

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

January 30 through February 5, 2025
[Report Updated: June 3, 2025]

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

Particulate monitoring and air sampling occurred from January 30 through February 5, 2025, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Opukea Townhomes (AM-05)
- Lahaina Pump Station #6 (AM-08)
- Maria Lanakila Catholic Church (AM-09)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (μm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM₁₀". Monitoring for PM₁₀ was conducted 24 hours a day, 7 days a week from January 30 through February 5, 2025 at each of the community locations with the exceptions discussed below in the air monitoring results. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM₁₀, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM₁₀ concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except during periods affected by equipment faults, equipment malfunction, and weather shutdown, as described in the table below:

Date	Location	Cause of Interruption	Duration of Interruption (hrs)	PM ₁₀ Data Collected (hrs)
1/30/2025	Opukea Townhomes	Equipment fault	2	22
	Lahaina Pump Station #6	Equipment fault	1	23
	WW Pump Station #4	Weather-damaged power cords	5	19
1/31/2025	Lahaina Pump Station #6	Weather shutdown	12	12
	WW Pump Station #4	Weather-damaged power cords	Full period	0
	Opukea Townhomes	Weather shutdown	Full period	0
	Maria Lanakila Catholic Church	Weather shutdown	12	12
2/1/2025	Opukea Townhomes	Malfunctioning display	Full period	0
	WW Pump Station #4	Weather-damaged power cords	Full period	0
	Maria Lanakila Catholic Church	Weather shutdown	12	12
	Lahaina Pump Station #6	Malfunctioning display	Full period	0
2/2/2025	Opukea Townhomes	Malfunctioning display	Full period	0
	WW Pump Station #4	Weather-damaged power cords	Full period	0
	Lahaina Pump Station #6	Malfunctioning display	Full period	0
2/3/2025	Opukea Townhomes	Malfunctioning display	11	13
	Lahaina Pump Station #6	Malfunctioning display	Full period	0
	WW Pump Station #4	Weather-damaged power cords	13	11
2/4/2025	Lahaina Pump Station #6	Malfunctioning display	12	12
	Maria Lanakila Catholic Church	Equipment fault	1	23
2/5/2025	Lahaina Pump Station #6	Equipment fault	1	23

The equipment fault on January 30 and February 4 and 5 was the result of a disruption during one sampling interval within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation on these days.

The weather shutdown and damaged equipment was the result of a severe storm affecting the Hawaiian Islands on the evening of January 30, including a flood watch and high wind warning issued in Maui County. After discussion with the Tetra Tech Health & Safety team it was decided that a shutdown of active sampling efforts while the storm passed over was the most appropriate course of action to ensure the safety of field teams and equipment and to resume operations after the storm had passed on February 1. Damage to the power cord at WW Pump Station #4 was a result of water from the storm.

PM₁₀ concentrations exceeded the 150 µg/m³ 24-hour time-weighted average (TWA) screening level on January 30 and 31 at the Lahaina Pump Station #6 and Maria Lanakila Catholic Church monitoring stations, as shown in **Table 1**.

These exceedances are likely attributable to elevated humidity levels and, in one instance, nearby private contractor construction activities. Details for each exceedance are as follows:

- January 30
 - Maria Lanakila Catholic Church: No U.S. Army Corps of Engineers (USACE) debris crews were observed near the monitoring station. Debris removal operations were not occurring in the vicinity, and therefore air monitoring data are not related to USACE activities.
 - Average humidity: 86 percent
 - Maximum humidity: 99 percent
 - Lahaina Pump Station #6: USACE debris crews were observed near the station; however, no debris removal operations were conducted during the times of exceedance. Private contractor construction activity was observed in the area and may have contributed to elevated PM₁₀ levels, in combination with high humidity.
 - Average humidity: 84 percent
 - Maximum humidity: 96 percent
- January 31
 - Maria Lanakila Catholic Church: No USACE crews were present due to a weather-related shutdown. Debris removal operations were not occurring near the monitoring location. The station was shut down at 11:42 AM.
 - Average humidity: 98 percent
 - Maximum humidity: 99 percent
 - Lahaina Pump Station #6: No USACE crews were present due to a weather-related shutdown. Debris removal operations were not occurring near the monitoring location. The station was shut down at 11:56 AM.
 - Average humidity: 86 percent
 - Maximum humidity: 96 percent

Excessive humid conditions in excess of 80% can create a cumulative build-up on the particulate measurement tape utilized at the monitoring stations. The heating element used in the instrument is not able to evaporate the excess moisture resulting in the reporting of elevated particulate data.

Air Sampling Results

A total of 21 samples for asbestos fibers were collected during this reporting period. Asbestos samples at WW Pump Station #4 were not collected on January 31, February 2 and 3 because of equipment malfunction. No asbestos sampling occurred on February 1 at any of the stations because of a weather shutdown. 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:

- Opukea Townhomes on January 30 and February 2
- WW Pump Station #4 on January 30 and February 4
- Lahaina Pump Station #6 on January 30 and February 3 through 4
- Maria Lanakila Catholic Church on February 3

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.

Heavy metal samples at WW Pump Station #4 were not collected on February 2 and 3 because of equipment malfunction. No heavy metal sampling occurred on February 1 at any of the stations because of weather shutdown. 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 1.9 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.

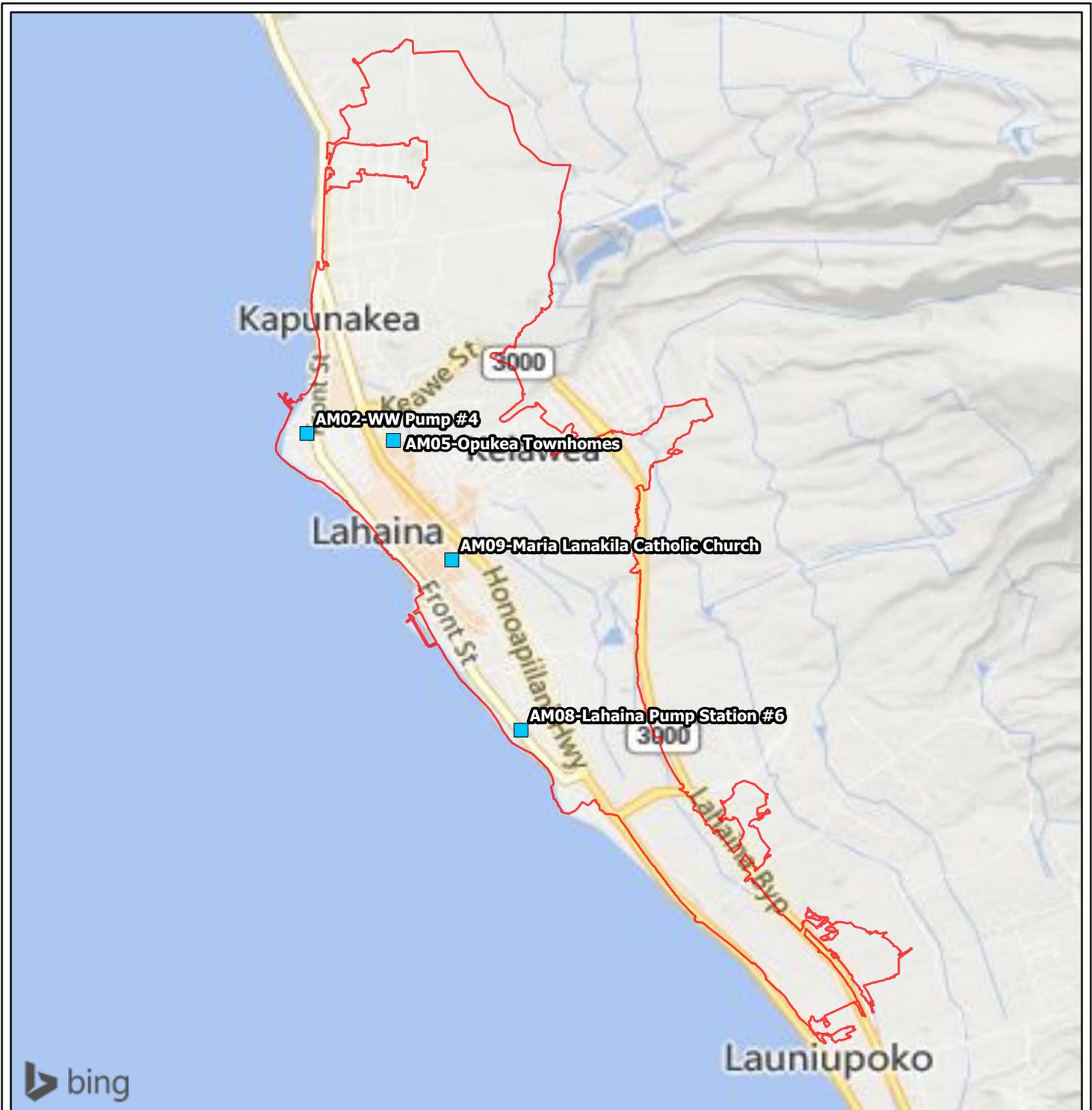
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- 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



- Lahaina Fire Perimeter
- Air Sampling Locations



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
January 30 through February 5, 2025
[Report Updated: June 3, 2025]

Screening Level		TWA Results 150 (µg/m ³)
1/30/2025	Opukea Townhomes (AM-05)	14 ¹
	WW Pump Station #4 (AM-02)	12.0
	Maria Lanakila Catholic Church (AM-09)	233
	Lahaina Pump Station #6 (AM-08)	177 ²
1/31/2025	Opukea Townhomes (AM-05)	--
	WW Pump Station #4 (AM-02)	--
	Maria Lanakila Catholic Church (AM-09)	168 ³
	Lahaina Pump Station #6 (AM-08)	362 ³
2/1/2025	Opukea Townhomes (AM-05)	
	WW Pump Station #4 (AM-02)	
	Maria Lanakila Catholic Church (AM-09)	9.4 ³
	Lahaina Pump Station #6 (AM-08)	
2/2/2025	Opukea Townhomes (AM-05)	
	WW Pump Station #4 (AM-02)	
	Maria Lanakila Catholic Church (AM-09)	16
	Lahaina Pump Station #6 (AM-08)	
2/3/2025	Opukea Townhomes (AM-05)	8.2
	WW Pump Station #4 (AM-02)	7.8
	Maria Lanakila Catholic Church (AM-09)	12
	Lahaina Pump Station #6 (AM-08)	
2/4/2025	Opukea Townhomes (AM-05)	6.7
	WW Pump Station #4 (AM-02)	8.4
	Maria Lanakila Catholic Church (AM-09)	11 ²
	Lahaina Pump Station #6 (AM-08)	6.5
2/5/2025	Opukea Townhomes (AM-05)	7.9
	WW Pump Station #4 (AM-02)	5.8
	Maria Lanakila Catholic Church (AM-09)	11
	Lahaina Pump Station #6 (AM-08)	4.6 ²

Notes:

µg/m³ = micrograms per cubic meter

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

Shaded and Bold cell indicates an exceedance of screening level

-- = Weather shutdown

Equipment Malfunction

Data provided are from a reduced TWA calculation because of an equipment malfunction (see report for details)

¹ Data provided are from a reduced (22-hr) TWA calculation because of an equipment fault

² Data provided are from a reduced (23-hr) TWA calculation because of an equipment fault

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM₁₀
Maui Wildfires, Lahaina
January 30 through February 5, 2025
[Report Updated: June 3, 2025]

^d Data provided are from a reduced TWA calculation because of weather shutdown (see report for details)

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
January 30 through February 5, 2025
[Report Updated: June 3, 2025]

