

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

January 16 through January 22, 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 Hawaii Department of Health (HDOH) advises otherwise.

Particulate monitoring and air sampling occurred from January 16 through January 22, 2025, at the community locations listed below and shown on **Figure 1**. Following conversations between Tetra Tech and the HDOH, the Lahaina Intermediate School station was relocated to Maria Lanakila Catholic Church (AM-09) on January 18. The monitoring and sampling station located at Lahaina Intermediate School (AM-03) was relocated because the Maria Lanakila Catholic Church location was more representative of the active work area and provided a more accurate representation of air quality related to debris removal operations.

Community Location	Location ID	Dates
WW Pump Station #4	AM-02	1/16/2025 - 1/22/2025
Lahaina Intermediate School	AM-03	1/16/2025 - 1/18/2025
Opukea Townhomes	AM-05	1/16/2025 - 1/22/2025
Lahaina Pump Station #6	AM-08	1/16/2025 - 1/22/2025
Maria Lanakila Catholic Church	AM-09	1/18/2025 - 1/22/2025

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 16 through January 22, 2025, at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM₁₀, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM₁₀ concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each

station with the exception of the relocation of the Lahaina Intermediate School sampling and monitoring location, as described below:

- The air monitoring and sampling station located at Lahaina Intermediate School (AM-03) was relocated to Maria Lanakila Catholic Church (AM-09) at the guidance of the HDOH on January 18 to better encompass the active work area, and to close any gaps in sampling. As a result of the time needed for station removal and set up, only 13 hours of monitoring was conducted at Lahaina Intermediate School (AM-03) and 9 hours of monitoring was conducted at Maria Lanakila Catholic Church (AM-09) on January 18.

The PM₁₀ monitoring results were found to have exceeded the 150 µg/m³ TWA screening level on one day, at the Lahaina Intermediate School and Lahaina Pump Station #6 monitoring locations on January 17, as shown in **Table 1**.

The air monitoring and sampling stations at Lahaina Intermediate School and Lahaina Pump Station #6 exceedances may have been attributable to high humidity. The exceedances on January 17 are described below:

- On January 17, no United States Army Corps of Engineers (USACE) debris crew or private contractor activities were observed near either the Lahaina Intermediate School or the Lahaina Pump Station #6 monitoring station. Air monitoring data were not related to USACE operations because debris removal operations were not being conducted near those monitoring locations.
 - Humidity averaged 76 percent at Lahaina Intermediate School and 74 percent at Lahaina Pump Station #6 with humidity reaching as high as 92 percent throughout the day. Excessive humid conditions 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 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at WW Pump Station #4 (AM-02) on January 20 and 21.

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

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data.

Quality Control Summary

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

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

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

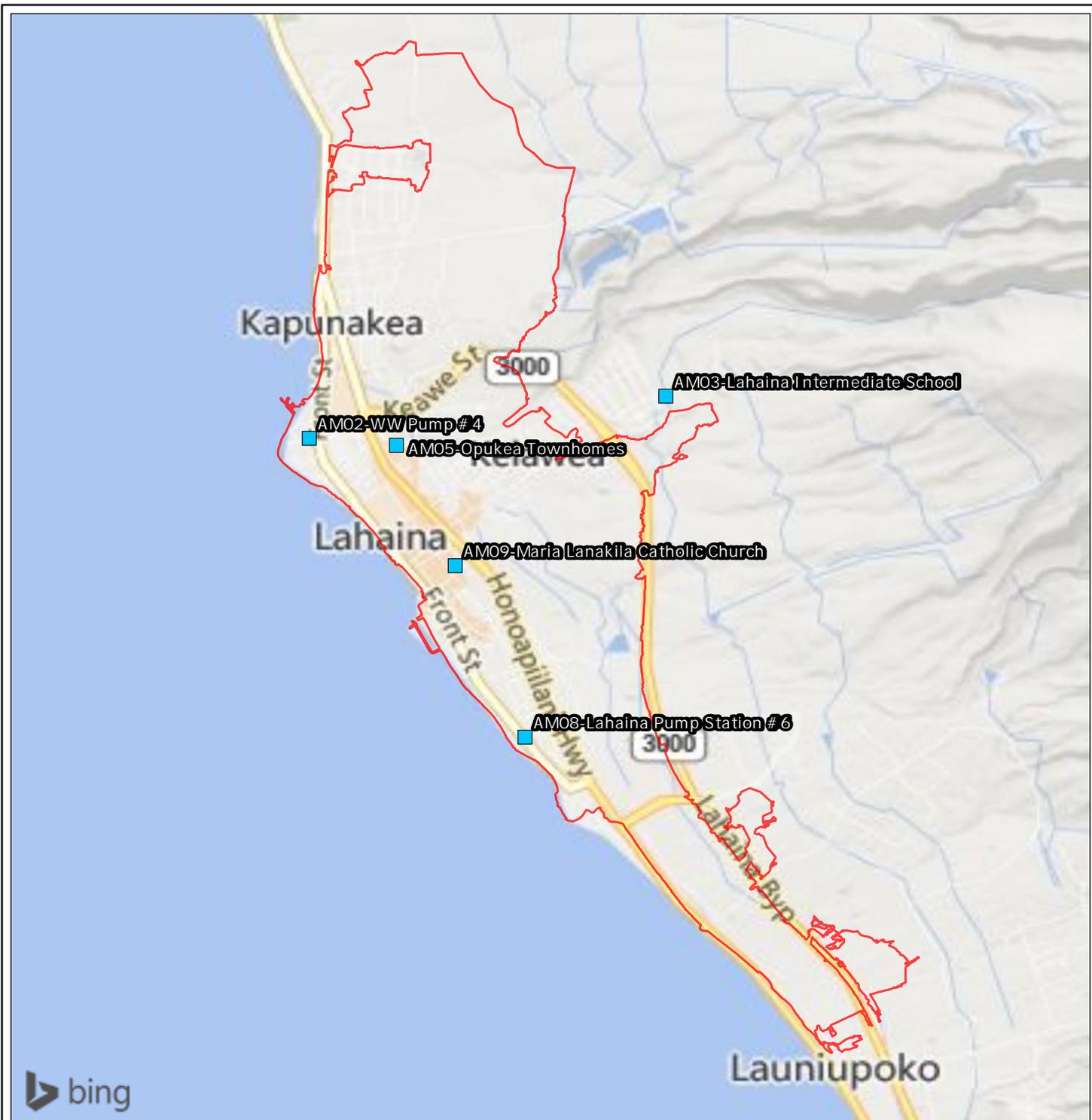
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

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

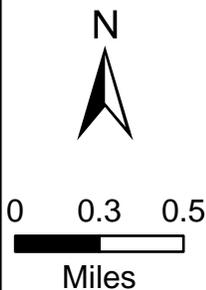


Figure 1
Air Sampling Locations

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 16 through January 22, 2025

Screening Level		TWA Results 150 (µg/m ³)
1/16/2025	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	17
	Lahaina Pump Station #6 (AM-08)	7.8
1/17/2025	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	209
	Lahaina Pump Station #6 (AM-08)	214
1/18/2025	Opukea Townhomes (AM-05)	7.2
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	16*
	Maria Lanakila Catholic Church (AM-09)	6.2**
	Lahaina Pump Station #6 (AM-08)	5.3
1/19/2025	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	7.6
	Maria Lanakila Catholic Church (AM-09)	123
	Lahaina Pump Station #6 (AM-08)	6.0
1/20/2025	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	6.6
	Maria Lanakila Catholic Church (AM-09)	110
	Lahaina Pump Station #6 (AM-08)	5.8
1/21/2025	Opukea Townhomes (AM-05)	7.0
	WW Pump Station #4 (AM-02)	6.9
	Maria Lanakila Catholic Church (AM-09)	99
	Lahaina Pump Station #6 (AM-08)	4.6
1/22/2025	Opukea Townhomes (AM-05)	9.6
	WW Pump Station #4 (AM-02)	13
	Maria Lanakila Catholic Church (AM-09)	132
	Lahaina Pump Station #6 (AM-08)	120

Notes:

µg/m³ = micrograms per cubic meter

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

Shaded cell indicates an exceedance of screening level

* Data provided were from a reduced (13-hr) TWA calculation because station equipment was moved to Maria Lanakila Catholic Church (AM-09)

** Data provided were from a reduced (9-hr) TWA calculation because station equipment was moved from Lahaina Intermediate School (AM-03)

