7439-92-1	1.12		0.227	
Manganese	7439-96-5	15.4		2.00	
Molybdenum	7439-98-7	1.64	QB-01	0.380	
Nickel	7440-02-0	1.72	GC-BS	0.691	
Selenium	7782-49-2	0.258	R-F	0.00949	
Thallium	7440-28-0	0.00202	QB-04	6.24E-4	
Vanadium	7440-62-2	1.94		0.0560	
Zinc	7440-66-6	15.8	U	81.4	



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FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
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 2501001 - B4L2001

Calibration Blank (2501001-CCB1)

Prepared & Analyzed: 01/02/25

Antimony	0.968		ng/l							
Arsenic	6.57		ng/l							
Barium	-0.894		ng/l							U
Beryllium	-1.04		ng/l							U
Cadmium	0.0957		ng/l							
Chromium	2.09		ng/l							
Cobalt	0.00375		ng/l							
Copper	56.8		ng/l							
Lead	2.57		ng/l							
Manganese	4.65		ng/l							
Molybdenum	17.6		ng/l							
Nickel	4.08		ng/l							
Selenium	-6.64		ng/l							U
Thallium	1.88		ng/l							QB-04
Vanadium	-97.7		ng/l							U
Zinc	6.04		ng/l							

Calibration Blank (2501001-CCB2)

Prepared & Analyzed: 01/02/25

Antimony	0.758		ng/l							
Arsenic	12.0		ng/l							
Barium	-0.957		ng/l							U
Beryllium	-1.12		ng/l							U
Cadmium	0.123		ng/l							
Chromium	1.23		ng/l							
Cobalt	0.148		ng/l							
Copper	20.8		ng/l							
Lead	2.13		ng/l							
Manganese	1.72		ng/l							
Molybdenum	-2.78		ng/l							U
Nickel	5.47		ng/l							
Selenium	-6.23		ng/l							U
Thallium	1.56		ng/l							QB-04
Vanadium	-98.5		ng/l							U
Zinc	21.5		ng/l							

Calibration Blank (2501001-CCB3)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	0.752		ng/l							
Arsenic	5.11		ng/l							
Barium	-1.56		ng/l							U
Beryllium	-1.30		ng/l							U

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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 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 2501001 - B4L2001

Calibration Blank (2501001-CCB3) Contin

Prepared: 01/02/25 Analyzed: 01/03/25

Cadmium	0.173		ng/l							
Chromium	2.23		ng/l							
Cobalt	0.104		ng/l							
Copper	20.4		ng/l							
Lead	1.99		ng/l							
Manganese	4.41		ng/l							
Molybdenum	-3.14		ng/l							U
Nickel	4.16		ng/l							
Selenium	-3.72		ng/l							U
Thallium	1.26		ng/l							QB-04
Vanadium	-106		ng/l							U
Zinc	44.7		ng/l							

Calibration Blank (2501001-CCB4)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	0.908		ng/l							
Arsenic	16.9		ng/l							
Barium	-1.22		ng/l							U
Beryllium	-1.74		ng/l							U
Cadmium	-0.0139		ng/l							U
Chromium	1.48		ng/l							
Cobalt	0.0870		ng/l							
Copper	16.0		ng/l							
Lead	1.81		ng/l							
Manganese	3.29		ng/l							
Molybdenum	-2.51		ng/l							U
Nickel	8.02		ng/l							
Selenium	5.22		ng/l							
Thallium	1.26		ng/l							QB-04
Vanadium	-109		ng/l							U
Zinc	-4.15		ng/l							U

Calibration Blank (2501001-CCB5)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	1.21		ng/l							
Arsenic	15.1		ng/l							
Barium	-0.505		ng/l							U
Beryllium	-1.81		ng/l							U
Cadmium	0.0132		ng/l							
Chromium	0.786		ng/l							
Cobalt	0.202		ng/l							
Copper	21.8		ng/l							

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FILE #: 4205.00.003.001
 REPORTED: 01/09/25 14:31
 SUBMITTED: 12/30/24
 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 2501001 - B4L2001

Calibration Blank (2501001-CCB5) Contin

Prepared: 01/02/25 Analyzed: 01/03/25

Lead	2.61		ng/l							
Manganese	4.46		ng/l							
Molybdenum	-1.05		ng/l							U
Nickel	10.2		ng/l							
Selenium	-4.53		ng/l							U
Thallium	1.53		ng/l							QB-04
Vanadium	-109		ng/l							U
Zinc	43.1		ng/l							

Calibration Blank (2501001-CCB6)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	1.07		ng/l							
Arsenic	9.10		ng/l							
Barium	0.0815		ng/l							
Beryllium	-2.06		ng/l							U
Cadmium	0.0502		ng/l							
Chromium	3.36		ng/l							
Cobalt	0.238		ng/l							
Copper	27.1		ng/l							
Lead	2.80		ng/l							
Manganese	6.90		ng/l							
Molybdenum	-0.172		ng/l							U
Nickel	5.55		ng/l							
Selenium	3.02		ng/l							
Thallium	1.62		ng/l							QB-04
Vanadium	-115		ng/l							U
Zinc	24.7		ng/l							