Analyte	Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc	
Units*	s/cc	µg/m ³																
Site Screening Action Level	0.003 ¹	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200	
1/30/2025	Opeuka Townhomes (AM-05)	<0.0024	0.000135	0.000380	0.00416	0.0000953	0.0000455	ND	0.000302	0.0818	0.00128	0.00969	0.00219	0.00160	0.000312	0.00000363	0.000934	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000964	0.000149	0.00235	0.0000372	0.0000370	ND	0.0000948	0.0674	0.000405	0.00303	0.00167	0.000649	0.000307	0.00000308	0.000338	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0027	0.0000542	0.000200	0.00162	0.0000226	0.0000333	ND	0.0000886	0.0447	0.000481	0.00238	0.00219	0.000794	0.000305	0.00000320	0.000268	ND
	Lahaina Pump Station #6 (AM-08)	<0.0027	0.000153	0.000308	0.00189	0.00000329	0.0000306	ND	0.000159	0.0521	0.000344	0.00374	0.00177	0.000828	0.000269	0.00000303	0.000325	ND
1/31/2025	Opeuka Townhomes (AM-05)	<0.0024	0.000125	0.000286	0.00265	0.00000353	0.0000684	ND	0.000175	0.0392	0.000593	0.00382	0.00133	0.00202	0.000348	ND	0.000396	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000481	0.000343	0.00681	0.00000815	0.0000333	ND	0.000244	0.106	0.000821	0.00757	0.00294	0.00189	0.000564	ND	0.000766	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000555	0.000219	0.00170	ND	0.0000487	ND	0.0000816	0.0526	0.000275	0.00219	0.00235	0.000977	0.000249	ND	0.000205	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000380	0.000184	0.00173	0.00000226	0.0000448	ND	0.000156	0.0568	0.000137	0.00359	0.00185	0.00249	0.000202	ND	0.000241	ND
2/1/2025	Opeuka Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Maria Lanakila Catholic Church (AM-09)																	
	Lahaina Pump Station #6 (AM-08)																	
2/2/2025	Opeuka Townhomes (AM-05)	<0.0024	0.000263	0.000205	0.00400	0.00000734	0.0000171	ND	0.000229	0.0270	0.000520	0.00674	0.000796	0.00115	0.000176	0.00000198	0.000672	ND
	WW Pump Station #4 (AM-02)																	
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000733	0.000272	0.00242	0.00000388	0.0000167	ND	0.000100	0.0268	0.000509	0.00324	0.000883	0.000641	0.000159	0.00000170	0.000294	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000144	0.000189	0.00243	0.00000306	0.0000185	ND	0.0000738	0.0672	0.000400	0.00251	0.00175	ND	0.000172	0.00000149	0.000240	ND
2/3/2025	Opeuka Townhomes (AM-05)	<0.0024	0.000156	0.000195	0.00417	0.00000780	0.0000145	0.00234	0.000288	0.0345	0.000484	0.00819	0.00109	0.00131	0.000189	0.00000151	0.000931	ND
	WW Pump Station #4 (AM-02)																	
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000120	0.000201	0.00440	0.00000518	0.0000190	ND	0.000131	0.0273	0.000424	0.00437	0.00116	0.000784	0.000197	0.00000133	0.000465	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000218	0.000176	0.00387	0.00000389	0.0000234	ND	0.000104	0.0557	0.000452	0.00349	0.00157	0.000814	0.000217	0.00000125	0.000369	ND
2/4/2025	Opeuka Townhomes (AM-05)	<0.0024	0.000154	0.000163	0.00421	0.00000864	0.0000119	0.00266	0.000368	0.0440	0.000373	0.00886	0.00123	0.00178	0.000120	0.000000915	0.00118	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000287	0.000361	0.00819	0.0000200	0.0000268	0.00541	0.000646	0.0537	0.00126	0.0182	0.00177	0.00242	0.000231	0.00000179	0.00223	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0027	0.000130	0.000240	0.00418	0.00000817	0.0000136	0.00287	0.000283	0.0362	0.000546	0.00796	0.00197	0.00162	0.000160	0.00000121	0.000923	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000219	0.000207	0.00379	0.00000600	0.0000889	ND	0.000181	0.0837	0.000391	0.00548	0.00214	0.00103	0.0000118	0.000621	ND	
2/5/2025	Opeuka Townhomes (AM-05)	<0.0024	0.000172	0.000373	0.00754	0.0000209	0.0000189	0.00445	0.000845	0.0410	0.000858	0.0219	0.00125	0.00300	0.000179	0.00000178	0.00264	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000577	0.000435	0.0115	0.0000261	0.0000289	0.00404	0.000780	0.0548	0.00198	0.0243	0.00205	0.00324	0.000229	0.00000177	0.00272	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000155	0.000349	0.00611	0.0000143	0.0000243	0.00292	0.000566	0.0336	0.00100	0.0146	0.00168	0.00212	0.000193	0.00000144	0.00178	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000116	0.000307	0.00414	0.0000109	0.0000176	0.00234	0.000375	0.0703	0.000561	0.0112	0.00196	0.00136	0.000175	0.00000126	0.00120	ND
95% Upper Confidence Limit ²	NA	0.000260	0.000300	0.00542	0.0000120	0.0000390	0.00432	0.000410	0.0616	0.000830	0.0114	0.00196	0.00189	0.000270	0.00000220	0.00136	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
Weather shutdown
Equipment malfunction

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 30 through February 5, 2025
[Report Updated: June 3, 2025]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/30/2025*	AM-02	WW Pump Station #4	2.4	SSE	77	85	757.3
1/30/2025	AM-09	Maria Lanakila Catholic Church	2.5	SSW	77	86	757.0
1/30/2025	AM-05	Opukea Townhomes	3.9	S	77	87	757.0
1/30/2025	AM-08	Lahaina Pump Station #6	5.0	S	76	84	757.3
1/31/2025*	AM-02	WW Pump Station #4					
1/31/2025*	AM-09	Maria Lanakila Catholic Church	1.2	SSW	73	98	757.9
1/31/2025*	AM-05	Opukea Townhomes					
1/31/2025*	AM-08	Lahaina Pump Station #6	2.7	SE	74	86	758.4
2/1/2025*	AM-02	WW Pump Station #4					
2/1/2025*	AM-09	Maria Lanakila Catholic Church	2.3	S	77	62	759.9
2/1/2025*	AM-05	Opukea Townhomes					
2/1/2025*	AM-08	Lahaina Pump Station #6					
2/2/2025*	AM-02	WW Pump Station #4					
2/2/2025	AM-09	Maria Lanakila Catholic Church	1.8	ESE	74	57	761.1
2/2/2025*	AM-05	Opukea Townhomes					
2/2/2025*	AM-08	Lahaina Pump Station #6					
2/3/2025*	AM-02	WW Pump Station #4	1.2	SSW	75	61	762.1
2/3/2025	AM-09	Maria Lanakila Catholic Church	1.1	SE	73	65	761.6
2/3/2025*	AM-05	Opukea Townhomes	1.5	SSE	76	60	761.7
2/3/2025*	AM-08	Lahaina Pump Station #6					
2/4/2025	AM-02	WW Pump Station #4	1.1	S	73	66	762.3
2/4/2025*	AM-09	Maria Lanakila Catholic Church	1.6	SE	73	66	761.5
2/4/2025	AM-05	Opukea Townhomes	1.3	ESE	74	64	761.8
2/4/2025*	AM-08	Lahaina Pump Station #6	2.7	SE	74	62	761.4
2/5/2025	AM-02	WW Pump Station #4	0.8	S	74	66	762.4
2/5/2025	AM-03	Lahaina Intermediate School	1.0	SSE	73	67	761.6
2/5/2025	AM-05	Opukea Townhomes	1.0	ESE	74	65	762.0
2/5/2025*	AM-08	Lahaina Pump Station #6	1.5	SSE	73	64	762.0

Notes:

°F - Fahrenheit

mBar - millibar

mph - miles per hour

Equipment Malfunction

* = Reduced monitoring time (see report for details)

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.



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: 042502212
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: 02/05/2025 12:05 PM
Analysis Date: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM05-013025-AB	Sample Description:	DL915204
EMSL Sample Number:	042502212-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7260.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment
 Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042502212

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: 042502212-0001			Customer Sample: MFL-AM05-013025-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	H4	None Detected									
B1	E8	None Detected									
B1	C6	None Detected									
B2	H6	None Detected									
B2	D4	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: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM02-013025-AB **Sample Description:** DL915232

EMSL Sample Number: 042502212-0002 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7220.3
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0127
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment
 Numerous gypsum fibers present.

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: 042502212-0002			Customer Sample: MFL-AM02-013025-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	B6	None Detected									
B5	E2	None Detected									
B5	G5	None Detected									
B6	C4	None Detected									
B6	G9	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Analysis Date: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM09-013025-AB	Sample Description:	DL915213
EMSL Sample Number:	042502212-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6800.4
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):	0.0127
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0009	Limit of Detection (Structures/cc):	0.0027

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	

Comment

Approved Signatory

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Project ID: Maui Fires Lahaina

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

Analytical Bench Sheet Data

EMSL Sample ID: 042502212-0003			Customer Sample: MFL-AM09-013025-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	G4	None Detected									
C1	E7	None Detected									
C1	B8	None Detected									
C2	I9	None Detected									
C2	B5	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: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM08-013025-AB **Sample Description:** DL915216

EMSL Sample Number: 042502212-0004 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 6851.6
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0127
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	

Comment
 Numerous gypsum fibers present.

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: 042502212-0004			Customer Sample: MFL-AM08-013025-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	B7	None Detected									
C5	D4	None Detected									
C5	G8	None Detected									
C6	I1	None Detected									
C6	C6	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-FB01-013025-AB	Sample Description: DL915239
EMSL Sample Number:	042502212-0005	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0127
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	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

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:		042502212-0005					Customer Sample:		MFL-FB01-013025-AB		
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	C3	None Detected									
D2	D5	None Detected									
D2	E3	None Detected									
D2	G4	None Detected									
D2	I7	None Detected									
D3	I3	None Detected									
D3	G4	None Detected									
D3	E7	None Detected									
D3	C8	None Detected									
D3	A9	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-AM05-013125-AB **Sample Description:** DL915238

EMSL Sample Number: 042502212-0006 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7223.9
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0127
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 042502212
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: 042502212-0006			Customer Sample: MFL-AM05-013125-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	A6	None Detected									
D5	E8	None Detected									
D5	H6	None Detected									
D6	H4	None Detected									
D6	B7	None Detected									

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



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Customer PO: 1207085
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Analysis Date: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM09-013125-AB	Sample Description:	DL915235
EMSL Sample Number:	042502212-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7217.0
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):	0.0127
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 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: 042502212-0007			Customer Sample: MFL-AM09-013125-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	J8	None Detected									
E2	G5	None Detected									
E2	D7	None Detected									
E3	H8	None Detected									
E3	F3	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: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM08-013125-AB **Sample Description:** DL915242

EMSL Sample Number: 042502212-0008 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7184.6
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0127
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 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: 042502212-0008			Customer Sample: MFL-AM08-013125-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	J4	None Detected									
E5	G8	None Detected									
E5	C6	None Detected									
E6	C5	None Detected									
E6	F3	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: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-FB01-013125-AB	Sample Description:	DL915223
EMSL Sample Number:	042502212-0009	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):	0.0127
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	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

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: 042502212-0009		Customer Sample: MFL-FB01-013125-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A6	None Detected									
F2	C8	None Detected									
F2	E10	None Detected									
F2	G7	None Detected									
F2	I8	None Detected									
F3	J8	None Detected									
F3	H4	None Detected									
F3	F4	None Detected									
F3	E8	None Detected									
F3	C3	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: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-FB01-020125-AB	Sample Description:	DL915245
EMSL Sample Number:	042502212-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
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	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

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: 042502212-0010			Customer Sample: MFL-FB01-020125-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A9	None Detected									
F5	C7	None Detected									
F5	E8	None Detected									
F5	G8	None Detected									
F5	I4	None Detected									
F6	J7	None Detected									
F6	H4	None Detected									
F6	F4	None Detected									
F6	D5	None Detected									
F6	A8	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-AM05-020225-AB	Sample Description:	DL915220
EMSL Sample Number:	042502212-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7151.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042502212
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: 042502212-0011			Customer Sample: MFL-AM05-020225-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	E3	None Detected									
G2	F9	None Detected									
G2	I6	None Detected									
G3	B5	None Detected									
G3	G8	None Detected									

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



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

EMSL Order: 042502212
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: 02/05/2025 12:05 PM
Analysis Date: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM09-020225-AB	Sample Description:	DL915208
EMSL Sample Number:	042502212-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7223.9
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):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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

EMSL Order ID: **042502212**
 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: 042502212-0012			Customer Sample: MFL-AM09-020225-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	A7	None Detected									
G5	F9	None Detected									
G5	I10	None Detected									
G6	C8	None Detected									
G6	H10	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: 042502212
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

Attn: Chelsea Saber
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Phone: (703) 489-2674
Fax: N/A
Received Date: 02/05/2025 12:05 PM
Analysis Date: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM08-020225-AB **Sample Description:** DL915199

EMSL Sample Number: 042502212-0013 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7271.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0127
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 042502212
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: 042502212-0013			Customer Sample: MFL-AM08-020225-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					
H3	B7	None Detected									
H3	E8	None Detected									
H3	I7	None Detected									
H4	H7	None Detected									
H4	D7	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: 042502212
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: 02/05/2025 12:05 PM
Analysis Date: 02/10/2025
Report Date: 02/12/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-FB01-020225-AB	Sample Description:	DL915246
EMSL Sample Number:	042502212-0014	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):	0.0127
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	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

Comment

Approved Signatory

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EMSL Order ID: 042502212
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: 042502212-0014		Customer Sample: MFL-FB01-020225-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	A4	None Detected									
H5	C8	None Detected									
H5	E7	None Detected									
H5	G7	None Detected									
H5	I9	None Detected									
H6	J9	None Detected									
H6	H8	None Detected									
H6	F7	None Detected									
H6	D4	None Detected									
H6	B6	None Detected									

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



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EMSL Order: 042502212
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: 02/05/2025 12:05 PM
Analysis Date: 02/08/2025
Report Date: 02/12/2025

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:	042502212-0015	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0127
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: G.Barry
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	2	
Target Analytical Sensitivity (Structures/cc):	0.001	
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc): N/A

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

Comment

Approved Signatory

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

EMSL Order ID: 042502212

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:		042502212-0015		Customer Sample: Lab Blank							
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	C9	None Detected									
A2	C5	None Detected									
A2	F4	None Detected									
A2	I6	None Detected									
A3	B3	None Detected									
A3	D7	None Detected									
A3	H4	None Detected									
A1	J8	None Detected									
A1	G5	None Detected									
A1	B6	None Detected									

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



Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

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

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TESTING LABS • PRODUCTS • TRAINING

#042502212

RECEIVED
EMSL PHONE: (800) 220-3675
CinnAsstlab@EMSL.com

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

Customer Information	Customer ID:	Billing ID:
	Company Name: 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:	

25 FEB -5 PM 12:05

Project Name/No: Maui Fires Lahaina		Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	US State where samples collected: HI	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: Shaina Epstein	Sampled By Signature: <i>[Signature]</i>	No. of Samples in Shipment: 14

Turn-Around-Time (TAT)

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

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

Test Selection

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

*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-AM05-013025-AB	DL915204	7,260.813	01/30/25 1053
MFL-AM02-013025-AB	DL915232	7,220.304	01/30/25 1117
MFL-AM09-013025-AB	DL915213	6,800.408	01/30/25 1135
MFL-AM08-013025-AB	DL915216	6,851.583	01/30/25 1157
MFL-FB01-013025-AB	DL915239	0	01/30/25 1200
MFL-AM05-013125-AB	DL915238	7,223.927	01/31/25 1111
MFL-AM02-013125-AB	DL915240		01/31/25
MFL-AM09-013125-AB	DL915235	7,217.017	01/31/25 1140

*VOID: power outage runtime and volume not determined.

All samples received acceptable for analysis.