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
January 16 through January 22, 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
1/16/2025	Opukea Townhomes (AM-05)	<0.0024	0.000277	0.000173	0.00354	0.00000597	0.0000691	ND	0.000186	0.0543	0.00132	0.00626	0.00238	0.000965	0.000203	0.00000162	0.000951	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000585	0.000251	0.00885	0.0000119	0.0000614	0.00198	0.000382	0.0294	0.00177	0.0119	0.00166	0.00139	0.000255	0.00000190	0.00165	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000193	0.000191	0.00326	0.0000213	0.0000628	0.00226	0.000405	0.0504	0.00132	0.00994	0.00186	0.00152	0.000255	0.00000199	0.00133	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000233	0.000500	0.00396	0.0000107	0.0000668	ND	0.000370	0.0328	0.00172	0.0119	0.00197	0.00131	0.000259	0.00000207	0.00132	ND
1/17/2025	Opukea Townhomes (AM-05)	<0.0024	0.000265	0.000206	0.00361	0.00000615	0.0000876	ND	0.000206	0.0751	0.00150	0.00636	0.00256	0.00114	0.000382	0.00000314	0.000879	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000356	0.000281	0.00576	0.00000659	0.000109	ND	0.000226	0.0352	0.00170	0.00703	0.00201	0.00115	0.000396	0.00000315	0.000953	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000189	0.000147	0.00263	0.00000919	0.0000817	ND	0.000233	0.0318	0.00119	0.00528	0.00165	0.00141	0.000375	0.00000291	0.000933	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000213	0.000387	0.00269	0.00000443	0.0000773	ND	0.000169	0.0391	0.00129	0.00497	0.00220	0.00112	0.000335	0.00000266	0.000772	ND
1/18/2025	Opukea Townhomes (AM-05)	<0.0024	0.000302	0.000281	0.00455	0.0000103	0.0000445	ND	0.000332	0.0754	0.00108	0.0103	0.00285	0.00173	0.000207	0.00000205	0.00150	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000168	0.000283	0.00401	0.00000721	0.0000387	ND	0.000223	0.0401	0.00109	0.00666	0.00236	0.00147	0.000226	0.00000180	0.00116	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000106	0.000139	0.00157	0.00000356	0.0000383	ND	0.0000902	0.0305	0.000670	0.00223	0.00163	0.000991	0.000159	0.00000174	0.000540	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000205	0.000314	0.00280	0.00000455	0.0000414	ND	0.000132	0.0320	0.000806	0.00388	0.00199	0.00107	0.000189	0.00000154	0.000641	ND
1/19/2025	Opukea Townhomes (AM-05)	<0.0024	0.000153	0.000371	0.00399	0.00000871	0.0000342	0.00234	0.000303	0.0841	0.000684	0.00995	0.00298	0.00120	0.000183	0.00000269	0.000980	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000260	0.000515	0.00697	0.0000159	0.0000503	0.00240	0.000462	0.0475	0.00151	0.0152	0.00228	0.00159	0.000211	0.00000275	0.00165	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0027	0.000107	0.000332	0.00265	0.00000324	0.0000327	ND	0.000117	0.0279	0.000494	0.00327	0.00153	0.000742	0.000169	0.00000228	0.000337	ND
	Lahaina Pump Station #6 (AM-08)	<0.0030	0.000146	0.000343	0.00228	0.00000302	0.0000191	ND	0.000112	0.0348	0.000472	0.00343	0.00223	0.000707	0.000148	0.00000216	0.000320	ND
1/20/2025	Opukea Townhomes (AM-05)	<0.0024	0.000165	0.000431	0.00479	0.00000954	0.0000696	0.00356	0.000351	0.0779	0.000825	0.0112	0.00290	0.00147	0.000201	0.00000298	0.00113	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000214	0.000521	0.00797	0.0000157	0.000296	0.00269	0.000514	0.0541	0.00198	0.0160	0.00243	0.00183	0.000232	0.00000314	0.00173	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.000139	0.000404	0.00353	0.00000749	0.0000238	ND	0.000251	0.0302	0.000835	0.00703	0.00158	0.00104	0.000194	0.00000262	0.000713	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000116	0.000422	0.00276	0.00000516	0.0000219	ND	0.000175	0.0388	0.000610	0.00541	0.00216	0.00102	0.000158	0.00000251	0.000551	ND
1/21/2025	Opukea Townhomes (AM-05)	<0.0024	0.000115	0.000191	0.00381	0.00000752	0.0000128	ND	0.000273	0.0825	0.000396	0.00857	0.00283	0.00111	0.000166	0.00000112	0.000891	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000251	0.000285	0.00900	0.0000163	0.0000156	0.00280	0.000547	0.0500	0.00117	0.0157	0.00228	0.00174	0.000217	0.00000131	0.00172	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000939	0.000181	0.00380	0.00000589	0.00000935	ND	0.000204	0.0244	0.000456	0.00597	0.00157	0.000925	0.000159	0.000000756	0.000592	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.0000866	0.000440	0.00329	0.00000669	0.00000896	ND	0.000312	0.0424	0.000332	0.00836	0.00225	0.00101	0.000160	0.000000892	0.000746	ND
1/22/2025	Opukea Townhomes (AM-05)	<0.0024	0.000115	0.000151	0.00411	0.00000584	0.00000764	0.00223	0.000250	0.0589	0.000381	0.00746	0.00246	0.00148	0.000179	ND	0.000957	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000198	0.000219	0.00607	0.0000113	0.0000113	0.00209	0.000394	0.0542	0.000711	0.0121	0.00269	0.00152	0.000217	0.000000803	0.00148	ND
	Maria Lanakila Catholic Church (AM-09)	<0.0024	0.0000843	0.000196	0.00362	0.00000573	0.0000166	ND	0.000200	0.0280	0.000801	0.00605	0.00171	0.000990	0.000183	0.000000721	0.000807	ND
	Lahaina Pump Station #6 (AM-08)	<0.0024	0.000190	0.00258	0.00615	0.0000166	0.0000191	0.00373	0.000605	0.0416	0.00145	0.0180	0.00229	0.00178	0.000220	0.00000473	0.00195	ND
95% Upper Confidence Limit ²		NA	0.000230	0.000450	0.00506	0.0000110	0.0000750	0.00298	0.000330	0.0529	0.00126	0.0106	0.00234	0.00138	0.000240	0.00000260	0.00125	NA

Notes:

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

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

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

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

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 16 through January 22, 2025

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/16/2025	AM-02	WW Pump Station #4	0.9	SE	76	68	762.2
1/16/2025	AM-03	Lahaina Intermediate School	1.2	SE	74	69	752.8
1/16/2025	AM-05	Opukea Townhomes	1.2	SE	76	68	761.6
1/16/2025	AM-08	Lahaina Pump Station #6	1.6	SE	75	67	762.0
1/17/2025	AM-02	WW Pump Station #4	0.9	SSE	74	76	761.0
1/17/2025	AM-03	Lahaina Intermediate School	1.3	SSE	73	76	751.6
1/17/2025	AM-05	Opukea Townhomes	1.1	ESE	75	75	760.4
1/17/2025	AM-08	Lahaina Pump Station #6	1.5	SE	74	74	760.8
1/18/2025	AM-02	WW Pump Station #4	1.3	SE	75	60	762.0
1/18/2025	AM-03	Lahaina Intermediate School	1.5	SE	72	64	752.5
1/18/2025	AM-05	Opukea Townhomes	1.7	ESE	75	59	761.3
1/18/2025	AM-08	Lahaina Pump Station #6	1.6	SE	73	59	761.8
1/18/2025	AM-09	Maria Lanakila Catholic Church	1.0	SSE	75	54	761.7
1/19/2025	AM-02	WW Pump Station #4	1.0	SSE	74	58	763.6
1/19/2025	AM-09	Maria Lanakila Catholic Church	1.0	SSE	74	59	763.0
1/19/2025	AM-05	Opukea Townhomes	1.3	ESE	75	57	762.8
1/19/2025	AM-08	Lahaina Pump Station #6	1.5	SE	73	58	763.4
1/20/2025	AM-02	WW Pump Station #4	0.9	SSE	73	62	763.4
1/20/2025	AM-09	Maria Lanakila Catholic Church	1.1	SE	73	63	762.9
1/20/2025	AM-05	Opukea Townhomes	1.4	SE	74	61	762.7
1/20/2025	AM-08	Lahaina Pump Station #6	1.5	SE	73	61	763.2
1/21/2025	AM-02	WW Pump Station #4	0.9	SSE	73	62	761.5
1/21/2025	AM-09	Maria Lanakila Catholic Church	1.1	SE	73	62	761.0
1/21/2025	AM-05	Opukea Townhomes	1.3	ESE	74	62	760.8
1/21/2025	AM-08	Lahaina Pump Station #6	1.5	SE	73	60	761.3
1/22/2025	AM-02	WW Pump Station #4	1.0	SE	72	76	760.1
1/22/2025	AM-09	Maria Lanakila Catholic Church	0.9	SSE	71	78	759.6
1/22/2025	AM-05	Opukea Townhomes	1.2	S	72	78	759.4
1/22/2025	AM-08	Lahaina Pump Station #6	1.8	SE	71	76	760.0

Notes:

°F - Fahrenheit

mBar - millibar

mph - miles per hour

Appendix 1

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

**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: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/23/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM05-011625-AB	Sample Description:	DL915257
EMSL Sample Number:	042501398-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7231.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment


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

EMSL Order ID: 042501398
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: 042501398-0001			Customer Sample: MFL-AM05-011625-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					
A5	A8	None Detected									
A5	E4	None Detected									
A5	I7	None Detected									
A6	C3	None Detected									
A6	G6	None Detected									

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

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

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM02-011625-AB	Sample Description:	DL915256
EMSL Sample Number:	042501398-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7226.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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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: 042501398

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: 042501398-0002			Customer Sample: MFL-AM02-011625-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	E7	None Detected									
B1	B9	None Detected									
B2	A4	None Detected									
B2	D1	None Detected									
B2	G1	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM03-011625-AB	Sample Description:	DL915233
EMSL Sample Number:	042501398-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7228.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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 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: **042501398**
 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: 042501398-0003			Customer Sample: MFL-AM03-011625-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					
B6	A3	None Detected									
B6	E5	None Detected									
B6	G7	None Detected									
B7	C8	None Detected									
B7	G10	None Detected									

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



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

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM08-011625-AB **Sample Description:** DL915196

EMSL Sample Number: 042501398-0004 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7219.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0131
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

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

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

Comment

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 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: 042501398
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: 042501398-0004			Customer Sample: MFL-AM08-011625-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	F7	None Detected									
C1	I5	None Detected									
C2	C10	None Detected									
C2	E7	None Detected									
C2	H4	None Detected									