Calibration Blank (2501001-CCB7)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	1.10		ng/l							
Arsenic	4.72		ng/l							
Barium	-0.875		ng/l							U
Beryllium	-1.57		ng/l							U
Cadmium	0.173		ng/l							
Chromium	2.70		ng/l							
Cobalt	0.220		ng/l							
Copper	26.5		ng/l							
Lead	2.07		ng/l							
Manganese	5.49		ng/l							
Molybdenum	-3.55		ng/l							U
Nickel	7.30		ng/l							

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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: 01/09/25 14:31
 SUBMITTED: 12/30/24
 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 2501001 - B4L2001

Calibration Blank (2501001-CCB7) Contin

Prepared: 01/02/25 Analyzed: 01/03/25

Selenium	-1.18		ng/l							U
Thallium	1.44		ng/l							QB-04
Vanadium	-109		ng/l							U
Zinc	34.8		ng/l							

Calibration Check (2501001-CCV1)

Prepared & Analyzed: 01/02/25

Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4730		ng/l	5000.0		94.7	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	251000		ng/l	240000		104	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	505		ng/l	500.00		101	90-110			QB-04
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	513000		ng/l	500000		103	90-110			

Calibration Check (2501001-CCV2)

Prepared & Analyzed: 01/02/25

Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	4760		ng/l	5000.0		95.2	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	51500		ng/l	50000		103	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	496		ng/l	500.00		99.1	90-110			QB-04
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	513000		ng/l	500000		103	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 2501001 - B4L2001

Calibration Check (2501001-CCV3)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4790		ng/l	5000.0		95.9	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	261000		ng/l	240000		109	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.15E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	524000		ng/l	500000		105	90-110			
Molybdenum	52900		ng/l	50000		106	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			QB-04
Vanadium	20900		ng/l	20000		104	90-110			
Zinc	524000		ng/l	500000		105	90-110			

Calibration Check (2501001-CCV4)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	4730		ng/l	5000.0		94.5	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	259000		ng/l	240000		108	90-110			
Cobalt	53000		ng/l	50000		106	90-110			
Copper	2.17E6		ng/l	2.0000E6		109	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	528000		ng/l	500000		106	90-110			
Molybdenum	53700		ng/l	50000		107	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			QB-04
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	524000		ng/l	500000		105	90-110			

Calibration Check (2501001-CCV5)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	21200		ng/l	20000		106	90-110			
Arsenic	21100		ng/l	20000		105	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			

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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 2501001 - B4L2001

Calibration Check (2501001-CCV5) Contin

Prepared: 01/02/25 Analyzed: 01/03/25

Cadmium	21400		ng/l	20000		107	90-110			
Chromium	264000		ng/l	240000		110	90-110			
Cobalt	53300		ng/l	50000		107	90-110			
Copper	2.18E6		ng/l	2.0000E6		109	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	534000		ng/l	500000		107	90-110			
Molybdenum	54600		ng/l	50000		109	90-110			
Nickel	129000		ng/l	120000		108	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	503		ng/l	500.00		101	90-110			QB-04
Vanadium	21100		ng/l	20000		106	90-110			
Zinc	529000		ng/l	500000		106	90-110			

Calibration Check (2501001-CCV6)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	21100		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		105	90-110			
Barium	216000		ng/l	200000		108	90-110			
Beryllium	4730		ng/l	5000.0		94.6	90-110			
Cadmium	21400		ng/l	20000		107	90-110			
Chromium	264000		ng/l	240000		110	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			
Lead	211000		ng/l	200000		105	90-110			
Manganese	538000		ng/l	500000		108	90-110			
Molybdenum	54900		ng/l	50000		110	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	502		ng/l	500.00		100	90-110			QB-04
Vanadium	21400		ng/l	20000		107	90-110			
Zinc	526000		ng/l	500000		105	90-110			

Calibration Check (2501001-CCV7)

Prepared: 01/02/25 Analyzed: 01/03/25

Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20900		ng/l	20000		105	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	4730		ng/l	5000.0		94.6	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	263000		ng/l	240000		110	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	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 2501001 - B4L2001

Calibration Check (2501001-CCV7) Contin

Prepared: 01/02/25 Analyzed: 01/03/25

Lead	208000		ng/l	200000		104	90-110			
Manganese	539000		ng/l	500000		108	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	491		ng/l	500.00		98.3	90-110			QB-04
Vanadium	21500		ng/l	20000		107	90-110			
Zinc	524000		ng/l	500000		105	90-110			

High Cal Check (2501001-HCV1)

Prepared & Analyzed: 01/02/25

Antimony	41000		ng/l	40000		102	95-105			
Arsenic	40700		ng/l	40000		102	95-105			
Barium	405000		ng/l	400000		101	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	40500		ng/l	40000		101	95-105			
Chromium	480000		ng/l	480000		100	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.03E6		ng/l	4.0000E6		101	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	103000		ng/l	100000		103	95-105			
Nickel	243000		ng/l	240000		101	95-105			
Selenium	40900		ng/l	40000		102	95-105			
Thallium	1020		ng/l	1000.0		102	95-105			QB-04
Vanadium	40600		ng/l	40000		101	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			

Initial Cal Blank (2501001-ICB1)