Method of Shipment: Fedex	Sample Condition Upon Receipt:
Relinquished by: Shaina Epstein Date/Time: 02/03/25 1100	Received by: <i>[Signature]</i> Date/Time: 02/03/25 1200
Relinquished by: Shaina Epstein Date/Time: 02/03/25 1100	Received by: <i>[Signature]</i> Date/Time: 02/03/25 1200

Controlled Document - CDC-05 Asbestos R16 10/20/2021 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 02/13/2025 and Shanna Vasser 02/14/2025

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

Collection date(s): 01/30/2025 – 02/02/2025

Report No: 42502212

- 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.
- 10. Requested reporting limits are present.
- 11. Method detection limits are present.
- 12. Sample collection date and time are present.
- 13. No detections in field QC blanks (lot/media blanks, field blanks, etc.).

Discrepancies:

- 4. MFL-AM02-013125-AB was listed on the CoC, but crossed off, voided (due to a power outage), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None.



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

EMSL Order: 042502511
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Project: Maui Fires - Lahaina

Phone: (703) 489-2674
Fax: N/A
Received Date: 02/10/2025 10:00 AM
Analysis Date: 02/13/2025
Report Date: 02/14/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM05-020325-AB	Sample Description:	DL915209
EMSL Sample Number:	042502511-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7216.3
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):	0.0127
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 %: 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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

EMSL Order ID: **042502511**
 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: 042502511-0001			Customer Sample: MFL-AM05-020325-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	I4	None Detected									
B1	F7	None Detected									
B1	B3	None Detected									
B2	C6	None Detected									
B2	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: 042502511
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Project: Maui Fires - Lahaina

Phone: (703) 489-2674
Fax: N/A
Received Date: 02/10/2025 10:00 AM
Analysis Date: 02/13/2025
Report Date: 02/14/2025

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

Customer Sample Number:	MFL-AM09-020325-AB	Sample Description:	TEM0682786
EMSL Sample Number:	042502511-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7203.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment
 Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042502511
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: 042502511-0002			Customer Sample: MFL-AM09-020325-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	H4	None Detected									
B2	G8	None Detected									
B5	B6	None Detected									
B6	C7	None Detected									
B6	H5	None Detected									

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



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EMSL Order: 042502511
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: 02/10/2025 10:00 AM
Analysis Date: 02/13/2025
Report Date: 02/14/2025

Project: Maui Fires - Lahaina

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

Customer Sample Number:	MFL-AM08-020325-AB	Sample Description:	TEM0682990
EMSL Sample Number:	042502511-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7231.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **042502511**
 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: 042502511-0003			Customer Sample: MFL-AM08-020325-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	I9	None Detected									
C1	G5	None Detected									
C1	A4	None Detected									
C2	H2	None Detected									
C2	D4	None Detected									

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



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Phone: (703) 489-2674
Fax: N/A
Received Date: 02/10/2025 10:00 AM
Analysis Date: 02/13/2025
Report Date: 02/14/2025

Project: Maui Fires - Lahaina

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

Customer Sample Number:	MFL-FB01-020325-AB	Sample Description:	TEM0682939
EMSL Sample Number:	042502511-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc):	N/A

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

Comment

Approved Signatory

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EMSL Order ID: 042502511

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: 042502511-0004		Customer Sample: MFL-FB01-020325-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	J6	None Detected									
C5	H3	None Detected									
C5	F7	None Detected									
C5	A4	None Detected									
C6	B3	None Detected									
C6	F3	None Detected									
C6	I3	None Detected									
C7	J4	None Detected									
C7	G7	None Detected									
C7	C6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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

Attn: Chelsea Saber
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Fax: N/A
Received Date: 02/10/2025 10:00 AM
Analysis Date: 02/13/2025
Report Date: 02/14/2025

Project: Maui Fires - Lahaina

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

Customer Sample Number:	MFL-AM05-020425-AB	Sample Description:	TEM0682920
EMSL Sample Number:	042502511-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7187.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 042502511
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: 042502511-0005			Customer Sample: MFL-AM05-020425-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	I9	None Detected									
D1	E5	None Detected									
D1	B7	None Detected									
D2	C2	None Detected									
D2	G4	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-AM02-020425-AB	Sample Description:	TEM0682789
EMSL Sample Number:	042502511-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6698.1
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):	0.0127
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 %:	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	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	

Comment
 Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042502511
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: 042502511-0006			Customer Sample: MFL-AM02-020425-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	A7	None Detected									
D5	E4	None Detected									
D5	H3	None Detected									
D6	I6	None Detected									
D6	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: 02/14/2025

Project: Maui Fires - Lahaina

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

Customer Sample Number:	MFL-AM09-020425-AB	Sample Description:	TEM0682784
EMSL Sample Number:	042502511-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7102.1
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):	0.0127
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):	0.0009	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	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0027	Not Applicable - 0.0027	

Comment

Approved Signatory

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EMSL Order ID: 042502511
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: 042502511-0007			Customer Sample: MFL-AM09-020425-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	A8	None Detected									
E1	E5	None Detected									
E1	G3	None Detected									
E2	C5	None Detected									
E2	H4	None Detected									

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



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Project ID: N/A

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Received Date: 02/10/2025 10:00 AM
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Report Date: 02/14/2025

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

Customer Sample Number:	MFL-AM08-020425-AB	Sample Description:	TEM0683026
EMSL Sample Number:	042502511-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7162.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment
 Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042502511

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: 042502511-0008			Customer Sample: MFL-AM08-020425-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	A3	None Detected									
E6	E7	None Detected									
E6	J4	None Detected									
E7	D3	None Detected									
E7	G6	None Detected									

Abbreviations used:

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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-FB01-020425-AB	Sample Description:	TEM0682826
EMSL Sample Number:	042502511-0009	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):	0.0127
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc):	N/A

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

Comment

Approved Signatory

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EMSL Order ID: **042502511**
 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:		042502511-0009						Customer Sample:		MFL-FB01-020425-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	I4	None Detected									
F1	F8	None Detected									
F1	D3	None Detected									
F1	A5	None Detected									
F2	B9	None Detected									
F2	F6	None Detected									
F2	H8	None Detected									
F3	J5	None Detected									
F3	E3	None Detected									
F3	C7	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: 02/10/2025 10:00 AM
Analysis Date: 02/13/2025
Report Date: 02/14/2025

Project: Maui Fires - Lahaina

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

Customer Sample Number:	MFL-AM05-020525-AB	Sample Description:	TEM0683131
EMSL Sample Number:	042502511-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7164.9
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):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: **042502511**
 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: 042502511-0010			Customer Sample: MFL-AM05-020525-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	J7	None Detected									
F5	G2	None Detected									
F5	C5	None Detected									
F6	I4	None Detected									
F6	D7	None Detected									

Abbreviations used:
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Project: Maui Fires - Lahaina

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

Customer Sample Number:	MFL-AM02-020525-AB	Sample Description:	TEM0682991
EMSL Sample Number:	042502511-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7175.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 042502511
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: 042502511-0011			Customer Sample: MFL-AM02-020525-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	B2	None Detected									
G1	D6	None Detected									
G1	H7	None Detected									
G2	C8	None Detected									
G2	F7	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-AM09-020525-AB	Sample Description:	TEM0682900
EMSL Sample Number:	042502511-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7173.9
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):	0.0127
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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: **042502511**
 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: 042502511-0012			Customer Sample: MFL-AM09-020525-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	G5	None Detected									
G5	F8	None Detected									
G5	B5	None Detected									
G6	A6	None Detected									
G6	E4	None Detected									

Abbreviations used:
 XNCGBLD - Crosses Non-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-AM08-020525-AB **Sample Description:** TEM0682834

EMSL Sample Number: 042502511-0013 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7387.9
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0127
 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 47.09	< 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	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 47.09	< 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: 042502511-0013			Customer Sample: MFL-AM08-020525-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	J8	None Detected									
H1	F4	None Detected									
H1	B6	None Detected									
H2	A7	None Detected									
H2	G7	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: 02/14/2025

Project: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-020525-AB	Sample Description:	TEM0682938
EMSL Sample Number:	042502511-0014	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):	0.0127
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc):	N/A

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

Comment

Approved Signatory

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EMSL Order ID: 042502511
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: 042502511-0014		Customer Sample: MFL-FB01-020525-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	A5	None Detected									
H5	D7	None Detected									
H5	F3	None Detected									
H5	I4	None Detected									
H6	J9	None Detected									
H6	H5	None Detected									
H6	C7	None Detected									
H7	B8	None Detected									
H7	E4	None Detected									
H7	J6	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: 042502511
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: 02/10/2025 10:00 AM
Analysis Date: 02/12/2025
Report Date: 02/14/2025

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:	042502511-0015	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0127
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: G.Barry
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	2	
Target Analytical Sensitivity (Structures/cc):	0.001	
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc): N/A

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.54			
Total Amphibole	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures	-	0	0	< 23.54			

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	< 23.54			
Total Amphibole (PCMe)	ADX	0	0	< 23.54			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.54			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	-	0	0	< 23.54			

Comment

Approved Signatory

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



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

EMSL Order ID: **042502511**
 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: 042502511-0015			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	J4	None Detected									
A1	G8	None Detected									
A1	D5	None Detected									
A1	A3	None Detected									
A2	B4	None Detected									
A2	E7	None Detected									
A2	I5	None Detected									
A3	H7	None Detected									
A3	F4	None Detected									
A3	C6	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

042502911

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

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

Project Name/No: Maui Fires Lahaina		Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	US State where samples collected: HI	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: Shaina Epstein	Sampled By Signature: <i>[Signature]</i>	No. of Samples in Shipment: 14
Turnaround-Time (TAT) <input type="checkbox"/> 3 Hour <input type="checkbox"/> 4-4.5 Hour (AHERA ONLY) <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 32 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week <small>TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.</small>		

PCM Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 800/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)	TEM - Air <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input checked="" type="checkbox"/> ISO 10312* TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (Non-Friable-NY) <input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%)	TEM - Settled Dust <input type="checkbox"/> Microvac - ASTM D6765 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Qualitative via Filtration Prep <input type="checkbox"/> Qualitative via Drop Mount Prep Soil - Rock - Vermiculite (reporting limit)* <input type="checkbox"/> PLM-EPA-600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep
--	--	--

*Please call with your project-specific requirements.

Received
 FEB 11 2025

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-AM05-020325-AB	DL915209	7,216.327	02/03/25 1101
MFL-AM09-020325-AB	TEM0682786	7,203.691	02/03/25 1145
MFL-AM08-020325-AB	TEM0682990	7,231.683	02/03/25 1205
MFL-FB01-020325-AB	TEM0682939	0	02/03/25 1200
MFL-AM05-020425-AB	TEM0682920	7,187.695	02/04/25 1053
MFL-AM02-020425-AB	TEM0682789	6,698.116	02/04/25 1111
MFL-AM09-020425-AB	TEM0682784	7,102.053	02/04/25 1128
MFL-AM08-020425-AB	TEM0683026	7,162.743	02/04/25 1149

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

All samples received acceptable for analysis.

Method of Shipment: Fedex	Sample Condition Upon Receipt:
Relinquished by: Shaina Epstein	Received by: <i>[Signature]</i>
Date/Time: 02/06/25 1100	Date/Time: 2-10-25 10
Relinquished by:	Received by:
Date/Time:	Date/Time:

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

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

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

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

Reviewed by:

Kierra Johnson 02/18/2025 and Shanna Vasser 02/19/2025

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

Collection date(s): 02/03/2025 – 02/05/2025

Report No: 42502511

- √ 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

February 19, 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 02/10/25 12:28.

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: 02/19/25 15:13

SUBMITTED: 02/10/25

AQS SITE CODE:

SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

<u>SampleName</u>	<u>LabNumber</u>	<u>Matrix</u>	<u>Sampled</u>	<u>Received</u>
MFL-AM05-013025-HM	5021031-01	Air	01/30/25 23:59	02/10/25 12:28
MFL-AM02-013025-HM	5021031-02	Air	01/30/25 23:59	02/10/25 12:28
MFL-AM09-013025-HM	5021031-03	Air	01/30/25 23:59	02/10/25 12:28
MFL-AM08-013025-HM	5021031-04	Air	01/30/25 23:59	02/10/25 12:28
MFL-FB01-013025-HM	5021031-05	Air	01/30/25 00:00	02/10/25 12:28
MFL-AM05-013125-HM	5021031-06	Air	01/31/25 23:59	02/10/25 12:28
MFL-AM02-013125-HM	5021031-07	Air	01/31/25 23:59	02/10/25 12:28
MFL-AM09-013125-HM	5021031-08	Air	01/31/25 23:59	02/10/25 12:28
MFL-AM08-013125-HM	5021031-09	Air	01/31/25 23:59	02/10/25 12:28
MFL-AM05-020225-HM	5021031-10	Air	02/02/25 23:59	02/10/25 12:28
MFL-AM09-020225-HM	5021031-11	Air	02/02/25 23:59	02/10/25 12:28
MFL-AM08-020225-HM	5021031-12	Air	02/02/25 23:59	02/10/25 12:28
MFL-LB01-020225-HM	5021031-13	Air	02/02/25 00:00	02/10/25 12:28
MFL-AM05-020325-HM	5021031-14	Air	02/03/25 23:59	02/10/25 12:28
MFL-AM09-020325-HM	5021031-15	Air	02/03/25 23:59	02/10/25 12:28
MFL-AM08-020325-HM	5021031-16	Air	02/03/25 23:59	02/10/25 12:28
MFL-FB01-020325-HM	5021031-17	Air	02/03/25 00:00	02/10/25 12:28
MFL-AM05-020425-HM	5021031-18	Air	02/04/25 23:59	02/10/25 12:28
MFL-AM02-020425-HM	5021031-19	Air	02/04/25 23:59	02/10/25 12:28
MFL-AM09-020425-HM	5021031-20	Air	02/04/25 23:59	02/10/25 12:28
MFL-AM08-020425-HM	5021031-21	Air	02/04/25 23:59	02/10/25 12:28

Eastern Research Group

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:

PHONE: (703) 885-5495	FAX:			SITE CODE:	Lahaina fires
MFL-AM05-020525-HM	5021031-22	Air	02/05/25 23:59	02/10/25 12:28	
MFL-AM02-020525-HM	5021031-23	Air	02/05/25 23:59	02/10/25 12:28	
MFL-AM09-020525-HM	5021031-24	Air	02/05/25 23:59	02/10/25 12:28	
MFL-AM08-020525-HM	5021031-25	Air	02/05/25 23:59	02/10/25 12:28	
MFL-FB01-020525-HM	5021031-26	Air	02/05/25 00:00	02/10/25 12:28	



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: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-013025-HM **Lab ID:** 5021031-01 **Sampled:** 01/30/25 23:59
Matrix: Air **Sample Volume:** 1801.427 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 00:45
Comments: Q8525939 - 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	0.135	SL	0.0316	
Arsenic	7440-38-2	0.380		0.00803	
Barium	7440-39-3	4.16		1.39	
Beryllium	7440-41-7	0.00953		0.00172	
Cadmium	7440-43-9	0.0455		0.00462	
Chromium	7440-47-3	1.95	U	2.20	
Cobalt	7440-48-4	0.302		0.0470	
Copper	7440-50-8	81.8		0.679	
Lead	7439-92-1	1.28		0.121	
Manganese	7439-96-5	9.69		0.503	
Molybdenum	7439-98-7	2.19		0.356	
Nickel	7440-02-0	1.60		0.667	
Selenium	7782-49-2	0.312		0.00912	
Thallium	7440-28-0	0.00363		7.78E-4	
Vanadium	7440-62-2	0.934		0.0414	
Zinc	7440-66-6	25.1	U	103	



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: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-013025-HM **Lab ID:** 5021031-02 **Sampled:** 01/30/25 23:59
Matrix: Air **Sample Volume:** 2137.75 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/11/25 21:37
Comments: Q8525938 - 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	0.0964	SL	0.0266
Arsenic	7440-38-2	0.149		0.00677
Barium	7440-39-3	2.35		1.17
Beryllium	7440-41-7	0.00372		0.00145
Cadmium	7440-43-9	0.0370	D-F	0.00390
Chromium	7440-47-3	1.18	U	1.86
Cobalt	7440-48-4	0.0948		0.0396
Copper	7440-50-8	67.4	A-01, QM-07	0.572
Lead	7439-92-1	0.405		0.102
Manganese	7439-96-5	3.03		0.424
Molybdenum	7439-98-7	1.67		0.300
Nickel	7440-02-0	0.649		0.562
Selenium	7782-49-2	0.307		0.00769
Thallium	7440-28-0	0.00308		6.55E-4
Vanadium	7440-62-2	0.338		0.0349
Zinc	7440-66-6	12.8	U	86.8



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: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM09-013025-HM **Lab ID:** 5021031-03 **Sampled:** 01/30/25 23:59
Matrix: Air **Sample Volume:** 1913.8 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 01:00
Comments: Q8525937 - 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	0.0542	SL	0.0298
Arsenic	7440-38-2	0.200		0.00756
Barium	7440-39-3	1.62		1.31
Beryllium	7440-41-7	0.00226		0.00162
Cadmium	7440-43-9	0.0333		0.00435
Chromium	7440-47-3	1.54	U	2.07
Cobalt	7440-48-4	0.0886		0.0442
Copper	7440-50-8	44.7		0.639
Lead	7439-92-1	0.481		0.114
Manganese	7439-96-5	2.38		0.474
Molybdenum	7439-98-7	2.19		0.335
Nickel	7440-02-0	0.794		0.628
Selenium	7782-49-2	0.305		0.00859
Thallium	7440-28-0	0.00320		7.32E-4
Vanadium	7440-62-2	0.268		0.0389
Zinc	7440-66-6	11.1	U	96.9



CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-013025-HM **Lab ID:** 5021031-04 **Sampled:** 01/30/25 23:59
Matrix: Air **Sample Volume:** 1790.041 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 01:13
Comments: Q8525936 - 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	0.153	SL	0.0318	
Arsenic	7440-38-2	0.308		0.00808	
Barium	7440-39-3	1.89		1.40	
Beryllium	7440-41-7	0.00329		0.00173	
Cadmium	7440-43-9	0.0306		0.00465	
Chromium	7440-47-3	1.45	U	2.22	
Cobalt	7440-48-4	0.159		0.0473	
Copper	7440-50-8	52.1		0.684	
Lead	7439-92-1	0.344		0.122	
Manganese	7439-96-5	3.74		0.506	
Molybdenum	7439-98-7	1.77		0.358	
Nickel	7440-02-0	0.828		0.672	
Selenium	7782-49-2	0.269		0.00918	
Thallium	7440-28-0	0.00303		7.83E-4	
Vanadium	7440-62-2	0.325		0.0416	
Zinc	7440-66-6	11.0	U	104	



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: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-013025-HM **Lab ID:** 5021031-05 **Sampled:** 01/30/25 00:00
Matrix: Air **Sample Volume:** 1801.427 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 01:26
Comments: Q8521640 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0237	SL, U	0.0316	
Arsenic	7440-38-2	0.00202	U	0.00803	
Barium	7440-39-3	1.22	U	1.39	
Beryllium	7440-41-7	4.04E-4	U	0.00172	
Cadmium	7440-43-9	0.00114	U	0.00462	
Chromium	7440-47-3	1.20	U	2.20	
Cobalt	7440-48-4	0.0248	U	0.0470	
Copper	7440-50-8	1.12	FB-01	0.679	
Lead	7439-92-1	0.0384	U	0.121	
Manganese	7439-96-5	0.186	U	0.503	
Molybdenum	7439-98-7	0.204	U	0.356	
Nickel	7440-02-0	0.486	U	0.667	
Selenium	7782-49-2	0.00122	U	0.00912	
Thallium	7440-28-0	1.58E-4	U	7.78E-4	
Vanadium	7440-62-2	0.0398	U	0.0414	
Zinc	7440-66-6	5.43	U	103	



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-013125-HM **Lab ID:** 5021031-06 **Sampled:** 01/31/25 23:59
Matrix: Air **Sample Volume:** 1235.358 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 01:39
Comments: Q8521645 - 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	0.125	SL	0.0461	
Arsenic	7440-38-2	0.286		0.0117	
Barium	7440-39-3	2.65		2.03	
Beryllium	7440-41-7	0.00353		0.00250	
Cadmium	7440-43-9	0.0684		0.00674	
Chromium	7440-47-3	2.04	U	3.21	
Cobalt	7440-48-4	0.175		0.0685	
Copper	7440-50-8	39.2		0.990	
Lead	7439-92-1	0.593		0.176	
Manganese	7439-96-5	3.82		0.734	
Molybdenum	7439-98-7	1.33		0.519	
Nickel	7440-02-0	2.02		0.973	
Selenium	7782-49-2	0.348		0.0133	
Thallium	7440-28-0	7.27E-4	U	0.00113	
Vanadium	7440-62-2	0.396		0.0603	
Zinc	7440-66-6	26.0	U	150	



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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-013125-HM **Lab ID:** 5021031-07 **Sampled:** 01/31/25 23:59
Matrix: Air **Sample Volume:** 743.655 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 01:53
Comments: Q8521644 - 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	0.481	SL	0.0766	
Arsenic	7440-38-2	0.343		0.0194	
Barium	7440-39-3	6.81		3.37	
Beryllium	7440-41-7	0.00815		0.00416	
Cadmium	7440-43-9	0.0333		0.0112	
Chromium	7440-47-3	3.30	U	5.34	
Cobalt	7440-48-4	0.244		0.114	
Copper	7440-50-8	106		1.65	
Lead	7439-92-1	0.821		0.293	
Manganese	7439-96-5	7.57		1.22	
Molybdenum	7439-98-7	2.94		0.862	
Nickel	7440-02-0	1.89		1.62	
Selenium	7782-49-2	0.564		0.0221	
Thallium	7440-28-0	0.00124	U	0.00188	
Vanadium	7440-62-2	0.766		0.100	
Zinc	7440-66-6	55.8	U	249	



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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM09-013125-HM **Lab ID:** 5021031-08 **Sampled:** 01/31/25 23:59
Matrix: Air **Sample Volume:** 1960.82 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 02:06
Comments: Q8521639 - 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	0.0555	SL	0.0290	
Arsenic	7440-38-2	0.219		0.00738	
Barium	7440-39-3	1.70		1.28	
Beryllium	7440-41-7	0.00149	U	0.00158	
Cadmium	7440-43-9	0.0487		0.00425	
Chromium	7440-47-3	1.37	U	2.02	
Cobalt	7440-48-4	0.0816		0.0431	
Copper	7440-50-8	52.6		0.624	
Lead	7439-92-1	0.275		0.111	
Manganese	7439-96-5	2.19		0.462	
Molybdenum	7439-98-7	2.35		0.327	
Nickel	7440-02-0	0.977		0.613	
Selenium	7782-49-2	0.249		0.00838	
Thallium	7440-28-0	4.76E-4	U	7.14E-4	
Vanadium	7440-62-2	0.205		0.0380	
Zinc	7440-66-6	11.1	U	94.6	



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 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-013125-HM **Lab ID:** 5021031-09 **Sampled:** 01/31/25 23:59
Matrix: Air **Sample Volume:** 1829.441 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 02:19
Comments: Q8521637 - 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	0.380	SL	0.0311	
Arsenic	7440-38-2	0.184		0.00791	
Barium	7440-39-3	1.73		1.37	
Beryllium	7440-41-7	0.00226		0.00169	
Cadmium	7440-43-9	0.0448		0.00455	
Chromium	7440-47-3	1.22	U	2.17	
Cobalt	7440-48-4	0.156		0.0462	
Copper	7440-50-8	56.8		0.669	
Lead	7439-92-1	0.137		0.119	
Manganese	7439-96-5	3.59		0.495	
Molybdenum	7439-98-7	1.85		0.350	
Nickel	7440-02-0	2.49		0.657	
Selenium	7782-49-2	0.202		0.00898	
Thallium	7440-28-0	4.75E-4	U	7.66E-4	
Vanadium	7440-62-2	0.241		0.0407	
Zinc	7440-66-6	19.0	U	101	



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 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-020225-HM **Lab ID:** 5021031-10 **Sampled:** 02/02/25 23:59
Matrix: Air **Sample Volume:** 2024.984 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/11/25 17:54
Comments: Q8521636 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	0.263	SL	0.0281
Arsenic	7440-38-2	0.205		0.00714
Barium	7440-39-3	4.00		1.24
Beryllium	7440-41-7	0.00734		0.00153
Cadmium	7440-43-9	0.0171		0.00411
Chromium	7440-47-3	1.95	U	1.96
Cobalt	7440-48-4	0.229		0.0418
Copper	7440-50-8	27.0		0.604
Lead	7439-92-1	0.520		0.108
Manganese	7439-96-5	6.74		0.448
Molybdenum	7439-98-7	0.796		0.317
Nickel	7440-02-0	1.15		0.594
Selenium	7782-49-2	0.176		0.00811
Thallium	7440-28-0	0.00198		6.92E-4
Vanadium	7440-62-2	0.672		0.0368
Zinc	7440-66-6	19.4	U	91.6



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM09-020225-HM **Lab ID:** 5021031-11 **Sampled:** 02/02/25 23:59
Matrix: Air **Sample Volume:** 1931.994 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 03:24
Comments: Q8521634 - 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	0.0733	SL	0.0295
Arsenic	7440-38-2	0.272		0.00749
Barium	7440-39-3	2.42		1.30
Beryllium	7440-41-7	0.00388		0.00160
Cadmium	7440-43-9	0.0167		0.00431
Chromium	7440-47-3	1.21	U	2.05
Cobalt	7440-48-4	0.100		0.0438
Copper	7440-50-8	26.8		0.633
Lead	7439-92-1	0.509		0.113
Manganese	7439-96-5	3.24		0.469
Molybdenum	7439-98-7	0.883		0.332
Nickel	7440-02-0	0.641		0.622
Selenium	7782-49-2	0.159		0.00851
Thallium	7440-28-0	0.00170		7.25E-4
Vanadium	7440-62-2	0.294		0.0386
Zinc	7440-66-6	11.0	U	96.0



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-020225-HM **Lab ID:** 5021031-12 **Sampled:** 02/02/25 23:59
Matrix: Air **Sample Volume:** 1631.105 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 03:37
Comments: Q8521633 - 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	0.144	SL	0.0349	
Arsenic	7440-38-2	0.189		0.00887	
Barium	7440-39-3	2.43		1.54	
Beryllium	7440-41-7	0.00306		0.00190	
Cadmium	7440-43-9	0.0185		0.00511	
Chromium	7440-47-3	2.16	U	2.43	
Cobalt	7440-48-4	0.0738		0.0519	
Copper	7440-50-8	67.2		0.750	
Lead	7439-92-1	0.400		0.134	
Manganese	7439-96-5	2.51		0.556	
Molybdenum	7439-98-7	1.75		0.393	
Nickel	7440-02-0	0.735	U	0.737	
Selenium	7782-49-2	0.172		0.0101	
Thallium	7440-28-0	0.00149		8.59E-4	
Vanadium	7440-62-2	0.240		0.0457	
Zinc	7440-66-6	11.1	U	114	



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-LB01-020225-HM **Lab ID:** 5021031-13 **Sampled:** 02/02/25 00:00
Matrix: Air **Sample Volume:** 2024.984 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 03:50
Comments: Q8521631 Lot Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0199	SL, U	0.0281	
Arsenic	7440-38-2	0.00239	U	0.00714	
Barium	7440-39-3	0.917	U	1.24	
Beryllium	7440-41-7	2.74E-4	U	0.00153	
Cadmium	7440-43-9	6.40E-4	U	0.00411	
Chromium	7440-47-3	0.752	U	1.96	
Cobalt	7440-48-4	0.00876	U	0.0418	
Copper	7440-50-8	0.368	U	0.604	
Lead	7439-92-1	0.0203	U	0.108	
Manganese	7439-96-5	0.211	U	0.448	
Molybdenum	7439-98-7	0.129	U	0.317	
Nickel	7440-02-0	0.328	U	0.594	
Selenium	7782-49-2	ND	U	0.00811	
Thallium	7440-28-0	1.17E-4	U	6.92E-4	
Vanadium	7440-62-2	0.0252	U	0.0368	
Zinc	7440-66-6	7.56	U	91.6	