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

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

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-011625-AB **Sample Description:** DL915254

EMSL Sample Number: 042501398-0005 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 0.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0131
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 10
 Minimum Level of analysis (chrysotile): CD Analyst: 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	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

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

Comment

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

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

EMSL Order ID: 042501398

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: 042501398-0005		Customer Sample: MFL-FB01-011625-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J8	None Detected									
C5	H5	None Detected									
C5	F7	None Detected									
C5	D9	None Detected									
C5	B5	None Detected									
C6	A2	None Detected									
C6	C3	None Detected									
C6	E3	None Detected									
C6	G4	None Detected									
C6	I7	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled

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

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
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Attn: Chelsea Saber
 Tetra Tech
 1560 Broadway, Suite 1400
 Denver, CO, 80202

Phone: (703) 489-2674
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Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM05-011725-AB	Sample Description:	DL915178
EMSL Sample Number:	042501398-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7325.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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EMSL 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: 042501398
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: 042501398-0006			Customer Sample: MFL-AM05-011725-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	B4	None Detected									
D2	D3	None Detected									
D2	G2	None Detected									
D3	H7	None Detected									
D3	D4	None Detected									

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

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

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM02-011725-AB	Sample Description:	DL915183
EMSL Sample Number:	042501398-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7187.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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

EMSL Order ID: 042501398
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: 042501398-0007			Customer Sample: MFL-AM02-011725-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	I5	None Detected									
D5	G7	None Detected									
D5	A7	None Detected									
D6	B6	None Detected									
D6	H4	None Detected									

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



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

EMSL Order: 042501398
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
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Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM03-011725-AB	Sample Description:	DL915168
EMSL Sample Number:	042501398-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7213.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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

EMSL Order ID: 042501398
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: 042501398-0008			Customer Sample: MFL-AM03-011725-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	A6	None Detected									
E2	E3	None Detected									
E2	G5	None Detected									
E3	A5	None Detected									
E3	G5	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM08-011725-AB	Sample Description:	DL915203
EMSL Sample Number:	042501398-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7268.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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

EMSL Order ID: 042501398
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: 042501398-0009			Customer Sample: MFL-AM08-011725-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	I4	None Detected									
E5	G7	None Detected									
E5	D8	None Detected									
E6	I6	None Detected									
E6	B7	None Detected									

Abbreviations used:
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 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> / cinnaslab@EMSL.com

EMSL Order: 042501398
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
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Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-FB01-011725-AB	Sample Description:	DL915184
EMSL Sample Number:	042501398-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

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

Comment

Approved Signatory

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

EMSL Order ID: 042501398
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: 042501398-0010			Customer Sample: MFL-FB01-011725-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					
F3	A10	None Detected									
F3	C8	None Detected									
F3	E4	None Detected									
F3	G8	None Detected									
F3	I9	None Detected									
F4	A3	None Detected									
F4	C9	None Detected									
F4	E4	None Detected									
F4	G6	None Detected									
F4	I4	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
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
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Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM05-011825-AB	Sample Description:	DL915187
EMSL Sample Number:	042501398-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7128.4
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):	0.0131
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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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

EMSL Order ID: **042501398**
 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: 042501398-0011			Customer Sample: MFL-AM05-011825-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	J2	None Detected									
F5	H5	None Detected									
F5	E7	None Detected									
F6	J6	None Detected									
F6	G7	None Detected									

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

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

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM02-011825-AB	Sample Description:	DL915158
EMSL Sample Number:	042501398-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7232.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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EMSL 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: 042501398

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:		042501398-0012					Customer Sample:		MFL-AM02-011825-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	A4	None Detected									
G2	D7	None Detected									
G2	H8	None Detected									
G3	J2	None Detected									
G3	D5	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled

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

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM03-011825-AB	Sample Description:	DL915255
EMSL Sample Number:	042501398-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7243.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment


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

EMSL Order ID: **042501398**
 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: 042501398-0013			Customer Sample: MFL-AM03-011825-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	J6	None Detected									
G5	G3	None Detected									
G5	D4	None Detected									
G6	C6	None Detected									
G6	H4	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM08-011825-AB	Sample Description: DL915177
EMSL Sample Number:	042501398-0014	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 7029.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 5
Minimum Level of analysis (chrysotile):	CD	Analyst: 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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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 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: 042501398
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: 042501398-0014			Customer Sample: MFL-AM08-011825-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	A5	None Detected									
H1	D3	None Detected									
H1	G2	None Detected									
H2	B3	None Detected									
H2	H6	None Detected									

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

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

EMSL Order: 042501398
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
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Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-011825-AB	Sample Description: DL915194
EMSL Sample Number:	042501398-0015	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: 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	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

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

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077

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

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

EMSL Order ID: 042501398

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:		042501398-0015		Customer Sample:		MFL-FB01-011825-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A7	None Detected									
H5	C4	None Detected									
H5	E10	None Detected									
H5	G8	None Detected									
H5	I7	None Detected									
H6	A8	None Detected									
H6	C9	None Detected									
H6	E4	None Detected									
H6	G8	None Detected									
H6	I6	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM05-011925-AB	Sample Description:	DL915165
EMSL Sample Number:	042501398-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7192.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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EMSL 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: 042501398
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: 042501398-0016			Customer Sample: MFL-AM05-011925-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	D10	None Detected									
I1	G8	None Detected									
I1	I10	None Detected									
I2	D7	None Detected									
I2	H7	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM02-011925-AB	Sample Description:	DL915248
EMSL Sample Number:	042501398-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7068.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	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	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

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

Comment

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

EMSL Order ID: 042501398
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: 042501398-0017		Customer Sample: MFL-AM02-011925-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	C9	None Detected									
I5	F8	None Detected									
I5	I5	None Detected									
I6	G4	None Detected									
I6	B2	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
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Report Date: 01/27/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM09-011925-AB **Sample Description:** DL915170

EMSL Sample Number: 042501398-0018 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 6815.3
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0131
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: 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	< 45.65	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 45.65	< 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	< 45.65	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	

Comment

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

EMSL Order ID: 042501398
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: 042501398-0018			Customer Sample: MFL-AM09-011925-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	A7	None Detected									
J2	C5	None Detected									
J2	G1	None Detected									
J3	B2	None Detected									
J3	G3	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM08-011925-AB	Sample Description:	DL915182
EMSL Sample Number:	042501398-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7407.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	4
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):	0.0010	Limit of Detection (Structures/cc):	0.0030

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Amphibole (PCMe)	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Actinolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Amosite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Anthophyllite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Crocidolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Tremolite	ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
Total All Structures (PCMe)	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	

Comment

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

EMSL Order ID: **042501398**
 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: 042501398-0019			Customer Sample: MFL-AM08-011925-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	C3	None Detected									
J5	G4	None Detected									
J6	A7	None Detected									
J6	G6	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> / cinnaslab@EMSL.com

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/24/2025
Report Date: 01/27/2025

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-011925-AB	Sample Description: DL915215
EMSL Sample Number:	042501398-0020	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0131
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	< 22.82			
Total Amphibole	ADX	0	0	< 22.82			
Actinolite	ADX	0	0	< 22.82			
Amosite	ADX	0	0	< 22.82			
Anthophyllite	ADX	0	0	< 22.82			
Crocidolite	ADX	0	0	< 22.82			
Tremolite	ADX	0	0	< 22.82			
Total Asbestos Structures	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
Total All Structures	-	0	0	< 22.82			

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

Comment

Approved Signatory

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

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

EMSL Order ID: 042501398

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: 042501398-0020		Customer Sample: MFL-FB01-011925-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	J2	None Detected									
K2	H1	None Detected									
K2	F4	None Detected									
K2	D2	None Detected									
K2	B1	None Detected									
K3	J4	None Detected									
K3	H3	None Detected									
K3	F1	None Detected									
K3	D3	None Detected									
K3	B4	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled

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

EMSL Order: 042501398
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/22/2025 09:40 AM
Analysis Date: 01/23/2025
Report Date: 01/27/2025

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:	042501398-0021	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0131
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: G.Barry
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	1	
Target Analytical Sensitivity (Structures/cc):	0.001	
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc): N/A

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

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

Comment

Approved Signatory

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



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

EMSL Order ID: **042501398**
 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: 042501398-0021			Customer Sample: Lab Blank								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J8	None Detected									
A1	G6	None Detected									
A1	D9	None Detected									
A2	I7	None Detected									
A2	F4	None Detected									
A2	D8	None Detected									
A2	A6	None Detected									
A3	B5	None Detected									
A3	C2	None Detected									
A3	E7	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

#042501398

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@tetratech.com	Email(s) for Invoice:	

Project Name/No: Mauai 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: 20

Turn-Around-Time (TAT)

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

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

<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 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>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-AM05-011625-AB	DL915257	7,231.232	01/16/25 1051
MFL-AM02-011625-AB	DL915256	7,226.640	01/16/25 1113
MFL-AM03-011625-AB	DL915233	7,228.239	01/16/25 1254
MFL-AM08-011625-AB	DL915196	7,219.043	01/16/25 1317
MFL-FB01-011625-AB	DL915254	0	01/16/25 1200
MFL-AM05-011725-AB	DL915178	7,325.460	01/17/25 1054
MFL-AM02-011725-AB	DL915183	7,187.770	01/17/25 1111
MFL-AM03-011725-AB	DL915168	7,213.149	01/17/25 1252

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 Date/Time: 1/20/25 1100	Received by: <i>[Signature]</i> FX Date/Time: 1/22/25 940
Relinquished by:	Received by:

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

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

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

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

Reviewed by:

Kierra Johnson 01/27/2025 and Shanna Vasser 01/28/2025

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

Collection date(s): 01/16/2025 – 01/19/2025

Report No: 42501398

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

Discrepancies: None.