Prepared & Analyzed: 01/02/25

Antimony	0.927		ng/l							
Arsenic	4.19		ng/l							
Barium	-1.93		ng/l							U
Beryllium	-0.337		ng/l							U
Cadmium	0.129		ng/l							
Chromium	1.00		ng/l							
Cobalt	0.0911		ng/l							
Copper	67.8		ng/l							
Lead	2.54		ng/l							
Manganese	4.76		ng/l							
Molybdenum	1.24		ng/l							
Nickel	2.71		ng/l							



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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 2501001 - B4L2001

Initial Cal Blank (2501001-ICB1) Continuum

Prepared & Analyzed: 01/02/25

Selenium	-2.14		ng/l							U
Thallium	1.68		ng/l							QB-04
Vanadium	-101		ng/l							U
Zinc	9.47		ng/l							

Initial Cal Check (2501001-ICV1)

Prepared & Analyzed: 01/02/25

Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19800		ng/l	20000		99.2	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	49000		ng/l	50000		98.1	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	492000		ng/l	500000		98.3	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	507		ng/l	500.00		101	90-110			QB-04
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	518000		ng/l	500000		104	90-110			

Interference Check A (2501001-IFA1)

Prepared & Analyzed: 01/02/25

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	317000		ng/l	300000		106	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			QB-04, U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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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 2501001 - B4L2001

Interference Check B (2501001-IFB1)

Prepared & Analyzed: 01/02/25

Antimony	20800		ng/l	20000		104	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	4860		ng/l	5000.0		97.2	80-120			
Cadmium	20400		ng/l	20000		102	80-120			
Chromium	246000		ng/l	240000		102	80-120			
Cobalt	49800		ng/l	50000		99.7	80-120			
Copper	1.94E6		ng/l	2.0000E6		96.9	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	497000		ng/l	500000		99.3	80-120			
Molybdenum	370000		ng/l	350000		106	80-120			
Nickel	118000		ng/l	120000		98.3	80-120			
Selenium	19500		ng/l	20000		97.5	80-120			
Thallium	527		ng/l	500.00		105	80-120			QB-04
Vanadium	19400		ng/l	20000		97.1	80-120			
Zinc	478000		ng/l	500000		95.7	80-120			

Batch B4L3104 - ICP-MS Extraction

Blank (B4L3104-BLK1)

Prepared: 12/31/24 Analyzed: 01/03/25

Antimony	ND	0.0386	ng/m ³ Air							SL, U
Arsenic	ND	0.00937	ng/m ³ Air							U
Barium	ND	1.07	ng/m ³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m ³ Air							U
Cadmium	ND	0.0741	ng/m ³ Air							U
Chromium	ND	2.21	ng/m ³ Air							U
Cobalt	ND	0.0436	ng/m ³ Air							U
Copper	ND	2.63	ng/m ³ Air							U
Lead	ND	0.214	ng/m ³ Air							U
Manganese	ND	1.89	ng/m ³ Air							U
Molybdenum	ND	0.359	ng/m ³ Air							QB-01, U
Nickel	ND	0.652	ng/m ³ Air							GC-BS, U
Selenium	ND	0.00896	ng/m ³ Air							U
Thallium	ND	5.89E-4	ng/m ³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m ³ Air							U
Zinc	ND	76.8	ng/m ³ Air							U

LCS (B4L3104-BS1)

Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.707	0.0386	ng/m ³ Air	1.3829		51.1	80-120			SL
Arsenic	2.79	0.00937	ng/m ³ Air	2.7658		101	80-120			
Barium	29.5	1.07	ng/m ³ Air	27.658		107	80-120			QB-01

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4L3104 - ICP-MS Extraction

LCS (B4L3104-BS1) Continued

Prepared: 12/31/24 Analyzed: 01/02/25

Beryllium	1.30	0.00320	ng/m ³ Air	1.3829		94.1	80-120			
Cadmium	1.43	0.0741	ng/m ³ Air	1.3829		103	80-120			
Chromium	16.4	2.21	ng/m ³ Air	13.829		119	80-120			
Cobalt	1.40	0.0436	ng/m ³ Air	1.3829		101	80-120			
Copper	30.2	2.63	ng/m ³ Air	27.658		109	80-120			
Lead	14.1	0.214	ng/m ³ Air	13.829		102	80-120			
Manganese	8.75	1.89	ng/m ³ Air	8.2975		105	80-120			
Molybdenum	1.66	0.359	ng/m ³ Air	1.3829		120	80-120			QB-01
Nickel	4.45	0.652	ng/m ³ Air	2.7658		161	80-120			GC-BS
Selenium	2.73	0.00896	ng/m ³ Air	2.7658		98.7	80-120			
Thallium	0.143	5.89E-4	ng/m ³ Air	0.13829		103	80-120			QB-04
Vanadium	2.85	0.0529	ng/m ³ Air	2.7658		103	80-120			
Zinc	91.2	76.8	ng/m ³ Air	82.975		110	80-120			

LCS (B4L3104-BS2)

Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.792	0.0386	ng/m ³ Air	1.3829		57.2	80-120			SL
Arsenic	2.81	0.00937	ng/m ³ Air	2.7658		102	80-120			
Barium	30.7	1.07	ng/m ³ Air	27.658		111	80-120			QB-01
Beryllium	1.31	0.00320	ng/m ³ Air	1.3829		94.4	80-120			
Cadmium	1.44	0.0741	ng/m ³ Air	1.3829		104	80-120			
Chromium	16.7	2.21	ng/m ³ Air	13.829		121	80-120			
Cobalt	1.42	0.0436	ng/m ³ Air	1.3829		103	80-120			
Copper	30.4	2.63	ng/m ³ Air	27.658		110	80-120			
Lead	14.2	0.214	ng/m ³ Air	13.829		103	80-120			
Manganese	8.86	1.89	ng/m ³ Air	8.2975		107	80-120			
Molybdenum	1.69	0.359	ng/m ³ Air	1.3829		122	80-120			QB-01
Nickel	3.46	0.652	ng/m ³ Air	2.7658		125	80-120			GC-BS
Selenium	2.75	0.00896	ng/m ³ Air	2.7658		99.4	80-120			
Thallium	0.145	5.89E-4	ng/m ³ Air	0.13829		105	80-120			QB-04
Vanadium	2.90	0.0529	ng/m ³ Air	2.7658		105	80-120			
Zinc	91.1	76.8	ng/m ³ Air	82.975		110	80-120			

LCS (B4L3104-BS3)

Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	1.39	0.0386	ng/m ³ Air	1.3829		101	80-120			SL
Arsenic	2.79	0.00937	ng/m ³ Air	2.7658		101	80-120			
Barium	28.3	1.07	ng/m ³ Air	27.658		102	80-120			QB-01
Beryllium	1.27	0.00320	ng/m ³ Air	1.3829		92.1	80-120			
Cadmium	1.43	0.0741	ng/m ³ Air	1.3829		103	80-120			
Chromium	14.7	2.21	ng/m ³ Air	13.829		106	80-120			
Cobalt	1.39	0.0436	ng/m ³ Air	1.3829		101	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 B4L3104 - ICP-MS Extraction

LCS (B4L3104-BS3) Continued

Prepared: 12/31/24 Analyzed: 01/02/25

Copper	29.3	2.63	ng/m ³ Air	27.658		106	80-120			
Lead	13.9	0.214	ng/m ³ Air	13.829		101	80-120			
Manganese	8.61	1.89	ng/m ³ Air	8.2975		104	80-120			
Molybdenum	1.46	0.359	ng/m ³ Air	1.3829		105	80-120			QB-01
Nickel	2.86	0.652	ng/m ³ Air	2.7658		103	80-120			GC-BS
Selenium	2.79	0.00896	ng/m ³ Air	2.7658		101	80-120			
Thallium	0.143	5.89E-4	ng/m ³ Air	0.13829		104	80-120			QB-04
Vanadium	2.84	0.0529	ng/m ³ Air	2.7658		103	80-120			
Zinc	86.0	76.8	ng/m ³ Air	82.975		104	80-120			

LCS (B4L3104-BS4)

Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	1.41	0.0386	ng/m ³ Air	1.3829		102	80-120			SL
Arsenic	2.84	0.00937	ng/m ³ Air	2.7658		103	80-120			
Barium	29.0	1.07	ng/m ³ Air	27.658		105	80-120			QB-01
Beryllium	1.27	0.00320	ng/m ³ Air	1.3829		91.6	80-120			
Cadmium	1.45	0.0741	ng/m ³ Air	1.3829		105	80-120			
Chromium	14.9	2.21	ng/m ³ Air	13.829		108	80-120			
Cobalt	1.42	0.0436	ng/m ³ Air	1.3829		103	80-120			
Copper	29.7	2.63	ng/m ³ Air	27.658		107	80-120			
Lead	14.1	0.214	ng/m ³ Air	13.829		102	80-120			
Manganese	8.79	1.89	ng/m ³ Air	8.2975		106	80-120			
Molybdenum	1.47	0.359	ng/m ³ Air	1.3829		106	80-120			QB-01
Nickel	2.90	0.652	ng/m ³ Air	2.7658		105	80-120			GC-BS
Selenium	2.77	0.00896	ng/m ³ Air	2.7658		100	80-120			
Thallium	0.145	5.89E-4	ng/m ³ Air	0.13829		105	80-120			QB-04
Vanadium	2.89	0.0529	ng/m ³ Air	2.7658		104	80-120			
Zinc	87.5	76.8	ng/m ³ Air	82.975		105	80-120			

Duplicate (B4L3104-DUP1)

Source: 4123049-11

Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.274	0.0296	ng/m ³ Air		0.270		1.47	10		SL
Arsenic	0.512	0.00718	ng/m ³ Air		0.500		2.32	10		
Barium	7.76	0.820	ng/m ³ Air		7.39		4.81	10		QB-01
Beryllium	0.0137	0.00245	ng/m ³ Air		0.0137		0.383	10		
Cadmium	ND	0.0568	ng/m ³ Air		ND			10		U
Chromium	2.77	1.69	ng/m ³ Air		2.37		15.8	10		
Cobalt	0.468	0.0334	ng/m ³ Air		0.444		5.38	10		
Copper	45.0	2.02	ng/m ³ Air		43.5		3.45	10		
Lead	1.16	0.164	ng/m ³ Air		1.12		3.20	10		
Manganese	14.4	1.45	ng/m ³ Air		14.0		3.07	10		
Molybdenum	2.12	0.275	ng/m ³ Air		2.15		1.41	10		QB-01