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 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
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Description: MFL-AM05-020325-HM **Lab ID:** 5021031-14 **Sampled:** 02/03/25 23:59
Matrix: Air **Sample Volume:** 2084.709 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 04:04
Comments: Q8521630 - 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	0.156	SL	0.0273	
Arsenic	7440-38-2	0.195		0.00694	
Barium	7440-39-3	4.17		1.20	
Beryllium	7440-41-7	0.00780		0.00148	
Cadmium	7440-43-9	0.0145		0.00400	
Chromium	7440-47-3	2.34		1.90	
Cobalt	7440-48-4	0.288		0.0406	
Copper	7440-50-8	34.5		0.587	
Lead	7439-92-1	0.484		0.105	
Manganese	7439-96-5	8.19		0.435	
Molybdenum	7439-98-7	1.09		0.307	
Nickel	7440-02-0	1.31		0.577	
Selenium	7782-49-2	0.189		0.00788	
Thallium	7440-28-0	0.00151		6.72E-4	
Vanadium	7440-62-2	0.931		0.0357	
Zinc	7440-66-6	16.8	U	89.0	



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 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
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Description: MFL-AM09-020325-HM **Lab ID:** 5021031-15 **Sampled:** 02/03/25 23:59
Matrix: Air **Sample Volume:** 2004.487 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 04:18
Comments: Q8521629 - 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	0.120	SL	0.0284
Arsenic	7440-38-2	0.201		0.00722
Barium	7440-39-3	4.40		1.25
Beryllium	7440-41-7	0.00518		0.00154
Cadmium	7440-43-9	0.0190		0.00416
Chromium	7440-47-3	1.28	U	1.98
Cobalt	7440-48-4	0.131		0.0422
Copper	7440-50-8	27.3		0.610
Lead	7439-92-1	0.424		0.109
Manganese	7439-96-5	4.37		0.452
Molybdenum	7439-98-7	1.16		0.320
Nickel	7440-02-0	0.784		0.600
Selenium	7782-49-2	0.197		0.00820
Thallium	7440-28-0	0.00133		6.99E-4
Vanadium	7440-62-2	0.465		0.0372
Zinc	7440-66-6	13.1	U	92.5



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 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-020325-HM **Lab ID:** 5021031-16 **Sampled:** 02/03/25 23:59
Matrix: Air **Sample Volume:** 1978.463 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 04:32
Comments: Q8521628 - 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	0.0288	
Arsenic	7440-38-2	0.176		0.00731	
Barium	7440-39-3	3.87		1.27	
Beryllium	7440-41-7	0.00389		0.00156	
Cadmium	7440-43-9	0.0234		0.00421	
Chromium	7440-47-3	1.38	U	2.01	
Cobalt	7440-48-4	0.104		0.0428	
Copper	7440-50-8	55.7		0.618	
Lead	7439-92-1	0.452		0.110	
Manganese	7439-96-5	3.49		0.458	
Molybdenum	7439-98-7	1.57		0.324	
Nickel	7440-02-0	0.814		0.608	
Selenium	7782-49-2	0.217		0.00831	
Thallium	7440-28-0	0.00125		7.08E-4	
Vanadium	7440-62-2	0.369		0.0377	
Zinc	7440-66-6	15.7	U	93.7	



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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-020325-HM **Lab ID:** 5021031-17 **Sampled:** 02/03/25 00:00
Matrix: Air **Sample Volume:** 2084.709 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 04:46
Comments: Q8521622 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.0280	FB-01, SL	0.0273
Arsenic	7440-38-2	0.00431	U	0.00694
Barium	7440-39-3	0.941	U	1.20
Beryllium	7440-41-7	2.23E-4	U	0.00148
Cadmium	7440-43-9	0.00157	U	0.00400
Chromium	7440-47-3	0.777	U	1.90
Cobalt	7440-48-4	0.00993	U	0.0406
Copper	7440-50-8	1.15	FB-01	0.587
Lead	7439-92-1	0.0477	U	0.105
Manganese	7439-96-5	0.170	U	0.435
Molybdenum	7439-98-7	0.161	U	0.307
Nickel	7440-02-0	0.379	U	0.577
Selenium	7782-49-2	ND	U	0.00788
Thallium	7440-28-0	7.73E-5	U	6.72E-4
Vanadium	7440-62-2	0.0332	U	0.0357
Zinc	7440-66-6	5.89	U	89.0



CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-020425-HM **Lab ID:** 5021031-18 **Sampled:** 02/04/25 23:59
Matrix: Air **Sample Volume:** 2151.23 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 04:59
Comments: Q8521626 - 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	0.154	SL	0.0265
Arsenic	7440-38-2	0.163		0.00672
Barium	7440-39-3	4.21		1.16
Beryllium	7440-41-7	0.00864		0.00144
Cadmium	7440-43-9	0.0119		0.00387
Chromium	7440-47-3	2.66		1.85
Cobalt	7440-48-4	0.368		0.0393
Copper	7440-50-8	44.0		0.569
Lead	7439-92-1	0.373		0.101
Manganese	7439-96-5	8.86		0.421
Molybdenum	7439-98-7	1.23		0.298
Nickel	7440-02-0	1.78		0.559
Selenium	7782-49-2	0.120		0.00764
Thallium	7440-28-0	9.15E-4		6.51E-4
Vanadium	7440-62-2	1.18		0.0346
Zinc	7440-66-6	16.0	U	86.2



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-020425-HM **Lab ID:** 5021031-19 **Sampled:** 02/04/25 23:59
Matrix: Air **Sample Volume:** 1932.274 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 05:13
Comments: Q8521621 - 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	0.287	SL	0.0295
Arsenic	7440-38-2	0.361		0.00749
Barium	7440-39-3	8.19		1.30
Beryllium	7440-41-7	0.0200		0.00160
Cadmium	7440-43-9	0.0268		0.00431
Chromium	7440-47-3	5.41		2.05
Cobalt	7440-48-4	0.646		0.0438
Copper	7440-50-8	53.7		0.633
Lead	7439-92-1	1.26		0.113
Manganese	7439-96-5	18.2		0.469
Molybdenum	7439-98-7	1.77		0.332
Nickel	7440-02-0	2.42		0.622
Selenium	7782-49-2	0.231		0.00850
Thallium	7440-28-0	0.00179		7.25E-4
Vanadium	7440-62-2	2.23		0.0386
Zinc	7440-66-6	28.3	U	96.0



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM09-020425-HM **Lab ID:** 5021031-20 **Sampled:** 02/04/25 23:59
Matrix: Air **Sample Volume:** 1857.117 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 06:17
Comments: Q8521624 - 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	0.130	SL	0.0307	
Arsenic	7440-38-2	0.240		0.00779	
Barium	7440-39-3	4.18		1.35	
Beryllium	7440-41-7	0.00817		0.00166	
Cadmium	7440-43-9	0.0136		0.00449	
Chromium	7440-47-3	2.87		2.14	
Cobalt	7440-48-4	0.283		0.0456	
Copper	7440-50-8	36.2		0.659	
Lead	7439-92-1	0.546		0.117	
Manganese	7439-96-5	7.96		0.488	
Molybdenum	7439-98-7	1.97		0.345	
Nickel	7440-02-0	1.62		0.647	
Selenium	7782-49-2	0.160		0.00885	
Thallium	7440-28-0	0.00121		7.54E-4	
Vanadium	7440-62-2	0.923		0.0401	
Zinc	7440-66-6	15.5	U	99.9	



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-020425-HM **Lab ID:** 5021031-21 **Sampled:** 02/04/25 23:59
Matrix: Air **Sample Volume:** 1772.179 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 06:44
Comments: Q8521623 - 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	0.219	SL	0.0321
Arsenic	7440-38-2	0.207		0.00816
Barium	7440-39-3	3.79		1.41
Beryllium	7440-41-7	0.00600		0.00174
Cadmium	7440-43-9	0.0889		0.00470
Chromium	7440-47-3	1.86	U	2.24
Cobalt	7440-48-4	0.181		0.0477
Copper	7440-50-8	83.7		0.690
Lead	7439-92-1	0.391		0.123
Manganese	7439-96-5	5.48		0.511
Molybdenum	7439-98-7	2.14		0.362
Nickel	7440-02-0	1.03		0.678
Selenium	7782-49-2	0.178		0.00927
Thallium	7440-28-0	0.00118		7.90E-4
Vanadium	7440-62-2	0.621		0.0420
Zinc	7440-66-6	14.1	U	105



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-020525-HM **Lab ID:** 5021031-22 **Sampled:** 02/05/25 23:59
Matrix: Air **Sample Volume:** 2102.204 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 06:58
Comments: Q8521620 - 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	0.172	SL	0.0271
Arsenic	7440-38-2	0.373		0.00688
Barium	7440-39-3	7.54		1.19
Beryllium	7440-41-7	0.0209		0.00147
Cadmium	7440-43-9	0.0189		0.00396
Chromium	7440-47-3	4.45		1.89
Cobalt	7440-48-4	0.845		0.0402
Copper	7440-50-8	41.0		0.582
Lead	7439-92-1	0.858		0.104
Manganese	7439-96-5	21.9		0.431
Molybdenum	7439-98-7	1.25		0.305
Nickel	7440-02-0	3.00		0.572
Selenium	7782-49-2	0.179		0.00782
Thallium	7440-28-0	0.00178		6.66E-4
Vanadium	7440-62-2	2.64		0.0354
Zinc	7440-66-6	19.8	U	88.2



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-020525-HM **Lab ID:** 5021031-23 **Sampled:** 02/05/25 23:59
Matrix: Air **Sample Volume:** 2122.533 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 07:13
Comments: Q8521619 - 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	0.577	SL	0.0268	
Arsenic	7440-38-2	0.435		0.00681	
Barium	7440-39-3	11.5		1.18	
Beryllium	7440-41-7	0.0261		0.00146	
Cadmium	7440-43-9	0.0289		0.00392	
Chromium	7440-47-3	4.04		1.87	
Cobalt	7440-48-4	0.780		0.0399	
Copper	7440-50-8	54.8		0.576	
Lead	7439-92-1	1.98		0.103	
Manganese	7439-96-5	24.3		0.427	
Molybdenum	7439-98-7	2.05		0.302	
Nickel	7440-02-0	3.24		0.566	
Selenium	7782-49-2	0.229		0.00774	
Thallium	7440-28-0	0.00177		6.60E-4	
Vanadium	7440-62-2	2.72		0.0351	
Zinc	7440-66-6	39.3	U	87.4	



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM09-020525-HM **Lab ID:** 5021031-24 **Sampled:** 02/05/25 23:59
Matrix: Air **Sample Volume:** 2048.063 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 07:32
Comments: Q8521618 - 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	0.155	SL	0.0278
Arsenic	7440-38-2	0.349		0.00706
Barium	7440-39-3	6.11		1.22
Beryllium	7440-41-7	0.0143		0.00151
Cadmium	7440-43-9	0.0243		0.00407
Chromium	7440-47-3	2.92		1.94
Cobalt	7440-48-4	0.566		0.0413
Copper	7440-50-8	33.6		0.597
Lead	7439-92-1	1.00		0.106
Manganese	7439-96-5	14.6		0.442
Molybdenum	7439-98-7	1.68		0.313
Nickel	7440-02-0	2.12		0.587
Selenium	7782-49-2	0.193		0.00802
Thallium	7440-28-0	0.00144		6.84E-4
Vanadium	7440-62-2	1.78		0.0364
Zinc	7440-66-6	20.1	U	90.6



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-020525-HM **Lab ID:** 5021031-25 **Sampled:** 02/05/25 23:59
Matrix: Air **Sample Volume:** 1779.171 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 07:45
Comments: Q8521613 - 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	0.116	SL	0.0320
Arsenic	7440-38-2	0.307		0.00813
Barium	7440-39-3	4.14		1.41
Beryllium	7440-41-7	0.0109		0.00174
Cadmium	7440-43-9	0.0176		0.00468
Chromium	7440-47-3	2.34		2.23
Cobalt	7440-48-4	0.375		0.0476
Copper	7440-50-8	70.3		0.688
Lead	7439-92-1	0.561		0.123
Manganese	7439-96-5	11.2		0.509
Molybdenum	7439-98-7	1.96		0.360
Nickel	7440-02-0	1.36		0.676
Selenium	7782-49-2	0.175		0.00924
Thallium	7440-28-0	0.00126		7.87E-4
Vanadium	7440-62-2	1.20		0.0419
Zinc	7440-66-6	16.5	U	104



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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-020525-HM **Lab ID:** 5021031-26 **Sampled:** 02/05/25 00:00
Matrix: Air **Sample Volume:** 2102.204 m³ **Received:** 02/10/25 12:28
Filter ID: **Analysis Date:** 02/12/25 08:12
Comments: Q8521610 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0219	SL, U	0.0271	
Arsenic	7440-38-2	0.00730	FB-01	0.00688	
Barium	7440-39-3	1.01	U	1.19	
Beryllium	7440-41-7	4.34E-4	U	0.00147	
Cadmium	7440-43-9	0.00130	U	0.00396	
Chromium	7440-47-3	0.793	U	1.89	
Cobalt	7440-48-4	0.0148	U	0.0402	
Copper	7440-50-8	3.22	FB-01	0.582	
Lead	7439-92-1	0.0529	U	0.104	
Manganese	7439-96-5	0.287	U	0.431	
Molybdenum	7439-98-7	0.203	U	0.305	
Nickel	7440-02-0	0.437	U	0.572	
Selenium	7782-49-2	0.00281	U	0.00782	
Thallium	7440-28-0	6.03E-5	U	6.66E-4	
Vanadium	7440-62-2	0.0431	FB-01	0.0354	
Zinc	7440-66-6	5.74	U	88.2	