Notes: None.



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

EMSL Order: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Project: Maui Fires Lahaina

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
Analysis Date: 01/31/2025
Report Date: 01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: MFL-AM05-012025-AB **Sample Description:** DL915186

EMSL Sample Number: 042501639-0001 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7223.8
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

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

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

Comment

Approved Signatory

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

EMSL Order ID: 042501639
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: 042501639-0001			Customer Sample: MFL-AM05-012025-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					
A5	A8	None Detected									
A5	C7	None Detected									
A5	G7	None Detected									
A6	D7	None Detected									
A6	H5	None Detected									

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



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

EMSL Order: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Project: Maui Fires Lahaina

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
Analysis Date: 01/31/2025
Report Date: 01/31/2025

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM02-012025-AB	Sample Description:	DL915167
EMSL Sample Number:	042501639-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7202.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment
 Numerous gypsum fibers present.

Approved Signatory

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 Tel/Fax: (800) 220-3675 / (856) 786-5974
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EMSL Order ID: 042501639
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: 042501639-0002			Customer Sample: MFL-AM02-012025-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					
B2	I3	None Detected									
B2	F1	None Detected									
B2	C5	None Detected									
B3	I5	None Detected									
B3	C8	None Detected									

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



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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
Analysis Date: 01/31/2025
Report Date: 01/31/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM09-012025-AB **Sample Description:** DL915181

EMSL Sample Number: 042501639-0003 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7166.8
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

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

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

Comment

Approved Signatory

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EMSL Order ID: **042501639**
 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: 042501639-0003			Customer Sample: MFL-AM09-012025-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	J4	None Detected									
B5	G6	None Detected									
B5	B4	None Detected									
B6	I2	None Detected									
B6	B3	None Detected									

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



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

EMSL Order: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
Analysis Date: 01/31/2025
Report Date: 01/31/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-012025-AB	Sample Description:	DL915175
EMSL Sample Number:	042501639-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7238.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

Approved Signatory

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

EMSL Order ID: **042501639**
 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: 042501639-0004			Customer Sample: MFL-AM08-012025-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	J3	None Detected									
C1	G1	None Detected									
C1	D3	None Detected									
C2	I3	None Detected									
C2	B5	None Detected									

Abbreviations used:
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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<http://www.EMSL.com> / cinnaaslab@EMSL.com

EMSL Order: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
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Report Date: 01/31/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-012025-AB **Sample Description:** DL915190

EMSL Sample Number: 042501639-0005 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L) : 0.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 10
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

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

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

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077

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

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

EMSL Order ID: 042501639

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: 042501639-0005		Customer Sample: MFL-FB01-012025-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	J5	None Detected									
C5	H7	None Detected									
C5	F3	None Detected									
C5	D8	None Detected									
C5	B2	None Detected									
C6	J8	None Detected									
C6	H5	None Detected									
C6	F7	None Detected									
C6	D4	None Detected									
C6	B1	None Detected									

Abbreviations used:

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

EMSL Order: 042501639
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
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**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number:	MFL-AM05-012125-AB	Sample Description:	DL915164
EMSL Sample Number:	042501639-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7270.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

Approved Signatory

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

EMSL Order ID: 042501639
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: 042501639-0006			Customer Sample: MFL-AM05-012125-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	B5	None Detected									
D1	F3	None Detected									
D1	H5	None Detected									
D2	B5	None Detected									
D2	H3	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: 042501639
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
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Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM02-012125-AB **Sample Description:** DL915189

EMSL Sample Number: 042501639-0007 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7254.7
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

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

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

Comment
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **042501639**
 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: 042501639-0007			Customer Sample: MFL-AM02-012125-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	A3	None Detected									
D5	G5	None Detected									
D5	J6	None Detected									
D6	G9	None Detected									
D6	A5	None Detected									

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

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Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM09-012125-AB	Sample Description:	DL915180
EMSL Sample Number:	042501639-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7201.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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

EMSL Order ID: 042501639
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: 042501639-0008			Customer Sample: MFL-AM09-012125-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	I3	None Detected									
E1	G6	None Detected									
E1	C7	None Detected									
E2	C3	None Detected									
E2	F4	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: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
Analysis Date: 01/31/2025
Report Date: 01/31/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM08-012125-AB	Sample Description:	DL915156
EMSL Sample Number:	042501639-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7257.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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

EMSL Order ID: 042501639
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: 042501639-0009			Customer Sample: MFL-AM08-012125-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	I5	None Detected									
E5	F3	None Detected									
E5	C5	None Detected									
E6	I5	None Detected									
E6	D7	None Detected									

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

EMSL Order: 042501639
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
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Report Date: 01/31/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-012125-AB **Sample Description:** DL915172

EMSL Sample Number: 042501639-0010 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 0.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 10
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

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

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

Comment

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

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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: 042501639-0010		Customer Sample: MFL-FB01-012125-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	B3	None Detected									
F1	D4	None Detected									
F1	F7	None Detected									
F1	H6	None Detected									
F1	J6	None Detected									
F2	J9	None Detected									
F2	H10	None Detected									
F2	F8	None Detected									
F2	D9	None Detected									
F2	B7	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> / cinnaslab@EMSL.com

EMSL Order: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
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Report Date: 01/31/2025

Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM05-012225-AB	Sample Description:	DL915243
EMSL Sample Number:	042501639-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7268.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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EMSL 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: 042501639
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: 042501639-0011			Customer Sample: MFL-AM05-012225-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	A4	None Detected									
F5	E7	None Detected									
F5	H9	None Detected									
F6	A5	None Detected									
F6	G2	None Detected									

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

EMSL Order: 042501639
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
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Project: Maui Fires Lahaina

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

Customer Sample Number:	MFL-AM02-012225-AB	Sample Description:	DL915162
EMSL Sample Number:	042501639-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7213.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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

EMSL Order ID: 042501639
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: 042501639-0012			Customer Sample: MFL-AM02-012225-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	A3	None Detected									
G1	E4	None Detected									
G1	H7	None Detected									
G2	J6	None Detected									
G2	C7	None Detected									

Abbreviations used:
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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EMSL Order: 042501639
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Attn: Chelsea Saber
 Tetra Tech
 1560 Broadway, Suite 1400
 Denver, CO, 80202

Project: Maui Fires Lahaina

Phone: (703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM09-012225-AB	Sample Description:	DL915191
EMSL Sample Number:	042501639-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7188.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

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

Comment

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

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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: 042501639-0013			Customer Sample: MFL-AM09-012225-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	I6	None Detected									
G5	E3	None Detected									
G5	D7	None Detected									
G6	B5	None Detected									
G6	H9	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: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
Analysis Date: 01/31/2025
Report Date: 01/31/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-AM08-012225-AB **Sample Description:** DL915185

EMSL Sample Number: 042501639-0014 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7253.4
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

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

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

Comment

Approved Signatory

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



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

EMSL Order ID: **042501639**
 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: 042501639-0014			Customer Sample: MFL-AM08-012225-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	J3	None Detected									
H1	D5	None Detected									
H1	C8	None Detected									
H2	B5	None Detected									
H2	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: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
Analysis Date: 01/31/2025
Report Date: 01/31/2025

Project: Maui Fires Lahaina

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

Customer Sample Number: MFL-FB01-012225-AB **Sample Description:** DL915230

EMSL Sample Number: 042501639-0015 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 0.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0129
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 10
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

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

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

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

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

Comment

Approved Signatory

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

EMSL Order ID: **042501639**
 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: 042501639-0015		Customer Sample: MFL-FB01-012225-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	J7	None Detected									
H5	H4	None Detected									
H5	F7	None Detected									
H5	D6	None Detected									
H5	B6	None Detected									
H6	A3	None Detected									
H6	C4	None Detected									
H6	E3	None Detected									
H6	G8	None Detected									
H6	I2	None Detected									

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



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EMSL Order: 042501639
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 01/27/2025 08:50 AM
Analysis Date: 01/31/2025
Report Date: 01/31/2025

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:	042501639-0016	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0129
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: P. Harrison
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	1	
Target Analytical Sensitivity (Structures/cc):	0.001	
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc): N/A

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

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

Comment


 Approved Signatory

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

EMSL Order ID: 042501639

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:		042501639-0016		Customer Sample:		Lab Blank					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	E10	None Detected									
A1	D8	None Detected									
A1	C6	None Detected									
A1	B4	None Detected									
A1	A2	None Detected									
A2	A7	None Detected									
A2	C10	None Detected									
A2	E8	None Detected									
A2	G8	None Detected									
A2	I10	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

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

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

#042501639 RECEIVED EMSL CINNAMINSON, NJ

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 Information

Project Name/No: Maui Fires Lahaina	Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	US State where samples collected: HI
State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)	No. of Samples In Shipment: 15
Sampled By Name: Shama Epstein	Sampled By Signature: [Signature]

Turn-Around-Time (TAT)

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

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

Test Selection

PCM Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)	TEM - Air <input type="checkbox"/> AHERA 40 CFR, Part 783 <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 D5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Qualitative via Filtration Prep <input type="checkbox"/> Qualitative via Drop Mount Prep Soil - Rock - Vermiculite (reporting limit)* <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep
--	--	--

Other Test (please specify)

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-012025-AB	DL915186	7,223.799	01/20/25 1054
MFL-AM02-012025-AB	DL915167	7,202.122	01/20/25 1108
MFL-AM09-012025-AB	DL915181	7,166.789	01/20/25 1252
MFL-AM08-012025-AB	DL915175	7,238.744	01/20/25 1308
MFL-FB01-012025-AB	DL915190	0	01/20/25 1200
MFL-AM05-012125-AB	DL915164	7,270.380	01/21/25 1052
MFL-AM02-012125-AB	DL915189	7,254.720	01/21/25 1112
MFL-AM09-012125-AB	DL915180	7,201.548	01/21/25 1251

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: Shama Epstein	Received by: [Signature] FX
Date/Time: 01/29/25 1100	Date/Time: 1/29/25 850a

Controlled Document - COC-05 Asbestos R16 10/26/2021 AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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

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

Reviewed by:

Kierra Johnson 02/03/2025 and Shanna Vasser 02/04/2025

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

Collection date(s): 01/20/2025 – 01/22/2025

Report No: 42501639

- √ 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 05, 2025

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 01/27/25 10:52.