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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 B4L3104 - ICP-MS Extraction

Duplicate (B4L3104-DUP1) Continued **Source: 4123049-11** Prepared: 12/31/24 Analyzed: 01/02/25

Nickel	1.81	0.500	ng/m ³ Air		1.54			16.3	10	GC-BS
Selenium	0.206	0.00687	ng/m ³ Air		0.197			4.38	10	
Thallium	0.00132	4.52E-4	ng/m ³ Air		0.00130			1.53	10	QB-04
Vanadium	1.92	0.0406	ng/m ³ Air		1.89			1.94	10	
Zinc	ND	58.9	ng/m ³ Air		ND				10	U

Duplicate (B4L3104-DUP2) **Source: 4123049-05** Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.172	0.0340	ng/m ³ Air		0.162			5.62	10	SL
Arsenic	0.243	0.00826	ng/m ³ Air		0.254			4.28	10	
Barium	6.03	0.943	ng/m ³ Air		6.22			2.95	10	QB-01
Beryllium	0.0122	0.00282	ng/m ³ Air		0.0116			5.18	10	
Cadmium	ND	0.0653	ng/m ³ Air		ND				10	U
Chromium	2.48	1.95	ng/m ³ Air		2.46			0.829	10	
Cobalt	0.462	0.0384	ng/m ³ Air		0.451			2.30	10	
Copper	51.6	2.32	ng/m ³ Air		53.7			4.14	10	
Lead	0.479	0.189	ng/m ³ Air		0.521			8.53	10	
Manganese	13.5	1.67	ng/m ³ Air		13.3			1.22	10	
Molybdenum	3.12	0.316	ng/m ³ Air		3.16			1.00	10	QB-01
Nickel	2.04	0.575	ng/m ³ Air		2.12			3.43	10	GC-BS
Selenium	0.230	0.00790	ng/m ³ Air		0.224			2.65	10	
Thallium	0.00117	5.19E-4	ng/m ³ Air		0.00119			1.28	10	QB-04
Vanadium	2.62	0.0466	ng/m ³ Air		2.65			1.17	10	
Zinc	ND	67.7	ng/m ³ Air		ND				10	U

Duplicate (B4L3104-DUP3) **Source: 4123049-16** Prepared: 12/31/24 Analyzed: 01/03/25

Antimony	0.0506	0.0318	ng/m ³ Air		0.0492			2.72	10	SL
Arsenic	0.154	0.00772	ng/m ³ Air		0.151			2.16	10	
Barium	2.94	0.881	ng/m ³ Air		2.85			3.33	10	QB-01
Beryllium	0.0133	0.00264	ng/m ³ Air		0.0135			2.17	10	
Cadmium	ND	0.0610	ng/m ³ Air		ND				10	U
Chromium	1.93	1.82	ng/m ³ Air		1.89			2.13	10	
Cobalt	0.326	0.0359	ng/m ³ Air		0.319			2.29	10	
Copper	41.8	2.17	ng/m ³ Air		40.9			2.41	10	
Lead	0.306	0.176	ng/m ³ Air		0.299			2.15	10	
Manganese	8.97	1.56	ng/m ³ Air		8.74			2.66	10	
Molybdenum	2.38	0.296	ng/m ³ Air		2.31			3.04	10	QB-01
Nickel	1.43	0.537	ng/m ³ Air		1.40			2.18	10	GC-BS
Selenium	0.211	0.00738	ng/m ³ Air		0.198			5.94	10	
Thallium	0.00137	4.85E-4	ng/m ³ Air		0.00133			3.54	10	QB-04
Vanadium	1.51	0.0436	ng/m ³ Air		1.48			2.09	10	

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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 B4L3104 - ICP-MS Extraction

Duplicate (B4L3104-DUP3) Continued Source: 4123049-16 Prepared: 12/31/24 Analyzed: 01/03/25

Zinc	ND	63.2	ng/m ³ Air		ND				10	U
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Duplicate (B4L3104-DUP4) Source: 4123049-22 Prepared: 12/31/24 Analyzed: 01/03/25

Antimony	0.165	0.0409	ng/m ³ Air		0.164			0.522	10	SL
Arsenic	0.640	0.00993	ng/m ³ Air		0.642			0.315	10	
Barium	5.04	1.13	ng/m ³ Air		5.00			0.610	10	QB-01
Beryllium	0.0138	0.00339	ng/m ³ Air		0.0141			2.35	10	
Cadmium	ND	0.0785	ng/m ³ Air		ND				10	U
Chromium	2.92	2.34	ng/m ³ Air		2.91			0.528	10	
Cobalt	0.415	0.0462	ng/m ³ Air		0.414			0.328	10	
Copper	29.8	2.79	ng/m ³ Air		29.4			1.46	10	
Lead	1.11	0.227	ng/m ³ Air		1.12			0.891	10	
Manganese	15.4	2.00	ng/m ³ Air		15.4			0.128	10	
Molybdenum	1.63	0.380	ng/m ³ Air		1.64			0.382	10	QB-01
Nickel	1.75	0.691	ng/m ³ Air		1.72			1.49	10	GC-BS
Selenium	0.232	0.00949	ng/m ³ Air		0.258			10.9	10	R-F
Thallium	0.00218	6.24E-4	ng/m ³ Air		0.00202			7.86	10	QB-04
Vanadium	1.95	0.0560	ng/m ³ Air		1.94			0.0531	10	
Zinc	ND	81.4	ng/m ³ Air		ND				10	U