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FILE #: 4205.00.003.001
REPORTED: 02/19/25 15:13
SUBMITTED: 02/10/25
AQS SITE CODE:
SITE CODE: Lahaina fires

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

Batch 2502024 - B5B1108

Calibration Blank (2502024-CCB1)

Prepared & Analyzed: 02/11/25

Antimony	0.653		ng/l							
Arsenic	-4.36		ng/l							U
Barium	-1.10		ng/l							U
Beryllium	-0.476		ng/l							U
Cadmium	-0.0353		ng/l							U
Chromium	5.81		ng/l							
Cobalt	0.304		ng/l							
Copper	20.2		ng/l							
Lead	2.85		ng/l							
Manganese	3.94		ng/l							
Molybdenum	16.6		ng/l							
Nickel	0.671		ng/l							
Selenium	2.34		ng/l							
Thallium	1.53		ng/l							
Vanadium	62.3		ng/l							
Zinc	58.2		ng/l							

Calibration Blank (2502024-CCB2)

Prepared & Analyzed: 02/11/25

Antimony	0.787		ng/l							
Arsenic	-4.60		ng/l							U
Barium	-1.25		ng/l							U
Beryllium	-0.688		ng/l							U
Cadmium	-0.0287		ng/l							U
Chromium	3.75		ng/l							
Cobalt	0.110		ng/l							
Copper	13.5		ng/l							
Lead	1.97		ng/l							
Manganese	1.86		ng/l							
Molybdenum	4.83		ng/l							
Nickel	0.901		ng/l							
Selenium	-3.68		ng/l							U
Thallium	1.08		ng/l							
Vanadium	32.7		ng/l							
Zinc	-26.7		ng/l							U

Calibration Blank (2502024-CCB3)

Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	0.744		ng/l							
Arsenic	-9.48		ng/l							U
Barium	-0.730		ng/l							U
Beryllium	-0.369		ng/l							U

Eastern Research Group

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FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

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

Batch 2502024 - B5B1108

Calibration Blank (2502024-CCB3) Contin

Prepared: 02/11/25 Analyzed: 02/12/25

Cadmium	-0.0965		ng/l							U
Chromium	5.08		ng/l							
Cobalt	0.155		ng/l							
Copper	12.8		ng/l							
Lead	1.49		ng/l							
Manganese	0.150		ng/l							
Molybdenum	5.63		ng/l							
Nickel	-0.564		ng/l							U
Selenium	1.89		ng/l							
Thallium	1.06		ng/l							
Vanadium	20.2		ng/l							
Zinc	-30.9		ng/l							U

Calibration Blank (2502024-CCB4)

Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	0.461		ng/l							
Arsenic	-3.32		ng/l							U
Barium	2.54		ng/l							
Beryllium	-0.689		ng/l							U
Cadmium	0.242		ng/l							
Chromium	9.11		ng/l							
Cobalt	0.371		ng/l							
Copper	28.5		ng/l							
Lead	2.95		ng/l							
Manganese	5.36		ng/l							
Molybdenum	6.53		ng/l							
Nickel	-0.0516		ng/l							U
Selenium	7.19		ng/l							
Thallium	0.847		ng/l							
Vanadium	16.2		ng/l							
Zinc	265		ng/l							

Calibration Blank (2502024-CCB5)

Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	0.601		ng/l							
Arsenic	-2.30		ng/l							U
Barium	-0.326		ng/l							U
Beryllium	-1.09		ng/l							U
Cadmium	-0.0709		ng/l							U
Chromium	4.62		ng/l							
Cobalt	0.0650		ng/l							
Copper	8.37		ng/l							

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

FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

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

Batch 2502024 - B5B1108

Calibration Blank (2502024-CCB5) Contin

Prepared: 02/11/25 Analyzed: 02/12/25

Lead	1.29		ng/l							
Manganese	0.447		ng/l							
Molybdenum	6.64		ng/l							
Nickel	0.569		ng/l							
Selenium	7.19		ng/l							
Thallium	0.953		ng/l							
Vanadium	8.76		ng/l							
Zinc	6.21		ng/l							

Calibration Blank (2502024-CCB6)

Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	0.846		ng/l							
Arsenic	-0.0646		ng/l							U
Barium	-1.38		ng/l							U
Beryllium	-1.10		ng/l							LJ, QX, U
Cadmium	-0.0873		ng/l							U
Chromium	5.06		ng/l							
Cobalt	0.0933		ng/l							
Copper	9.03		ng/l							
Lead	1.50		ng/l							
Manganese	1.09		ng/l							
Molybdenum	7.40		ng/l							
Nickel	1.06		ng/l							
Selenium	2.36		ng/l							
Thallium	1.21		ng/l							
Vanadium	-0.0918		ng/l							U
Zinc	46.5		ng/l							

Calibration Check (2502024-CCV1)

Prepared & Analyzed: 02/11/25

Antimony	20200		ng/l	20008	101	90-110				
Arsenic	20000		ng/l	20004	100	90-110				
Barium	198000		ng/l	200200	99.0	90-110				
Beryllium	5000		ng/l	5002.5	99.9	90-110				
Cadmium	20300		ng/l	20014	102	90-110				
Chromium	251000		ng/l	240050	105	90-110				
Cobalt	50200		ng/l	50020	100	90-110				
Copper	2.05E6		ng/l	2.0020E6	103	90-110				
Lead	201000		ng/l	200060	100	90-110				
Manganese	492000		ng/l	498900	98.7	90-110				
Molybdenum	50200		ng/l	50005	100	90-110				
Nickel	121000		ng/l	120040	101	90-110				

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2502024 - B5B1108

Calibration Check (2502024-CCV1) Contin

Prepared & Analyzed: 02/11/25

Selenium	20300		ng/l	20002		101	90-110			
Thallium	492		ng/l	499.95		98.3	90-110			
Vanadium	20400		ng/l	20030		102	90-110			
Zinc	518000		ng/l	500000		104	90-110			

Calibration Check (2502024-CCV2)

Prepared & Analyzed: 02/11/25

Antimony	20000		ng/l	20008		99.7	90-110			
Arsenic	19700		ng/l	20004		98.7	90-110			
Barium	197000		ng/l	200200		98.5	90-110			
Beryllium	5050		ng/l	5002.5		101	90-110			
Cadmium	20100		ng/l	20014		100	90-110			
Chromium	249000		ng/l	240050		104	90-110			
Cobalt	49300		ng/l	50020		98.5	90-110			
Copper	2.03E6		ng/l	2.0020E6		102	90-110			
Lead	198000		ng/l	200060		99.2	90-110			
Manganese	493000		ng/l	498900		98.7	90-110			
Molybdenum	49500		ng/l	50005		99.1	90-110			
Nickel	118000		ng/l	120040		98.6	90-110			
Selenium	20000		ng/l	20002		100	90-110			
Thallium	470		ng/l	499.95		94.1	90-110			
Vanadium	20300		ng/l	20030		101	90-110			
Zinc	510000		ng/l	500000		102	90-110			

Calibration Check (2502024-CCV3)

Prepared & Analyzed: 02/11/25

Antimony	19900		ng/l	20008		99.7	90-110			
Arsenic	19800		ng/l	20004		99.0	90-110			
Barium	198000		ng/l	200200		99.1	90-110			
Beryllium	5130		ng/l	5002.5		103	90-110			
Cadmium	20200		ng/l	20014		101	90-110			
Chromium	247000		ng/l	240050		103	90-110			
Cobalt	49000		ng/l	50020		97.9	90-110			
Copper	2.05E6		ng/l	2.0020E6		102	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	493000		ng/l	498900		98.9	90-110			
Molybdenum	49600		ng/l	50005		99.2	90-110			
Nickel	118000		ng/l	120040		98.6	90-110			
Selenium	20300		ng/l	20002		101	90-110			
Thallium	472		ng/l	499.95		94.4	90-110			
Vanadium	20300		ng/l	20030		102	90-110			
Zinc	516000		ng/l	500000		103	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2502024 - B5B1108

Calibration Check (2502024-CCV4)

Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	19900		ng/l	20008		99.3	90-110			
Arsenic	19600		ng/l	20004		98.1	90-110			
Barium	202000		ng/l	200200		101	90-110			
Beryllium	5170		ng/l	5002.5		103	90-110			
Cadmium	20000		ng/l	20014		100	90-110			
Chromium	246000		ng/l	240050		102	90-110			
Cobalt	48600		ng/l	50020		97.1	90-110			
Copper	2.05E6		ng/l	2.0020E6		102	90-110			
Lead	198000		ng/l	200060		99.2	90-110			
Manganese	491000		ng/l	498900		98.3	90-110			
Molybdenum	49700		ng/l	50005		99.4	90-110			
Nickel	117000		ng/l	120040		97.8	90-110			
Selenium	20100		ng/l	20002		100	90-110			
Thallium	459		ng/l	499.95		91.8	90-110			
Vanadium	20200		ng/l	20030		101	90-110			
Zinc	511000		ng/l	500000		102	90-110			

Calibration Check (2502024-CCV5)

Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20400		ng/l	20004		102	90-110			
Barium	212000		ng/l	200200		106	90-110			
Beryllium	5120		ng/l	5002.5		102	90-110			
Cadmium	20900		ng/l	20014		104	90-110			
Chromium	258000		ng/l	240050		108	90-110			
Cobalt	50700		ng/l	50020		101	90-110			
Copper	2.14E6		ng/l	2.0020E6		107	90-110			
Lead	206000		ng/l	200060		103	90-110			
Manganese	511000		ng/l	498900		103	90-110			
Molybdenum	51900		ng/l	50005		104	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20700		ng/l	20002		103	90-110			
Thallium	472		ng/l	499.95		94.3	90-110			
Vanadium	21100		ng/l	20030		105	90-110			
Zinc	530000		ng/l	500000		106	90-110			

Calibration Check (2502024-CCV6)

Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	21000		ng/l	20008		105	90-110			
Arsenic	20300		ng/l	20004		102	90-110			
Barium	207000		ng/l	200200		103	90-110			
Beryllium	5120		ng/l	5002.5		102	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2502024 - B5B1108

Calibration Check (2502024-CCV6) Contin

Prepared: 02/11/25 Analyzed: 02/12/25

Cadmium	21000		ng/l	20014		105	90-110			
Chromium	258000		ng/l	240050		108	90-110			
Cobalt	50800		ng/l	50020		101	90-110			
Copper	2.13E6		ng/l	2.0020E6		106	90-110			
Lead	207000		ng/l	200060		103	90-110			
Manganese	511000		ng/l	498900		102	90-110			
Molybdenum	51400		ng/l	50005		103	90-110			
Nickel	122000		ng/l	120040		102	90-110			
Selenium	20700		ng/l	20002		104	90-110			
Thallium	476		ng/l	499.95		95.3	90-110			
Vanadium	21200		ng/l	20030		106	90-110			
Zinc	529000		ng/l	500000		106	90-110			

High Cal Check (2502024-HCV1)

Prepared & Analyzed: 02/11/25

Antimony	40200		ng/l	40016		100	95-105			
Arsenic	39900		ng/l	40008		99.6	95-105			
Barium	396000		ng/l	400400		98.9	95-105			
Beryllium	9710		ng/l	10005		97.0	95-105			
Cadmium	40100		ng/l	40028		100	95-105			
Chromium	479000		ng/l	480100		99.9	95-105			
Cobalt	98100		ng/l	100040		98.1	95-105			
Copper	3.95E6		ng/l	4.0040E6		98.5	95-105			
Lead	401000		ng/l	400120		100	95-105			
Manganese	995000		ng/l	997800		99.7	95-105			
Molybdenum	99100		ng/l	100010		99.1	95-105			
Nickel	235000		ng/l	240070		97.8	95-105			
Selenium	39600		ng/l	40004		98.9	95-105			
Thallium	989		ng/l	999.90		98.9	95-105			
Vanadium	40700		ng/l	40060		102	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			

Initial Cal Blank (2502024-ICB1)

Prepared & Analyzed: 02/11/25

Antimony	1.09		ng/l							
Arsenic	-7.92		ng/l							U
Barium	-1.53		ng/l							U
Beryllium	-0.245		ng/l							U
Cadmium	-0.0464		ng/l							U
Chromium	5.70		ng/l							
Cobalt	-0.00431		ng/l							U
Copper	19.7		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2502024 - B5B1108

Initial Cal Blank (2502024-ICB1) Continuu

Prepared & Analyzed: 02/11/25

Lead	2.43		ng/l							
Manganese	4.73		ng/l							
Molybdenum	8.69		ng/l							
Nickel	-2.24		ng/l							U
Selenium	5.91		ng/l							
Thallium	1.06		ng/l							
Vanadium	87.1		ng/l							
Zinc	-2.07		ng/l							U

Initial Cal Check (2502024-ICV1)

Prepared & Analyzed: 02/11/25

Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	497000		ng/l	500000		99.3	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	506		ng/l	500.00		101	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			

Interference Check A (2502024-IFA1)

Prepared & Analyzed: 02/11/25

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	308000		ng/l	300000		103	80-120			
Nickel	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2502024 - B5B1108

Interference Check A (2502024-IFA1) Co

Prepared & Analyzed: 02/11/25

Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

Interference Check B (2502024-IFB1)

Prepared & Analyzed: 02/11/25

Antimony	20500		ng/l	20008		102	80-120			
Arsenic	20400		ng/l	20004		102	80-120			
Barium	203000		ng/l	200200		101	80-120			
Beryllium	4790		ng/l	5002.5		95.7	80-120			
Cadmium	20000		ng/l	20014		99.7	80-120			
Chromium	239000		ng/l	240050		99.7	80-120			
Cobalt	50100		ng/l	50020		100	80-120			
Copper	1.93E6		ng/l	2.0020E6		96.4	80-120			
Lead	208000		ng/l	200060		104	80-120			
Manganese	478000		ng/l	498900		95.9	80-120			
Molybdenum	360000		ng/l	350000		103	80-120			
Nickel	117000		ng/l	120040		97.3	80-120			
Selenium	19200		ng/l	20002		95.8	80-120			
Thallium	516		ng/l	499.95		103	80-120			
Vanadium	18800		ng/l	20030		93.9	80-120			
Zinc	476000		ng/l	500000		95.2	80-120			