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: 02/05/25 11:12

SUBMITTED: 01/27/25

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-AM05-011625-HM	5012731-01	Air	01/16/25 23:59	01/27/25 10:52
MFL-AM02-011625-HM	5012731-02	Air	01/16/25 23:59	01/27/25 10:52
MFL-AM03-011625-HM	5012731-03	Air	01/16/25 23:59	01/27/25 10:52
MFL-AM08-011625-HM	5012731-04	Air	01/16/25 23:59	01/27/25 10:52
MFL-FB01-011625-HM	5012731-05	Air	01/16/25 00:00	01/27/25 10:52
MFL-AM05-011725-HM	5012731-06	Air	01/17/25 23:59	01/27/25 10:52
MFL-AM02-011725-HM	5012731-07	Air	01/17/25 23:59	01/27/25 10:52
MFL-AM03-011725-HM	5012731-08	Air	01/17/25 23:59	01/27/25 10:52
MFL-AM08-011725-HM	5012731-09	Air	01/17/25 23:59	01/27/25 10:52
MFL-AM05-011825-HM	5012731-10	Air	01/18/25 23:59	01/27/25 10:52
MFL-AM02-011825-HM	5012731-11	Air	01/18/25 23:59	01/27/25 10:52
MFL-AM03-011825-HM	5012731-12	Air	01/18/25 23:59	01/27/25 10:52
MFL-AM08-011825-HM	5012731-13	Air	01/18/25 23:59	01/27/25 10:52
MFL-FB01-011825-HM	5012731-14	Air	01/18/25 00:00	01/27/25 10:52
MFL-AM05-011925-HM	5012731-15	Air	01/19/25 23:59	01/27/25 10:52
MFL-AM02-011925-HM	5012731-16	Air	01/19/25 23:59	01/27/25 10:52
MFL-AM09-011925-HM	5012731-17	Air	01/19/25 23:59	01/27/25 10:52
MFL-AM08-011925-HM	5012731-18	Air	01/19/25 23:59	01/27/25 10:52
MFL-AM05-012025-HM	5012731-19	Air	01/20/25 23:59	01/27/25 10:52
MFL-AM02-012025-HM	5012731-20	Air	01/20/25 23:59	01/27/25 10:52
MFL-AM09-012025-HM	5012731-21	Air	01/20/25 23:59	01/27/25 10:52



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: 02/05/25 11:12
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MFL-AM08-012025-HM	5012731-22	Air	01/20/25 23:59	01/27/25 10:52
MFL-FB01-012025-HM	5012731-23	Air	01/20/25 00:00	01/27/25 10:52
MFL-AM05-012125-HM	5012731-24	Air	01/21/25 23:59	01/27/25 10:52
MFL-AM02-012125-HM	5012731-25	Air	01/21/25 23:59	01/27/25 10:52
MFL-AM09-012125-HM	5012731-26	Air	01/21/25 23:59	01/27/25 10:52
MFL-AM08-012125-HM	5012731-27	Air	01/21/25 23:59	01/27/25 10:52
MFL-LB01-012125-HM	5012731-28	Air	01/21/25 00:00	01/27/25 10:52
MFL-AM05-012225-HM	5012731-29	Air	01/22/25 23:59	01/27/25 10:52
MFL-AM02-012225-HM	5012731-30	Air	01/22/25 23:59	01/27/25 10:52
MFL-AM09-012225-HM	5012731-31	Air	01/22/25 23:59	01/27/25 10:52
MFL-AM08-012225-HM	5012731-32	Air	01/22/25 23:59	01/27/25 10:52
MFL-FB01-012225-HM	5012731-33	Air	01/22/25 00:00	01/27/25 10:52



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 Blue Bell, PA 19422
 ATTN: Ms. Chelsea Saber
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Description: MFL-AM05-011625-HM **Lab ID:** 5012731-01 **Sampled:** 01/16/25 23:59
Matrix: Air **Sample Volume:** 1978.384 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 00:48
Comments: Q8522457 - 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	0.277	SL	0.0288	
Arsenic	7440-38-2	0.173		0.00731	
Barium	7440-39-3	3.54		1.27	
Beryllium	7440-41-7	0.00597		0.00156	
Cadmium	7440-43-9	0.0691		0.00421	
Chromium	7440-47-3	1.36	U	2.01	
Cobalt	7440-48-4	0.186		0.0428	
Copper	7440-50-8	54.3		0.618	
Lead	7439-92-1	1.32		0.110	
Manganese	7439-96-5	6.26		0.458	
Molybdenum	7439-98-7	2.38		0.324	
Nickel	7440-02-0	0.965		0.608	
Selenium	7782-49-2	0.203		0.00831	
Thallium	7440-28-0	0.00162		7.08E-4	
Vanadium	7440-62-2	0.951		0.0377	
Zinc	7440-66-6	19.5	U	93.8	



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Description: MFL-AM02-011625-HM **Lab ID:** 5012731-02 **Sampled:** 01/16/25 23:59
Matrix: Air **Sample Volume:** 2089.008 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 01:04
Comments: Q8522456 - 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	0.585	SL	0.0273
Arsenic	7440-38-2	0.251		0.00692
Barium	7440-39-3	8.85		1.20
Beryllium	7440-41-7	0.0119		0.00148
Cadmium	7440-43-9	0.0614		0.00399
Chromium	7440-47-3	1.98		1.90
Cobalt	7440-48-4	0.382		0.0405
Copper	7440-50-8	29.4		0.586
Lead	7439-92-1	1.77		0.104
Manganese	7439-96-5	11.9		0.434
Molybdenum	7439-98-7	1.66		0.307
Nickel	7440-02-0	1.39		0.576
Selenium	7782-49-2	0.255		0.00787
Thallium	7440-28-0	0.00190		6.71E-4
Vanadium	7440-62-2	1.65		0.0357
Zinc	7440-66-6	25.1	U	88.8



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Description: MFL-AM03-011625-HM **Lab ID:** 5012731-03 **Sampled:** 01/16/25 23:59
Matrix: Air **Sample Volume:** 2059.207 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 01:20
Comments: Q8522455 - Received in good condition.

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.193	SL	0.0277
Arsenic	7440-38-2	0.191		0.00702
Barium	7440-39-3	3.26		1.22
Beryllium	7440-41-7	0.0213		0.00150
Cadmium	7440-43-9	0.0628		0.00405
Chromium	7440-47-3	2.26		1.93
Cobalt	7440-48-4	0.405		0.0411
Copper	7440-50-8	50.4		0.594
Lead	7439-92-1	1.32		0.106
Manganese	7439-96-5	9.94		0.440
Molybdenum	7439-98-7	1.86		0.311
Nickel	7440-02-0	1.52		0.584
Selenium	7782-49-2	0.255		0.00798
Thallium	7440-28-0	0.00199		6.80E-4
Vanadium	7440-62-2	1.33		0.0362
Zinc	7440-66-6	13.2	U	90.1



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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-011625-HM **Lab ID:** 5012731-04 **Sampled:** 01/16/25 23:59
Matrix: Air **Sample Volume:** 1825.208 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 01:37
Comments: Q8522454 - 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	0.233	SL	0.0312	
Arsenic	7440-38-2	0.500		0.00792	
Barium	7440-39-3	3.96		1.37	
Beryllium	7440-41-7	0.0107		0.00169	
Cadmium	7440-43-9	0.0668		0.00456	
Chromium	7440-47-3	1.97	U	2.18	
Cobalt	7440-48-4	0.370		0.0464	
Copper	7440-50-8	32.8		0.670	
Lead	7439-92-1	1.72		0.119	
Manganese	7439-96-5	11.9		0.497	
Molybdenum	7439-98-7	1.97		0.351	
Nickel	7440-02-0	1.31		0.659	
Selenium	7782-49-2	0.259		0.00900	
Thallium	7440-28-0	0.00207		7.67E-4	
Vanadium	7440-62-2	1.32		0.0408	
Zinc	7440-66-6	17.4	U	102	



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-011625-HM **Lab ID:** 5012731-05 **Sampled:** 01/16/25 00:00
Matrix: Air **Sample Volume:** 1978.384 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 01:52
Comments: Q8522447 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	0.0217	SL, U	0.0288	
Arsenic	7440-38-2	0.00681	U	0.00731	
Barium	7440-39-3	0.847	U	1.27	
Beryllium	7440-41-7	3.01E-4	U	0.00156	
Cadmium	7440-43-9	7.38E-4	U	0.00421	
Chromium	7440-47-3	0.904	U	2.01	
Cobalt	7440-48-4	0.0147	U	0.0428	
Copper	7440-50-8	0.697	FB-01	0.618	
Lead	7439-92-1	0.0300	U	0.110	
Manganese	7439-96-5	0.229	U	0.458	
Molybdenum	7439-98-7	0.182	U	0.324	
Nickel	7440-02-0	0.476	U	0.608	
Selenium	7782-49-2	0.00469	U	0.00831	
Thallium	7440-28-0	1.00E-4	U	7.08E-4	
Vanadium	7440-62-2	0.0163	U	0.0377	
Zinc	7440-66-6	4.40	U	93.8	