Matrix Spike (B4L3104-MS1) Source: 4123049-11 Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.892	0.0296	ng/m ³ Air	1.0601	0.270	58.7	80-120			SL
Arsenic	2.58	0.00718	ng/m ³ Air	2.1202	0.500	98.0	80-120			
Barium	29.1	0.820	ng/m ³ Air	21.202	7.39	102	80-120			QB-01
Beryllium	0.990	0.00245	ng/m ³ Air	1.0601	0.0137	92.1	80-120			
Cadmium	1.10	0.0568	ng/m ³ Air	1.0601	ND	104	80-120			
Chromium	13.4	1.69	ng/m ³ Air	10.601	2.37	104	80-120			
Cobalt	1.51	0.0334	ng/m ³ Air	1.0601	0.444	100	80-120			
Copper	65.8	2.02	ng/m ³ Air	21.202	43.5	106	80-120			
Lead	11.9	0.164	ng/m ³ Air	10.601	1.12	102	80-120			
Manganese	20.0	1.45	ng/m ³ Air	6.3606	14.0	94.3	80-120			
Molybdenum	3.23	0.275	ng/m ³ Air	1.0601	2.15	102	80-120			QB-01
Nickel	3.75	0.500	ng/m ³ Air	2.1202	1.54	104	80-120			GC-BS
Selenium	2.27	0.00687	ng/m ³ Air	2.1202	0.197	97.7	80-120			
Thallium	0.107	4.52E-4	ng/m ³ Air	0.10601	0.00130	99.8	80-120			QB-04
Vanadium	3.95	0.0406	ng/m ³ Air	2.1202	1.89	97.4	80-120			
Zinc	82.8	58.9	ng/m ³ Air	63.606	ND	130	80-120			

Matrix Spike (B4L3104-MS2) Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.834	0.0340	ng/m ³ Air	1.2186	0.162	55.1	80-120			SL
Arsenic	2.63	0.00826	ng/m ³ Air	2.4373	0.254	97.4	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4L3104 - ICP-MS Extraction

Matrix Spike (B4L3104-MS2) Continued Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25

Barium	31.4	0.943	ng/m ³ Air	24.373	6.22	103	80-120			QB-01
Beryllium	1.15	0.00282	ng/m ³ Air	1.2186	0.0116	93.3	80-120			
Cadmium	1.25	0.0653	ng/m ³ Air	1.2186	ND	103	80-120			
Chromium	15.3	1.95	ng/m ³ Air	12.186	2.46	105	80-120			
Cobalt	1.66	0.0384	ng/m ³ Air	1.2186	0.451	99.3	80-120			
Copper	81.7	2.32	ng/m ³ Air	24.373	53.7	115	80-120			
Lead	12.8	0.189	ng/m ³ Air	12.186	0.521	101	80-120			
Manganese	20.7	1.67	ng/m ³ Air	7.3118	13.3	101	80-120			
Molybdenum	4.58	0.316	ng/m ³ Air	1.2186	3.16	117	80-120			QB-01
Nickel	4.45	0.575	ng/m ³ Air	2.4373	2.12	95.9	80-120			GC-BS
Selenium	2.65	0.00790	ng/m ³ Air	2.4373	0.224	99.3	80-120			
Thallium	0.123	5.19E-4	ng/m ³ Air	0.12186	0.00119	99.9	80-120			QB-04
Vanadium	5.05	0.0466	ng/m ³ Air	2.4373	2.65	98.4	80-120			
Zinc	89.9	67.7	ng/m ³ Air	73.118	ND	123	80-120			

Matrix Spike Dup (B4L3104-MSD1) Source: 4123049-11 Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.856	0.0296	ng/m ³ Air	1.0601	0.270	55.2	80-120	4.14	20	SL
Arsenic	2.63	0.00718	ng/m ³ Air	2.1202	0.500	100	80-120	1.86	20	
Barium	29.2	0.820	ng/m ³ Air	21.202	7.39	103	80-120	0.361	20	QB-01
Beryllium	0.983	0.00245	ng/m ³ Air	1.0601	0.0137	91.5	80-120	0.685	20	
Cadmium	1.10	0.0568	ng/m ³ Air	1.0601	ND	104	80-120	0.552	20	
Chromium	13.4	1.69	ng/m ³ Air	10.601	2.37	104	80-120	0.208	20	
Cobalt	1.51	0.0334	ng/m ³ Air	1.0601	0.444	101	80-120	0.359	20	
Copper	67.5	2.02	ng/m ³ Air	21.202	43.5	113	80-120	2.49	20	
Lead	11.9	0.164	ng/m ³ Air	10.601	1.12	101	80-120	0.644	20	
Manganese	20.0	1.45	ng/m ³ Air	6.3606	14.0	95.2	80-120	0.302	20	
Molybdenum	3.35	0.275	ng/m ³ Air	1.0601	2.15	113	80-120	3.57	20	QB-01
Nickel	3.85	0.500	ng/m ³ Air	2.1202	1.54	109	80-120	2.56	20	GC-BS
Selenium	2.30	0.00687	ng/m ³ Air	2.1202	0.197	99.2	80-120	1.41	20	
Thallium	0.107	4.52E-4	ng/m ³ Air	0.10601	0.00130	99.7	80-120	0.105	20	QB-04
Vanadium	3.97	0.0406	ng/m ³ Air	2.1202	1.89	98.2	80-120	0.423	20	
Zinc	81.6	58.9	ng/m ³ Air	63.606	ND	128	80-120	1.48	20	