Batch B5B1108 - ICP-MS Extraction

Blank (B5B1108-BLK1)

Prepared & Analyzed: 02/11/25

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

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5B1108 - ICP-MS Extraction

Blank (B5B1108-BLK1) Continued

Prepared & Analyzed: 02/11/25

Zinc	ND	114	ng/m ³ Air							U
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LCS (B5B1108-BS1)

Prepared & Analyzed: 02/11/25

Antimony	0.936	0.0350	ng/m ³ Air	1.3835		67.7	80-120			SL
Arsenic	2.71	0.00889	ng/m ³ Air	2.7664		98.1	80-120			
Barium	28.3	1.54	ng/m ³ Air	27.686		102	80-120			
Beryllium	1.35	0.00190	ng/m ³ Air	1.3836		97.8	80-120			
Cadmium	1.41	0.00512	ng/m ³ Air	1.3839		102	80-120			
Chromium	15.2	2.44	ng/m ³ Air	13.832		110	80-120			
Cobalt	1.36	0.0520	ng/m ³ Air	1.3835		98.2	80-120			
Copper	29.2	0.752	ng/m ³ Air	27.686		106	80-120			
Lead	13.8	0.134	ng/m ³ Air	13.833		99.9	80-120			
Manganese	8.44	0.557	ng/m ³ Air	8.2792		102	80-120			
Molybdenum	1.47	0.394	ng/m ³ Air	1.3831		106	80-120			
Nickel	2.96	0.739	ng/m ³ Air	2.7667		107	80-120			
Selenium	2.75	0.0101	ng/m ³ Air	2.7661		99.6	80-120			
Thallium	0.136	8.61E-4	ng/m ³ Air	0.13828		98.1	80-120			
Vanadium	2.86	0.0458	ng/m ³ Air	2.7700		103	80-120			
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5B1108-BS2)

Prepared & Analyzed: 02/11/25

Antimony	0.974	0.0350	ng/m ³ Air	1.3835		70.4	80-120			SL
Arsenic	2.73	0.00889	ng/m ³ Air	2.7664		98.8	80-120			
Barium	28.9	1.54	ng/m ³ Air	27.686		104	80-120			
Beryllium	1.35	0.00190	ng/m ³ Air	1.3836		97.3	80-120			
Cadmium	1.42	0.00512	ng/m ³ Air	1.3839		102	80-120			
Chromium	15.3	2.44	ng/m ³ Air	13.832		111	80-120			
Cobalt	1.36	0.0520	ng/m ³ Air	1.3835		98.5	80-120			
Copper	29.1	0.752	ng/m ³ Air	27.686		105	80-120			
Lead	13.9	0.134	ng/m ³ Air	13.833		100	80-120			
Manganese	8.43	0.557	ng/m ³ Air	8.2792		102	80-120			
Molybdenum	1.52	0.394	ng/m ³ Air	1.3831		110	80-120			
Nickel	2.95	0.739	ng/m ³ Air	2.7667		107	80-120			
Selenium	2.75	0.0101	ng/m ³ Air	2.7661		99.3	80-120			
Thallium	0.134	8.61E-4	ng/m ³ Air	0.13828		97.2	80-120			
Vanadium	2.89	0.0458	ng/m ³ Air	2.7700		104	80-120			
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5B1108-BS3)

Prepared & Analyzed: 02/11/25

Antimony	1.39	0.0350	ng/m ³ Air	1.3835		100	80-120			SL
Arsenic	2.73	0.00889	ng/m ³ Air	2.7664		98.7	80-120			

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 PHONE: (703) 885-5495 FAX:

FILE #: 4205.00.003.001
 REPORTED: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

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

Batch B5B1108 - ICP-MS Extraction

LCS (B5B1108-BS3) Continued

Prepared & Analyzed: 02/11/25

Barium	27.3	1.54	ng/m ³ Air	27.686		98.5	80-120			
Beryllium	1.35	0.00190	ng/m ³ Air	1.3836		97.7	80-120			
Cadmium	1.41	0.00512	ng/m ³ Air	1.3839		102	80-120			
Chromium	14.7	2.44	ng/m ³ Air	13.832		106	80-120			
Cobalt	1.35	0.0520	ng/m ³ Air	1.3835		97.7	80-120			
Copper	28.3	0.752	ng/m ³ Air	27.686		102	80-120			
Lead	13.7	0.134	ng/m ³ Air	13.833		98.9	80-120			
Manganese	8.35	0.557	ng/m ³ Air	8.2792		101	80-120			
Molybdenum	1.35	0.394	ng/m ³ Air	1.3831		97.5	80-120			
Nickel	2.76	0.739	ng/m ³ Air	2.7667		99.8	80-120			
Selenium	2.76	0.0101	ng/m ³ Air	2.7661		99.9	80-120			
Thallium	0.133	8.61E-4	ng/m ³ Air	0.13828		96.5	80-120			
Vanadium	2.86	0.0458	ng/m ³ Air	2.7700		103	80-120			
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5B1108-BS4)

Prepared & Analyzed: 02/11/25

Antimony	1.38	0.0350	ng/m ³ Air	1.3835		100	80-120			SL
Arsenic	2.73	0.00889	ng/m ³ Air	2.7664		98.8	80-120			
Barium	28.2	1.54	ng/m ³ Air	27.686		102	80-120			
Beryllium	1.35	0.00190	ng/m ³ Air	1.3836		97.8	80-120			
Cadmium	1.41	0.00512	ng/m ³ Air	1.3839		102	80-120			
Chromium	14.6	2.44	ng/m ³ Air	13.832		106	80-120			
Cobalt	1.33	0.0520	ng/m ³ Air	1.3835		96.2	80-120			
Copper	28.1	0.752	ng/m ³ Air	27.686		101	80-120			
Lead	13.7	0.134	ng/m ³ Air	13.833		99.0	80-120			
Manganese	8.31	0.557	ng/m ³ Air	8.2792		100	80-120			
Molybdenum	1.36	0.394	ng/m ³ Air	1.3831		98.1	80-120			
Nickel	2.74	0.739	ng/m ³ Air	2.7667		99.0	80-120			
Selenium	2.79	0.0101	ng/m ³ Air	2.7661		101	80-120			
Thallium	0.133	8.61E-4	ng/m ³ Air	0.13828		96.0	80-120			
Vanadium	2.87	0.0458	ng/m ³ Air	2.7700		103	80-120			
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

Duplicate (B5B1108-DUP1)

Source: 5021031-10

Prepared & Analyzed: 02/11/25

Antimony	0.247	0.0281	ng/m ³ Air		0.263		6.06	10		SL
Arsenic	0.194	0.00714	ng/m ³ Air		0.205		5.56	10		
Barium	3.83	1.24	ng/m ³ Air		4.00		4.45	10		
Beryllium	0.00699	0.00153	ng/m ³ Air		0.00734		4.92	10		
Cadmium	0.0141	0.00411	ng/m ³ Air		0.0171		18.8	10		
Chromium	ND	1.96	ng/m ³ Air		ND			10		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 B5B1108 - ICP-MS Extraction

Duplicate (B5B1108-DUP1) Continued Source: 5021031-10 Prepared & Analyzed: 02/11/25

Cobalt	0.225	0.0418	ng/m ³ Air		0.229			1.80	10	
Copper	27.3	0.604	ng/m ³ Air		27.0			1.20	10	
Lead	0.606	0.108	ng/m ³ Air		0.520			15.2	10	
Manganese	6.74	0.448	ng/m ³ Air		6.74			0.00442	10	
Molybdenum	0.744	0.317	ng/m ³ Air		0.796			6.73	10	
Nickel	1.02	0.594	ng/m ³ Air		1.15			12.1	10	
Selenium	0.181	0.00811	ng/m ³ Air		0.176			3.01	10	
Thallium	0.00175	6.92E-4	ng/m ³ Air		0.00198			12.5	10	
Vanadium	0.686	0.0368	ng/m ³ Air		0.672			2.11	10	
Zinc	ND	91.6	ng/m ³ Air		ND				10	U

Duplicate (B5B1108-DUP2) Source: 5021031-02 Prepared & Analyzed: 02/11/25

Antimony	0.0875	0.0266	ng/m ³ Air		0.0964			9.73	10	SL
Arsenic	0.139	0.00677	ng/m ³ Air		0.149			7.17	10	
Barium	1.95	1.17	ng/m ³ Air		2.35			18.8	10	
Beryllium	0.00283	0.00145	ng/m ³ Air		0.00372			27.3	10	
Cadmium	0.0301	0.00390	ng/m ³ Air		0.0370			20.6	10	D-F
Chromium	ND	1.86	ng/m ³ Air		ND				10	U
Cobalt	0.0894	0.0396	ng/m ³ Air		0.0948			5.81	10	
Copper	63.8	0.572	ng/m ³ Air		67.4			5.47	10	
Lead	0.373	0.102	ng/m ³ Air		0.405			8.12	10	
Manganese	2.92	0.424	ng/m ³ Air		3.03			3.58	10	
Molybdenum	1.63	0.300	ng/m ³ Air		1.67			2.48	10	
Nickel	0.565	0.562	ng/m ³ Air		0.649			13.8	10	
Selenium	0.297	0.00769	ng/m ³ Air		0.307			3.40	10	
Thallium	0.00311	6.55E-4	ng/m ³ Air		0.00308			0.752	10	
Vanadium	0.324	0.0349	ng/m ³ Air		0.338			4.14	10	
Zinc	ND	86.8	ng/m ³ Air		ND				10	U

Duplicate (B5B1108-DUP3) Source: 5021031-20 Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	0.127	0.0307	ng/m ³ Air		0.130			2.44	10	SL
Arsenic	0.232	0.00779	ng/m ³ Air		0.240			3.39	10	
Barium	4.10	1.35	ng/m ³ Air		4.18			1.79	10	
Beryllium	0.00824	0.00166	ng/m ³ Air		0.00817			0.822	10	
Cadmium	0.0131	0.00449	ng/m ³ Air		0.0136			3.83	10	
Chromium	2.82	2.14	ng/m ³ Air		2.87			2.01	10	
Cobalt	0.279	0.0456	ng/m ³ Air		0.283			1.47	10	
Copper	35.6	0.659	ng/m ³ Air		36.2			1.70	10	
Lead	0.537	0.117	ng/m ³ Air		0.546			1.66	10	
Manganese	7.83	0.488	ng/m ³ Air		7.96			1.64	10	

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

Batch B5B1108 - ICP-MS Extraction

Duplicate (B5B1108-DUP3) Continued **Source: 5021031-20** Prepared: 02/11/25 Analyzed: 02/12/25

Molybdenum	1.94	0.345	ng/m ³ Air		1.97			1.35	10	
Nickel	1.60	0.647	ng/m ³ Air		1.62			1.53	10	
Selenium	0.162	0.00885	ng/m ³ Air		0.160			1.69	10	
Thallium	0.00121	7.54E-4	ng/m ³ Air		0.00121			0.401	10	
Vanadium	0.900	0.0401	ng/m ³ Air		0.923			2.51	10	
Zinc	ND	99.9	ng/m ³ Air		ND				10	U

Duplicate (B5B1108-DUP4) **Source: 5021031-25** Prepared: 02/11/25 Analyzed: 02/12/25

Antimony	0.112	0.0320	ng/m ³ Air		0.116			3.16	10	SL
Arsenic	0.296	0.00813	ng/m ³ Air		0.307			3.68	10	
Barium	4.01	1.41	ng/m ³ Air		4.14			3.26	10	
Beryllium	0.0110	0.00174	ng/m ³ Air		0.0109			0.767	10	
Cadmium	0.0176	0.00468	ng/m ³ Air		0.0176			0.253	10	
Chromium	2.31	2.23	ng/m ³ Air		2.34			1.25	10	
Cobalt	0.370	0.0476	ng/m ³ Air		0.375			1.47	10	
Copper	68.6	0.688	ng/m ³ Air		70.3			2.38	10	
Lead	0.550	0.123	ng/m ³ Air		0.561			1.90	10	
Manganese	11.2	0.509	ng/m ³ Air		11.2			0.328	10	
Molybdenum	1.94	0.360	ng/m ³ Air		1.96			0.929	10	
Nickel	1.34	0.676	ng/m ³ Air		1.36			1.21	10	
Selenium	0.169	0.00924	ng/m ³ Air		0.175			3.41	10	
Thallium	0.00133	7.87E-4	ng/m ³ Air		0.00126			5.71	10	
Vanadium	1.18	0.0419	ng/m ³ Air		1.20			1.96	10	
Zinc	ND	104	ng/m ³ Air		ND				10	U

Matrix Spike (B5B1108-MS1) **Source: 5021031-10** Prepared & Analyzed: 02/11/25

Antimony	0.944	0.0281	ng/m ³ Air	1.1116	0.263	61.3	80-120			SL
Arsenic	2.39	0.00714	ng/m ³ Air	2.2227	0.205	98.3	80-120			
Barium	26.7	1.24	ng/m ³ Air	22.245	4.00	102	80-120			
Beryllium	1.03	0.00153	ng/m ³ Air	1.1117	0.00734	91.8	80-120			
Cadmium	1.15	0.00411	ng/m ³ Air	1.1119	0.0171	102	80-120			
Chromium	13.4	1.96	ng/m ³ Air	11.113	ND	120	80-120			
Cobalt	1.33	0.0418	ng/m ³ Air	1.1116	0.229	99.3	80-120			
Copper	48.2	0.604	ng/m ³ Air	22.245	27.0	95.2	80-120			
Lead	11.8	0.108	ng/m ³ Air	11.115	0.520	101	80-120			
Manganese	13.5	0.448	ng/m ³ Air	6.6521	6.74	102	80-120			
Molybdenum	1.87	0.317	ng/m ³ Air	1.1112	0.796	96.8	80-120			
Nickel	3.35	0.594	ng/m ³ Air	2.2229	1.15	99.4	80-120			
Selenium	2.38	0.00811	ng/m ³ Air	2.2225	0.176	99.2	80-120			
Thallium	0.109	6.92E-4	ng/m ³ Air	0.11110	0.00198	96.5	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5B1108 - ICP-MS Extraction