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Description: MFL-AM05-011725-HM **Lab ID:** 5012731-06 **Sampled:** 01/17/25 23:59
Matrix: Air **Sample Volume:** 1902.575 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/28/25 22:03
Comments: Q8522453 - 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	0.265	SL	0.0299	
Arsenic	7440-38-2	0.206		0.00760	
Barium	7440-39-3	3.61		1.32	
Beryllium	7440-41-7	0.00615		0.00162	
Cadmium	7440-43-9	0.0876		0.00438	
Chromium	7440-47-3	1.71	U	2.09	
Cobalt	7440-48-4	0.206		0.0445	
Copper	7440-50-8	75.1		0.643	
Lead	7439-92-1	1.50		0.115	
Manganese	7439-96-5	6.36		0.476	
Molybdenum	7439-98-7	2.56		0.337	
Nickel	7440-02-0	1.14	QM-07	0.632	
Selenium	7782-49-2	0.382		0.00864	
Thallium	7440-28-0	0.00314		7.36E-4	
Vanadium	7440-62-2	0.879		0.0392	
Zinc	7440-66-6	19.6	U	97.5	



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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-011725-HM **Lab ID:** 5012731-07 **Sampled:** 01/17/25 23:59
Matrix: Air **Sample Volume:** 2069.013 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 02:05
Comments: Q8522452 - 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	0.356	SL	0.0275	
Arsenic	7440-38-2	0.281		0.00699	
Barium	7440-39-3	5.76		1.21	
Beryllium	7440-41-7	0.00659		0.00149	
Cadmium	7440-43-9	0.109		0.00403	
Chromium	7440-47-3	1.56	U	1.92	
Cobalt	7440-48-4	0.226		0.0409	
Copper	7440-50-8	35.2		0.591	
Lead	7439-92-1	1.70		0.105	
Manganese	7439-96-5	7.03		0.438	
Molybdenum	7439-98-7	2.01		0.310	
Nickel	7440-02-0	1.15		0.581	
Selenium	7782-49-2	0.396		0.00794	
Thallium	7440-28-0	0.00315		6.77E-4	
Vanadium	7440-62-2	0.953		0.0360	
Zinc	7440-66-6	18.8	U	89.6	



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Description: MFL-AM03-011725-HM **Lab ID:** 5012731-08 **Sampled:** 01/17/25 23:59
Matrix: Air **Sample Volume:** 2056.619 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 02:20
Comments: Q8522450 - 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	0.189	SL	0.0277
Arsenic	7440-38-2	0.147		0.00703
Barium	7440-39-3	2.63		1.22
Beryllium	7440-41-7	0.00919		0.00150
Cadmium	7440-43-9	0.0817		0.00405
Chromium	7440-47-3	1.68	U	1.93
Cobalt	7440-48-4	0.233		0.0411
Copper	7440-50-8	31.8		0.595
Lead	7439-92-1	1.19		0.106
Manganese	7439-96-5	5.28		0.441
Molybdenum	7439-98-7	1.65		0.312
Nickel	7440-02-0	1.41		0.585
Selenium	7782-49-2	0.375		0.00799
Thallium	7440-28-0	0.00291		6.81E-4
Vanadium	7440-62-2	0.933		0.0362
Zinc	7440-66-6	12.6	U	90.2



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Description: MFL-AM08-011725-HM **Lab ID:** 5012731-09 **Sampled:** 01/17/25 23:59
Matrix: Air **Sample Volume:** 1829.038 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 02:36
Comments: Q8522448 - 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	0.213	SL	0.0311	
Arsenic	7440-38-2	0.387		0.00791	
Barium	7440-39-3	2.69		1.37	
Beryllium	7440-41-7	0.00443		0.00169	
Cadmium	7440-43-9	0.0773		0.00455	
Chromium	7440-47-3	1.39	U	2.17	
Cobalt	7440-48-4	0.169		0.0463	
Copper	7440-50-8	39.1		0.669	
Lead	7439-92-1	1.29		0.119	
Manganese	7439-96-5	4.97		0.495	
Molybdenum	7439-98-7	2.20		0.350	
Nickel	7440-02-0	1.12		0.657	
Selenium	7782-49-2	0.335		0.00898	
Thallium	7440-28-0	0.00266		7.66E-4	
Vanadium	7440-62-2	0.772		0.0407	
Zinc	7440-66-6	14.6	U	101	



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Description: MFL-AM05-011825-HM **Lab ID:** 5012731-10 **Sampled:** 01/18/25 23:59
Matrix: Air **Sample Volume:** 1893.03 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 02:51
Comments: Q8522446 - 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	0.302	SL	0.0301
Arsenic	7440-38-2	0.281		0.00764
Barium	7440-39-3	4.55		1.32
Beryllium	7440-41-7	0.0103		0.00163
Cadmium	7440-43-9	0.0445		0.00440
Chromium	7440-47-3	2.09	U	2.10
Cobalt	7440-48-4	0.332		0.0447
Copper	7440-50-8	75.4		0.646
Lead	7439-92-1	1.08		0.115
Manganese	7439-96-5	10.3		0.479
Molybdenum	7439-98-7	2.85		0.339
Nickel	7440-02-0	1.73		0.635
Selenium	7782-49-2	0.207		0.00868
Thallium	7440-28-0	0.00205		7.40E-4
Vanadium	7440-62-2	1.50		0.0394
Zinc	7440-66-6	14.3	U	98.0



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Description: MFL-AM02-011825-HM **Lab ID:** 5012731-11 **Sampled:** 01/18/25 23:59
Matrix: Air **Sample Volume:** 2058.592 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 03:07
Comments: Q8522442 - 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	0.168	SL	0.0277	
Arsenic	7440-38-2	0.283		0.00703	
Barium	7440-39-3	4.01		1.22	
Beryllium	7440-41-7	0.00721		0.00150	
Cadmium	7440-43-9	0.0387		0.00405	
Chromium	7440-47-3	1.53	U	1.93	
Cobalt	7440-48-4	0.223		0.0411	
Copper	7440-50-8	40.1		0.594	
Lead	7439-92-1	1.09		0.106	
Manganese	7439-96-5	6.66		0.440	
Molybdenum	7439-98-7	2.36		0.311	
Nickel	7440-02-0	1.47		0.584	
Selenium	7782-49-2	0.226		0.00798	
Thallium	7440-28-0	0.00180		6.80E-4	
Vanadium	7440-62-2	1.16		0.0362	
Zinc	7440-66-6	54.2	U	90.1	



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

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 REPORTED: 02/05/25 11:12
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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-011825-HM **Lab ID:** 5012731-12 **Sampled:** 01/18/25 23:59
Matrix: Air **Sample Volume:** 2064.303 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/28/25 18:19
Comments: Q8522441 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	0.106	SL	0.0276	
Arsenic	7440-38-2	0.139		0.00701	
Barium	7440-39-3	1.57		1.21	
Beryllium	7440-41-7	0.00356		0.00150	
Cadmium	7440-43-9	0.0383		0.00404	
Chromium	7440-47-3	1.04	U	1.92	
Cobalt	7440-48-4	0.0902		0.0410	
Copper	7440-50-8	30.5		0.593	
Lead	7439-92-1	0.670		0.106	
Manganese	7439-96-5	2.23		0.439	
Molybdenum	7439-98-7	1.63		0.311	
Nickel	7440-02-0	0.991		0.582	
Selenium	7782-49-2	0.159		0.00796	
Thallium	7440-28-0	0.00174		6.79E-4	
Vanadium	7440-62-2	0.540		0.0361	
Zinc	7440-66-6	9.64	U	89.9	



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Description: MFL-AM08-011825-HM **Lab ID:** 5012731-13 **Sampled:** 01/18/25 23:59
Matrix: Air **Sample Volume:** 1913.332 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 04:15
Comments: Q8522440 - 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	0.205	SL	0.0298	
Arsenic	7440-38-2	0.314		0.00756	
Barium	7440-39-3	2.80		1.31	
Beryllium	7440-41-7	0.00455		0.00162	
Cadmium	7440-43-9	0.0414		0.00435	
Chromium	7440-47-3	1.24	U	2.07	
Cobalt	7440-48-4	0.132		0.0442	
Copper	7440-50-8	32.0		0.639	
Lead	7439-92-1	0.806		0.114	
Manganese	7439-96-5	3.88		0.474	
Molybdenum	7439-98-7	1.99		0.335	
Nickel	7440-02-0	1.07		0.628	
Selenium	7782-49-2	0.189		0.00859	
Thallium	7440-28-0	0.00154		7.32E-4	
Vanadium	7440-62-2	0.641		0.0389	
Zinc	7440-66-6	13.4	U	96.9	