Matrix Spike Dup (B4L3104-MSD2) Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.869	0.0340	ng/m ³ Air	1.2186	0.162	58.0	80-120	4.12	20	SL
Arsenic	2.67	0.00826	ng/m ³ Air	2.4373	0.254	99.1	80-120	1.58	20	
Barium	31.8	0.943	ng/m ³ Air	24.373	6.22	105	80-120	1.20	20	QB-01
Beryllium	1.12	0.00282	ng/m ³ Air	1.2186	0.0116	90.8	80-120	2.64	20	
Cadmium	1.27	0.0653	ng/m ³ Air	1.2186	ND	104	80-120	1.54	20	
Chromium	15.4	1.95	ng/m ³ Air	12.186	2.46	106	80-120	0.591	20	

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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 B4L3104 - ICP-MS Extraction

Matrix Spike Dup (B4L3104-MSD2) ContirSource: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25

Cobalt	1.68	0.0384	ng/m ³ Air	1.2186	0.451	101	80-120	1.05	20	
Copper	86.3	2.32	ng/m ³ Air	24.373	53.7	133	80-120	5.47	20	QM-07
Lead	13.1	0.189	ng/m ³ Air	12.186	0.521	103	80-120	2.25	20	
Manganese	20.6	1.67	ng/m ³ Air	7.3118	13.3	100	80-120	0.518	20	
Molybdenum	4.96	0.316	ng/m ³ Air	1.2186	3.16	148	80-120	8.04	20	QB-01, QM-07
Nickel	4.54	0.575	ng/m ³ Air	2.4373	2.12	99.6	80-120	2.00	20	GC-BS
Selenium	2.67	0.00790	ng/m ³ Air	2.4373	0.224	100	80-120	0.947	20	
Thallium	0.126	5.19E-4	ng/m ³ Air	0.12186	0.00119	102	80-120	2.31	20	QB-04
Vanadium	5.11	0.0466	ng/m ³ Air	2.4373	2.65	101	80-120	1.18	20	
Zinc	90.7	67.7	ng/m ³ Air	73.118	ND	124	80-120	0.858	20	

Post Spike (B4L3104-PS1) Source: 4123049-11 Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.480	0.0296	ng/m ³ Air	0.21202	0.270	99.0	75-125			SL
Arsenic	1.53	0.00718	ng/m ³ Air	1.0601	0.500	97.0	75-125			
Barium	9.52	0.820	ng/m ³ Air	2.1202	7.39	101	75-125			QB-01
Beryllium	0.210	0.00245	ng/m ³ Air	0.21202	0.0137	92.6	75-125			
Cadmium	0.125	0.0568	ng/m ³ Air	0.10601	ND	118	75-125			
Chromium	3.43	1.69	ng/m ³ Air	1.0601	2.37	101	75-125			
Cobalt	0.657	0.0334	ng/m ³ Air	0.21202	0.444	101	75-125			
Copper	54.1	2.02	ng/m ³ Air	10.601	43.5	100	75-125			
Lead	22.5	0.164	ng/m ³ Air	21.202	1.12	101	75-125			
Manganese	16.1	1.45	ng/m ³ Air	2.1202	14.0	98.1	75-125			
Molybdenum	3.19	0.275	ng/m ³ Air	1.0601	2.15	97.7	75-125			QB-01
Nickel	3.68	0.500	ng/m ³ Air	2.1202	1.54	101	75-125			GC-BS
Selenium	1.20	0.00687	ng/m ³ Air	1.0601	0.197	94.6	75-125			
Thallium	0.0541	4.52E-4	ng/m ³ Air	5.3005E-2	0.00130	99.5	75-125			QB-04
Vanadium	2.91	0.0406	ng/m ³ Air	1.0601	1.89	96.3	75-125			
Zinc	ND	58.9	ng/m ³ Air	21.202	ND		75-125			U

Post Spike (B4L3104-PS2) Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.403	0.0340	ng/m ³ Air	0.24373	0.162	98.6	75-125			SL
Arsenic	1.42	0.00826	ng/m ³ Air	1.2186	0.254	95.6	75-125			
Barium	8.72	0.943	ng/m ³ Air	2.4373	6.22	103	75-125			QB-01
Beryllium	0.232	0.00282	ng/m ³ Air	0.24373	0.0116	90.6	75-125			
Cadmium	0.134	0.0653	ng/m ³ Air	0.12186	ND	110	75-125			
Chromium	3.73	1.95	ng/m ³ Air	1.2186	2.46	104	75-125			
Cobalt	0.699	0.0384	ng/m ³ Air	0.24373	0.451	102	75-125			
Copper	67.1	2.32	ng/m ³ Air	12.186	53.7	109	75-125			
Lead	25.2	0.189	ng/m ³ Air	24.373	0.521	101	75-125			
Manganese	15.8	1.67	ng/m ³ Air	2.4373	13.3	103	75-125			