Matrix Spike (B5B1108-MS1) Continued Source: 5021031-10 Prepared & Analyzed: 02/11/25

Vanadium	2.98	0.0368	ng/m ³ Air	2.2256	0.672	104	80-120			
Zinc	ND	91.6	ng/m ³ Air	66.667	ND		80-120			U

Matrix Spike (B5B1108-MS2) Source: 5021031-02 Prepared & Analyzed: 02/11/25

Antimony	0.769	0.0266	ng/m ³ Air	1.0529	0.0964	63.9	80-120			SL
Arsenic	2.19	0.00677	ng/m ³ Air	2.1054	0.149	97.0	80-120			
Barium	23.2	1.17	ng/m ³ Air	21.071	2.35	98.8	80-120			
Beryllium	1.03	0.00145	ng/m ³ Air	1.0530	0.00372	97.2	80-120			
Cadmium	1.07	0.00390	ng/m ³ Air	1.0532	0.0370	97.9	80-120			
Chromium	13.7	1.86	ng/m ³ Air	10.527	ND	130	80-120			
Cobalt	1.10	0.0396	ng/m ³ Air	1.0529	0.0948	95.4	80-120			
Copper	91.4	0.572	ng/m ³ Air	21.071	67.4	114	80-120			
Lead	10.8	0.102	ng/m ³ Air	10.528	0.405	98.6	80-120			
Manganese	8.81	0.424	ng/m ³ Air	6.3012	3.03	91.7	80-120			
Molybdenum	2.76	0.300	ng/m ³ Air	1.0526	1.67	104	80-120			
Nickel	2.73	0.562	ng/m ³ Air	2.1056	0.649	98.8	80-120			
Selenium	2.36	0.00769	ng/m ³ Air	2.1052	0.307	97.6	80-120			
Thallium	0.102	6.55E-4	ng/m ³ Air	0.10524	0.00308	93.5	80-120			
Vanadium	2.39	0.0349	ng/m ³ Air	2.1082	0.338	97.3	80-120			
Zinc	ND	86.8	ng/m ³ Air	63.151	ND		80-120			U

Matrix Spike Dup (B5B1108-MSD1) Source: 5021031-10 Prepared & Analyzed: 02/11/25

Antimony	0.909	0.0281	ng/m ³ Air	1.1116	0.263	58.1	80-120	3.79	20	SL
Arsenic	2.39	0.00714	ng/m ³ Air	2.2227	0.205	98.3	80-120	0.0560	20	
Barium	26.4	1.24	ng/m ³ Air	22.245	4.00	101	80-120	1.02	20	
Beryllium	1.08	0.00153	ng/m ³ Air	1.1117	0.00734	96.8	80-120	5.23	20	
Cadmium	1.16	0.00411	ng/m ³ Air	1.1119	0.0171	102	80-120	0.309	20	
Chromium	13.6	1.96	ng/m ³ Air	11.113	ND	122	80-120	1.53	20	
Cobalt	1.34	0.0418	ng/m ³ Air	1.1116	0.229	99.6	80-120	0.305	20	
Copper	48.9	0.604	ng/m ³ Air	22.245	27.0	98.5	80-120	1.51	20	
Lead	11.8	0.108	ng/m ³ Air	11.115	0.520	102	80-120	0.225	20	
Manganese	13.6	0.448	ng/m ³ Air	6.6521	6.74	103	80-120	0.361	20	
Molybdenum	1.85	0.317	ng/m ³ Air	1.1112	0.796	94.6	80-120	1.30	20	
Nickel	3.37	0.594	ng/m ³ Air	2.2229	1.15	100	80-120	0.414	20	
Selenium	2.40	0.00811	ng/m ³ Air	2.2225	0.176	100	80-120	0.973	20	
Thallium	0.109	6.92E-4	ng/m ³ Air	0.11110	0.00198	96.5	80-120	0.0152	20	
Vanadium	2.98	0.0368	ng/m ³ Air	2.2256	0.672	104	80-120	0.0905	20	
Zinc	ND	91.6	ng/m ³ Air	66.667	ND		80-120		20	U

Matrix Spike Dup (B5B1108-MSD2) Source: 5021031-02 Prepared & Analyzed: 02/11/25

Antimony	0.786	0.0266	ng/m ³ Air	1.0529	0.0964	65.5	80-120	2.26	20	SL
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5B1108 - ICP-MS Extraction

Matrix Spike Dup (B5B1108-MSD2) Contisource: 5021031-02 Prepared & Analyzed: 02/11/25

Arsenic	2.27	0.00677	ng/m ³ Air	2.1054	0.149	101	80-120	3.41	20	
Barium	23.0	1.17	ng/m ³ Air	21.071	2.35	98.0	80-120	0.723	20	
Beryllium	1.04	0.00145	ng/m ³ Air	1.0530	0.00372	98.3	80-120	1.11	20	
Cadmium	1.09	0.00390	ng/m ³ Air	1.0532	0.0370	99.6	80-120	1.66	20	
Chromium	12.0	1.86	ng/m ³ Air	10.527	ND	114	80-120	13.5	20	
Cobalt	1.11	0.0396	ng/m ³ Air	1.0529	0.0948	96.5	80-120	1.06	20	
Copper	93.9	0.572	ng/m ³ Air	21.071	67.4	126	80-120	2.74	20	QM-07
Lead	11.1	0.102	ng/m ³ Air	10.528	0.405	102	80-120	3.28	20	
Manganese	8.59	0.424	ng/m ³ Air	6.3012	3.03	88.3	80-120	2.50	20	
Molybdenum	2.81	0.300	ng/m ³ Air	1.0526	1.67	109	80-120	1.78	20	
Nickel	2.64	0.562	ng/m ³ Air	2.1056	0.649	94.6	80-120	3.25	20	
Selenium	2.40	0.00769	ng/m ³ Air	2.1052	0.307	99.5	80-120	1.68	20	
Thallium	0.105	6.55E-4	ng/m ³ Air	0.10524	0.00308	96.5	80-120	3.05	20	
Vanadium	2.40	0.0349	ng/m ³ Air	2.1082	0.338	98.0	80-120	0.603	20	
Zinc	ND	86.8	ng/m ³ Air	63.151	ND		80-120		20	U

Post Spike (B5B1108-PS1) Source: 5021031-10 Prepared & Analyzed: 02/11/25

Antimony	0.478	0.0281	ng/m ³ Air	0.22222	0.263	96.7	75-125			SL
Arsenic	1.26	0.00714	ng/m ³ Air	1.1111	0.205	94.8	75-125			
Barium	6.08	1.24	ng/m ³ Air	2.2222	4.00	93.6	75-125			
Beryllium	0.228	0.00153	ng/m ³ Air	0.22222	0.00734	99.3	75-125			
Cadmium	0.127	0.00411	ng/m ³ Air	0.11111	0.0171	99.3	75-125			
Chromium	3.02	1.96	ng/m ³ Air	1.1111	ND	272	75-125			
Cobalt	0.437	0.0418	ng/m ³ Air	0.22222	0.229	93.9	75-125			
Copper	37.8	0.604	ng/m ³ Air	11.111	27.0	97.6	75-125			
Lead	22.6	0.108	ng/m ³ Air	22.222	0.520	99.2	75-125			
Manganese	8.65	0.448	ng/m ³ Air	2.2222	6.74	85.9	75-125			
Molybdenum	1.82	0.317	ng/m ³ Air	1.1111	0.796	92.6	75-125			
Nickel	3.23	0.594	ng/m ³ Air	2.2222	1.15	93.8	75-125			
Selenium	1.22	0.00811	ng/m ³ Air	1.1111	0.176	93.8	75-125			
Thallium	0.0550	6.92E-4	ng/m ³ Air	5.5556E-2	0.00198	95.5	75-125			
Vanadium	1.76	0.0368	ng/m ³ Air	1.1111	0.672	97.5	75-125			
Zinc	ND	91.6	ng/m ³ Air	22.222	ND		75-125			U

Post Spike (B5B1108-PS2) Source: 5021031-02 Prepared & Analyzed: 02/11/25

Antimony	0.316	0.0266	ng/m ³ Air	0.21050	0.0964	104	75-125			SL
Arsenic	1.20	0.00677	ng/m ³ Air	1.0525	0.149	99.6	75-125			
Barium	4.54	1.17	ng/m ³ Air	2.1050	2.35	104	75-125			
Beryllium	0.205	0.00145	ng/m ³ Air	0.21050	0.00372	95.6	75-125			
Cadmium	0.147	0.00390	ng/m ³ Air	0.10525	0.0370	104	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: 02/19/25 15:13
 SUBMITTED: 02/10/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

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

Batch B5B1108 - ICP-MS Extraction

Post Spike (B5B1108-PS2) Continued Source: 5021031-02 Prepared & Analyzed: 02/11/25

Chromium	2.30	1.86	ng/m ³ Air	1.0525	ND	218	75-125			
Cobalt	0.308	0.0396	ng/m ³ Air	0.21050	0.0948	101	75-125			
Copper	80.7	0.572	ng/m ³ Air	10.525	67.4	126	75-125			A-01
Lead	22.2	0.102	ng/m ³ Air	21.050	0.405	103	75-125			
Manganese	5.13	0.424	ng/m ³ Air	2.1050	3.03	99.9	75-125			
Molybdenum	2.74	0.300	ng/m ³ Air	1.0525	1.67	102	75-125			
Nickel	2.75	0.562	ng/m ³ Air	2.1050	0.649	99.8	75-125			
Selenium	1.38	0.00769	ng/m ³ Air	1.0525	0.307	102	75-125			
Thallium	0.0547	6.55E-4	ng/m ³ Air	5.2625E-2	0.00308	98.0	75-125			
Vanadium	1.42	0.0349	ng/m ³ Air	1.0525	0.338	103	75-125			
Zinc	ND	86.8	ng/m ³ Air	21.050	ND		75-125			U

Dilution Check (B5B1108-SRL1) Source: 5021031-10 Prepared & Analyzed: 02/11/25

Antimony	0.255	0.141	ng/m ³ Air		0.263			2.88	10	SL
Arsenic	0.203	0.0357	ng/m ³ Air		0.205			0.691	10	
Barium	ND	6.19	ng/m ³ Air		ND				10	U
Beryllium	ND	0.00763	ng/m ³ Air		ND				10	U
Cadmium	ND	0.0206	ng/m ³ Air		ND				10	U
Chromium	ND	9.80	ng/m ³ Air		ND				10	U
Cobalt	0.232	0.209	ng/m ³ Air		0.229			1.26	10	
Copper	27.5	3.02	ng/m ³ Air		27.0			1.96	10	
Lead	ND	0.538	ng/m ³ Air		ND				10	U
Manganese	6.83	2.24	ng/m ³ Air		6.74			1.24	10	
Molybdenum	ND	1.58	ng/m ³ Air		ND				10	U
Nickel	ND	2.97	ng/m ³ Air		ND				10	U
Selenium	0.187	0.0406	ng/m ³ Air		0.176			6.06	10	
Thallium	ND	0.00346	ng/m ³ Air		ND				10	U
Vanadium	0.753	0.184	ng/m ³ Air		0.672			11.4	10	
Zinc	ND	458	ng/m ³ Air		ND				10	U

Dilution Check (B5B1108-SRL2) Source: 5021031-02 Prepared & Analyzed: 02/11/25

Antimony	ND	0.133	ng/m ³ Air		ND				10	SL, U
Arsenic	0.146	0.0338	ng/m ³ Air		0.149			1.96	10	
Barium	ND	5.86	ng/m ³ Air		ND				10	U
Beryllium	ND	0.00723	ng/m ³ Air		ND				10	U
Cadmium	0.0386	0.0195	ng/m ³ Air		0.0370			4.26	10	
Chromium	ND	9.29	ng/m ³ Air		ND				10	U
Cobalt	ND	0.198	ng/m ³ Air		ND				10	U
Copper	69.4	2.86	ng/m ³ Air		67.4			2.88	10	
Lead	ND	0.510	ng/m ³ Air		ND				10	U

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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 B5B1108 - ICP-MS Extraction

Dilution Check (B5B1108-SRL2) ContinueSource: 5021031-02 Prepared & Analyzed: 02/11/25

Manganese	3.23	2.12	ng/m ³ Air		3.03			6.27	10	
Molybdenum	1.68	1.50	ng/m ³ Air		1.67			0.647	10	
Nickel	ND	2.81	ng/m ³ Air		ND				10	U
Selenium	0.305	0.0384	ng/m ³ Air		0.307			0.481	10	
Thallium	0.00485	0.00328	ng/m ³ Air		ND			44.6	10	
Vanadium	0.388	0.174	ng/m ³ Air		0.338			13.8	10	
Zinc	ND	434	ng/m ³ Air		ND				10	U



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FILE #: 4205.00.003.001

REPORTED: 02/19/25 15:13

SUBMITTED: 02/10/25

AQS SITE CODE:

SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
A-01	Parent sample >4x spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

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

Reviewed by:

Kierra Johnson 02/20/2025 and Shanna Vasser 02/21/2025

Laboratory: Eastern Research Group – Morrisville, NC

Collection date(s): 01/30/2025 -02/05/2025

Report No: 5021031

- √ 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 copper in MFL-FB01-013025-HM, for antimony and copper in MFL-FB01-020325-HM, and for arsenic, copper, and vanadium in MFL-FB01-020525-HM.

Notes: None.