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Description: MFL-FB01-011825-HM **Lab ID:** 5012731-14 **Sampled:** 01/18/25 00:00
Matrix: Air **Sample Volume:** 1893.03 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 04:29
Comments: Q8522438 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	0.0224	SL, U	0.0301	
Arsenic	7440-38-2	0.00516	U	0.00764	
Barium	7440-39-3	0.857	U	1.32	
Beryllium	7440-41-7	3.21E-4	U	0.00163	
Cadmium	7440-43-9	0.00154	U	0.00440	
Chromium	7440-47-3	0.895	U	2.10	
Cobalt	7440-48-4	0.0137	U	0.0447	
Copper	7440-50-8	0.491	U	0.646	
Lead	7439-92-1	0.0241	U	0.115	
Manganese	7439-96-5	0.221	U	0.479	
Molybdenum	7439-98-7	0.153	U	0.339	
Nickel	7440-02-0	0.483	U	0.635	
Selenium	7782-49-2	0.00185	U	0.00868	
Thallium	7440-28-0	1.27E-4	U	7.40E-4	
Vanadium	7440-62-2	0.0113	U	0.0394	
Zinc	7440-66-6	4.36	U	98.0	



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Description: MFL-AM05-011925-HM **Lab ID:** 5012731-15 **Sampled:** 01/19/25 23:59
Matrix: Air **Sample Volume:** 1882.379 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 04:43
Comments: Q8522439 - 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	0.0303	
Arsenic	7440-38-2	0.371		0.00768	
Barium	7440-39-3	3.99		1.33	
Beryllium	7440-41-7	0.00871		0.00164	
Cadmium	7440-43-9	0.0342		0.00443	
Chromium	7440-47-3	2.34		2.11	
Cobalt	7440-48-4	0.303		0.0449	
Copper	7440-50-8	84.1		0.650	
Lead	7439-92-1	0.684		0.116	
Manganese	7439-96-5	9.95		0.481	
Molybdenum	7439-98-7	2.98		0.341	
Nickel	7440-02-0	1.20		0.639	
Selenium	7782-49-2	0.183		0.00873	
Thallium	7440-28-0	0.00269		7.44E-4	
Vanadium	7440-62-2	0.980		0.0396	
Zinc	7440-66-6	13.5	U	98.5	



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Description: MFL-AM02-011925-HM **Lab ID:** 5012731-16 **Sampled:** 01/19/25 23:59
Matrix: Air **Sample Volume:** 2069.882 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 04:57
Comments: Q8522437 - 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	0.260	SL	0.0275	
Arsenic	7440-38-2	0.515		0.00699	
Barium	7440-39-3	6.97		1.21	
Beryllium	7440-41-7	0.0159		0.00149	
Cadmium	7440-43-9	0.0503		0.00402	
Chromium	7440-47-3	2.40		1.92	
Cobalt	7440-48-4	0.462		0.0409	
Copper	7440-50-8	47.5		0.591	
Lead	7439-92-1	1.51		0.105	
Manganese	7439-96-5	15.2		0.438	
Molybdenum	7439-98-7	2.28		0.310	
Nickel	7440-02-0	1.59		0.581	
Selenium	7782-49-2	0.211		0.00794	
Thallium	7440-28-0	0.00275		6.77E-4	
Vanadium	7440-62-2	1.65		0.0360	
Zinc	7440-66-6	23.3	U	89.6	



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Description: MFL-AM09-011925-HM **Lab ID:** 5012731-17 **Sampled:** 01/19/25 23:59
Matrix: Air **Sample Volume:** 1851.606 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 05:12
Comments: Q8522434 - 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	0.107	SL	0.0308	
Arsenic	7440-38-2	0.332		0.00781	
Barium	7440-39-3	2.65		1.35	
Beryllium	7440-41-7	0.00324		0.00167	
Cadmium	7440-43-9	0.0327		0.00450	
Chromium	7440-47-3	1.38	U	2.14	
Cobalt	7440-48-4	0.117		0.0457	
Copper	7440-50-8	27.9		0.661	
Lead	7439-92-1	0.494		0.118	
Manganese	7439-96-5	3.27		0.489	
Molybdenum	7439-98-7	1.53		0.346	
Nickel	7440-02-0	0.742		0.649	
Selenium	7782-49-2	0.169		0.00887	
Thallium	7440-28-0	0.00228		7.57E-4	
Vanadium	7440-62-2	0.337		0.0402	
Zinc	7440-66-6	11.1	U	100	



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Description: MFL-AM08-011925-HM **Lab ID:** 5012731-18 **Sampled:** 01/19/25 23:59
Matrix: Air **Sample Volume:** 1924.909 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 05:26
Comments: Q8522435 - 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	0.146	SL	0.0296	
Arsenic	7440-38-2	0.343		0.00751	
Barium	7440-39-3	2.28		1.30	
Beryllium	7440-41-7	0.00302		0.00161	
Cadmium	7440-43-9	0.0191		0.00433	
Chromium	7440-47-3	1.24	U	2.06	
Cobalt	7440-48-4	0.112		0.0440	
Copper	7440-50-8	34.8		0.636	
Lead	7439-92-1	0.472		0.113	
Manganese	7439-96-5	3.43		0.471	
Molybdenum	7439-98-7	2.23		0.333	
Nickel	7440-02-0	0.707		0.625	
Selenium	7782-49-2	0.148		0.00854	
Thallium	7440-28-0	0.00216		7.28E-4	
Vanadium	7440-62-2	0.320		0.0387	
Zinc	7440-66-6	7.50	U	96.4	



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-012025-HM **Lab ID:** 5012731-19 **Sampled:** 01/20/25 23:59
Matrix: Air **Sample Volume:** 1878.444 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 05:40
Comments: Q8522433 - Received in good condition.

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.165	SL	0.0303	
Arsenic	7440-38-2	0.431		0.00770	
Barium	7440-39-3	4.79		1.33	
Beryllium	7440-41-7	0.00954		0.00165	
Cadmium	7440-43-9	0.0696		0.00443	
Chromium	7440-47-3	3.56		2.11	
Cobalt	7440-48-4	0.351		0.0450	
Copper	7440-50-8	77.9		0.651	
Lead	7439-92-1	0.825		0.116	
Manganese	7439-96-5	11.2		0.482	
Molybdenum	7439-98-7	2.90		0.341	
Nickel	7440-02-0	1.47		0.640	
Selenium	7782-49-2	0.201		0.00875	
Thallium	7440-28-0	0.00298		7.46E-4	
Vanadium	7440-62-2	1.13		0.0397	
Zinc	7440-66-6	17.0	U	98.7	



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 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-012025-HM **Lab ID:** 5012731-20 **Sampled:** 01/20/25 23:59
Matrix: Air **Sample Volume:** 2074.229 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 05:53
Comments: Q8522432 - 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	0.214	SL	0.0275
Arsenic	7440-38-2	0.521		0.00697
Barium	7440-39-3	7.97		1.21
Beryllium	7440-41-7	0.0157		0.00149
Cadmium	7440-43-9	0.296		0.00402
Chromium	7440-47-3	2.69		1.91
Cobalt	7440-48-4	0.514		0.0408
Copper	7440-50-8	54.1		0.590
Lead	7439-92-1	1.98		0.105
Manganese	7439-96-5	16.0		0.437
Molybdenum	7439-98-7	2.43		0.309
Nickel	7440-02-0	1.83		0.580
Selenium	7782-49-2	0.232		0.00792
Thallium	7440-28-0	0.00314		6.75E-4
Vanadium	7440-62-2	1.73		0.0359
Zinc	7440-66-6	26.2	U	89.4



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 AQS SITE CODE:
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Description: MFL-AM09-012025-HM **Lab ID:** 5012731-21 **Sampled:** 01/20/25 23:59
Matrix: Air **Sample Volume:** 1995.719 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 06:23
Comments: Q8522430 - 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	0.139	SL	0.0285
Arsenic	7440-38-2	0.404		0.00725
Barium	7440-39-3	3.53		1.26
Beryllium	7440-41-7	0.00749		0.00155
Cadmium	7440-43-9	0.0238		0.00417
Chromium	7440-47-3	1.88	U	1.99
Cobalt	7440-48-4	0.251		0.0424
Copper	7440-50-8	30.2		0.613
Lead	7439-92-1	0.835		0.109
Manganese	7439-96-5	7.03		0.454
Molybdenum	7439-98-7	1.58		0.321
Nickel	7440-02-0	1.04		0.602
Selenium	7782-49-2	0.194		0.00823
Thallium	7440-28-0	0.00262		7.02E-4
Vanadium	7440-62-2	0.713		0.0373
Zinc	7440-66-6	13.9	U	92.9



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Description: MFL-AM08-012025-HM **Lab ID:** 5012731-22 **Sampled:** 01/20/25 23:59
Matrix: Air **Sample Volume:** 1971.988 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 07:30
Comments: Q8522429 - 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	0.0289	
Arsenic	7440-38-2	0.422		0.00733	
Barium	7440-39-3	2.76	LJ, QX	1.27	
Beryllium	7440-41-7	0.00516		0.00157	
Cadmium	7440-43-9	0.0219		0.00422	
Chromium	7440-47-3	1.52	U	2.01	
Cobalt	7440-48-4	0.175		0.0429	
Copper	7440-50-8	38.8		0.620	
Lead	7439-92-1	0.610		0.111	
Manganese	7439-96-5	5.41		0.460	
Molybdenum	7439-98-7	2.16	LJ, QX	0.325	
Nickel	7440-02-0	1.02		0.610	
Selenium	7782-49-2	0.158		0.00833	
Thallium	7440-28-0	0.00251		7.10E-4	
Vanadium	7440-62-2	0.551		0.0378	
Zinc	7440-66-6	10.1	U	94.1	