Eastern Research Group

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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: 01/09/25 14:31
 SUBMITTED: 12/30/24
 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 B4L3104 - ICP-MS Extraction

Post Spike (B4L3104-PS2) Continued Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25

Molybdenum	4.41	0.316	ng/m ³ Air	1.2186	3.16	103	75-125			QB-01
Nickel	4.63	0.575	ng/m ³ Air	2.4373	2.12	103	75-125			GC-BS
Selenium	1.38	0.00790	ng/m ³ Air	1.2186	0.224	94.8	75-125			
Thallium	0.0619	5.19E-4	ng/m ³ Air	6.0932E-2	0.00119	99.6	75-125			QB-04
Vanadium	3.87	0.0466	ng/m ³ Air	1.2186	2.65	100	75-125			
Zinc	ND	67.7	ng/m ³ Air	24.373	ND		75-125			U

Dilution Check (B4L3104-SRL1) Source: 4123049-11 Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.262	0.0296	ng/m ³ Air		0.270			3.13	10	SL
Arsenic	0.496	0.00718	ng/m ³ Air		0.500			0.828	10	
Barium	7.36	0.820	ng/m ³ Air		7.39			0.464	10	QB-01
Beryllium	0.0130	0.00245	ng/m ³ Air		0.0137			4.85	10	
Cadmium	ND	0.0568	ng/m ³ Air		ND				10	U
Chromium	2.39	1.69	ng/m ³ Air		2.37			0.890	10	
Cobalt	0.453	0.0334	ng/m ³ Air		0.444			1.97	10	
Copper	44.0	2.02	ng/m ³ Air		43.5			1.28	10	
Lead	1.10	0.164	ng/m ³ Air		1.12			1.67	10	
Manganese	14.2	1.45	ng/m ³ Air		14.0			1.41	10	
Molybdenum	2.14	0.275	ng/m ³ Air		2.15			0.440	10	QB-01
Nickel	1.60	0.500	ng/m ³ Air		1.54			3.79	10	GC-BS
Selenium	0.189	0.00687	ng/m ³ Air		0.197			4.14	10	
Thallium	0.00356	4.52E-4	ng/m ³ Air		0.00130			92.8	10	QB-04
Vanadium	1.83	0.0406	ng/m ³ Air		1.89			3.08	10	
Zinc	ND	58.9	ng/m ³ Air		ND				10	U

Dilution Check (B4L3104-SRL2) Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25

Antimony	0.162	0.0340	ng/m ³ Air		0.162			0.340	10	SL
Arsenic	0.278	0.00826	ng/m ³ Air		0.254			9.08	10	
Barium	6.29	0.943	ng/m ³ Air		6.22			1.18	10	QB-01
Beryllium	0.0107	0.00282	ng/m ³ Air		0.0116			7.75	10	
Cadmium	ND	0.0653	ng/m ³ Air		ND				10	U
Chromium	3.70	1.95	ng/m ³ Air		2.46			40.3	10	
Cobalt	0.568	0.0384	ng/m ³ Air		0.451			23.0	10	
Copper	55.2	2.32	ng/m ³ Air		53.7			2.70	10	
Lead	0.518	0.189	ng/m ³ Air		0.521			0.702	10	
Manganese	14.5	1.67	ng/m ³ Air		13.3			8.33	10	
Molybdenum	3.23	0.316	ng/m ³ Air		3.16			2.16	10	QB-01
Nickel	5.61	0.575	ng/m ³ Air		2.12			90.5	10	GC-BS
Selenium	0.231	0.00790	ng/m ³ Air		0.224			3.19	10	
Thallium	0.00320	5.19E-4	ng/m ³ Air		0.00119			91.6	10	QB-04

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FILE #: 4205.00.003.001
REPORTED: 01/09/25 14:31
SUBMITTED: 12/30/24
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 B4L3104 - ICP-MS Extraction

Dilution Check (B4L3104-SRL2) Continue Source: 4123049-05 Prepared: 12/31/24 Analyzed: 01/02/25

Vanadium	2.63	0.0466	ng/m ³ Air		2.65			0.806	10	
Zinc	ND	67.7	ng/m ³ Air		ND				10	U



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FILE #: 4205.00.003.001

REPORTED: 01/09/25 14:31

SUBMITTED: 12/30/24

AQS SITE CODE:

SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
R-F	Replicate exceeds DQO criteria.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
GC-BS	Compound exceeds Blank Spike Criteria
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 01/10/2025 and Shanna Vasser 01/14/2025

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

Collection date(s): 12/19/2024 – 12/22/2024

Report No: 4123049

- √ 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 barium in both MFL-FB01-122024-HM and MFL-FB01-122224-HM.

Notes: None.