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-012025-HM **Lab ID:** 5012731-23 **Sampled:** 01/20/25 00:00
Matrix: Air **Sample Volume:** 1878.444 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 07:44
Comments: Q8522426 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	0.0242	SL, U	0.0303
Arsenic	7440-38-2	0.0116	FB-01	0.00770
Barium	7440-39-3	1.24	LJ, QX, U	1.33
Beryllium	7440-41-7	2.32E-4	U	0.00165
Cadmium	7440-43-9	0.00425	U	0.00443
Chromium	7440-47-3	1.10	U	2.11
Cobalt	7440-48-4	0.0218	U	0.0450
Copper	7440-50-8	0.505	U	0.651
Lead	7439-92-1	0.0537	U	0.116
Manganese	7439-96-5	0.256	U	0.482
Molybdenum	7439-98-7	0.155	LJ, QX, U	0.341
Nickel	7440-02-0	0.536	U	0.640
Selenium	7782-49-2	9.77E-4	U	0.00875
Thallium	7440-28-0	2.83E-4	U	7.46E-4
Vanadium	7440-62-2	0.0132	U	0.0397
Zinc	7440-66-6	11.4	U	98.7



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 Blue Bell, PA 19422
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Description: MFL-AM05-012125-HM **Lab ID:** 5012731-24 **Sampled:** 01/21/25 23:59
Matrix: Air **Sample Volume:** 1857.511 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 07:57
Comments: Q8522428 - 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	0.115	SL	0.0307	
Arsenic	7440-38-2	0.191		0.00779	
Barium	7440-39-3	3.81	LJ, QX	1.35	
Beryllium	7440-41-7	0.00752		0.00166	
Cadmium	7440-43-9	0.0128		0.00448	
Chromium	7440-47-3	1.89	U	2.14	
Cobalt	7440-48-4	0.273		0.0455	
Copper	7440-50-8	82.5		0.659	
Lead	7439-92-1	0.396		0.117	
Manganese	7439-96-5	8.57		0.488	
Molybdenum	7439-98-7	2.83	LJ, QX	0.345	
Nickel	7440-02-0	1.11		0.647	
Selenium	7782-49-2	0.166		0.00885	
Thallium	7440-28-0	0.00112		7.54E-4	
Vanadium	7440-62-2	0.891		0.0401	
Zinc	7440-66-6	12.8	U	99.9	



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: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-012125-HM **Lab ID:** 5012731-25 **Sampled:** 01/21/25 23:59
Matrix: Air **Sample Volume:** 2079.445 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 08:10
Comments: Q8526000 - 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	0.251	SL	0.0274
Arsenic	7440-38-2	0.285		0.00696
Barium	7440-39-3	9.00	LJ, QX	1.20
Beryllium	7440-41-7	0.0163		0.00149
Cadmium	7440-43-9	0.0156		0.00401
Chromium	7440-47-3	2.80		1.91
Cobalt	7440-48-4	0.547		0.0407
Copper	7440-50-8	50.0		0.588
Lead	7439-92-1	1.17		0.105
Manganese	7439-96-5	15.7		0.436
Molybdenum	7439-98-7	2.28	LJ, QX	0.308
Nickel	7440-02-0	1.74		0.578
Selenium	7782-49-2	0.217		0.00790
Thallium	7440-28-0	0.00131		6.74E-4
Vanadium	7440-62-2	1.72		0.0358
Zinc	7440-66-6	20.8	U	89.2



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM09-012125-HM **Lab ID:** 5012731-26 **Sampled:** 01/21/25 23:59
Matrix: Air **Sample Volume:** 2016.324 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 08:25
Comments: Q8525999 - 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	0.0939	SL	0.0282	
Arsenic	7440-38-2	0.181		0.00717	
Barium	7440-39-3	3.80	LJ, QX	1.24	
Beryllium	7440-41-7	0.00589		0.00153	
Cadmium	7440-43-9	0.00935		0.00413	
Chromium	7440-47-3	1.80	U	1.97	
Cobalt	7440-48-4	0.204		0.0420	
Copper	7440-50-8	24.4		0.607	
Lead	7439-92-1	0.456		0.108	
Manganese	7439-96-5	5.97		0.449	
Molybdenum	7439-98-7	1.57	LJ, QX	0.318	
Nickel	7440-02-0	0.925		0.596	
Selenium	7782-49-2	0.159		0.00815	
Thallium	7440-28-0	7.56E-4		6.95E-4	
Vanadium	7440-62-2	0.592		0.0370	
Zinc	7440-66-6	12.4	U	92.0	



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-012125-HM **Lab ID:** 5012731-27 **Sampled:** 01/21/25 23:59
Matrix: Air **Sample Volume:** 1853.164 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 08:38
Comments: Q8525998 - 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	0.0866	SL	0.0307	
Arsenic	7440-38-2	0.440		0.00781	
Barium	7440-39-3	3.29	LJ, QX	1.35	
Beryllium	7440-41-7	0.00669		0.00167	
Cadmium	7440-43-9	0.00896		0.00450	
Chromium	7440-47-3	1.84	U	2.14	
Cobalt	7440-48-4	0.312		0.0457	
Copper	7440-50-8	42.4		0.660	
Lead	7439-92-1	0.332		0.118	
Manganese	7439-96-5	8.36		0.489	
Molybdenum	7439-98-7	2.25	LJ, QX	0.346	
Nickel	7440-02-0	1.01		0.649	
Selenium	7782-49-2	0.160		0.00887	
Thallium	7440-28-0	8.92E-4		7.56E-4	
Vanadium	7440-62-2	0.746		0.0402	
Zinc	7440-66-6	8.89	U	100	



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-LB01-012125-HM **Lab ID:** 5012731-28 **Sampled:** 01/21/25 00:00
Matrix: Air **Sample Volume:** 1857.511 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 08:52
Comments: Q8525996 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	0.0217	SL, U	0.0307	
Arsenic	7440-38-2	0.00778	U	0.00779	
Barium	7440-39-3	1.15	LJ, QX, U	1.35	
Beryllium	7440-41-7	1.52E-4	U	0.00166	
Cadmium	7440-43-9	7.57E-4	U	0.00448	
Chromium	7440-47-3	1.01	U	2.14	
Cobalt	7440-48-4	0.0139	U	0.0455	
Copper	7440-50-8	0.739		0.659	
Lead	7439-92-1	0.0320	U	0.117	
Manganese	7439-96-5	0.211	U	0.488	
Molybdenum	7439-98-7	0.198	LJ, QX, U	0.345	
Nickel	7440-02-0	0.504	U	0.647	
Selenium	7782-49-2	ND	U	0.00885	
Thallium	7440-28-0	6.53E-5	U	7.54E-4	
Vanadium	7440-62-2	0.0148	U	0.0401	
Zinc	7440-66-6	6.72	U	99.9	



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-012225-HM **Lab ID:** 5012731-29 **Sampled:** 01/22/25 23:59
Matrix: Air **Sample Volume:** 2042.239 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 09:05
Comments: Q8525997 - 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	0.115	SL	0.0279	
Arsenic	7440-38-2	0.151		0.00708	
Barium	7440-39-3	4.11	LJ, QX	1.23	
Beryllium	7440-41-7	0.00584		0.00151	
Cadmium	7440-43-9	0.00764		0.00408	
Chromium	7440-47-3	2.23		1.94	
Cobalt	7440-48-4	0.250		0.0414	
Copper	7440-50-8	58.9		0.599	
Lead	7439-92-1	0.381		0.107	
Manganese	7439-96-5	7.46		0.444	
Molybdenum	7439-98-7	2.46	LJ, QX	0.314	
Nickel	7440-02-0	1.48		0.589	
Selenium	7782-49-2	0.179		0.00805	
Thallium	7440-28-0	6.40E-4	U	6.86E-4	
Vanadium	7440-62-2	0.957		0.0365	
Zinc	7440-66-6	9.54	U	90.8	



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-012225-HM **Lab ID:** 5012731-30 **Sampled:** 01/22/25 23:59
Matrix: Air **Sample Volume:** 2058.592 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 09:18
Comments: Q8525995 - 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	0.198	SL	0.0277
Arsenic	7440-38-2	0.219		0.00703
Barium	7440-39-3	6.07	LJ, QX	1.22
Beryllium	7440-41-7	0.0113		0.00150
Cadmium	7440-43-9	0.0113		0.00405
Chromium	7440-47-3	2.09		1.93
Cobalt	7440-48-4	0.394		0.0411
Copper	7440-50-8	54.2		0.594
Lead	7439-92-1	0.711		0.106
Manganese	7439-96-5	12.1		0.440
Molybdenum	7439-98-7	2.69	LJ, QX	0.311
Nickel	7440-02-0	1.52		0.584
Selenium	7782-49-2	0.217		0.00798
Thallium	7440-28-0	8.03E-4		6.80E-4
Vanadium	7440-62-2	1.48		0.0362
Zinc	7440-66-6	13.6	U	90.1



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM09-012225-HM **Lab ID:** 5012731-31 **Sampled:** 01/22/25 23:59
Matrix: Air **Sample Volume:** 2020.548 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 10:44
Comments: Q8525994 - 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	0.0843	SL	0.0282
Arsenic	7440-38-2	0.196		0.00716
Barium	7440-39-3	3.62	LJ, QX	1.24
Beryllium	7440-41-7	0.00573		0.00153
Cadmium	7440-43-9	0.0166		0.00412
Chromium	7440-47-3	1.71	U	1.96
Cobalt	7440-48-4	0.200		0.0419
Copper	7440-50-8	28.0		0.606
Lead	7439-92-1	0.801		0.108
Manganese	7439-96-5	6.05		0.449
Molybdenum	7439-98-7	1.71	LJ, QX	0.317
Nickel	7440-02-0	0.990		0.595
Selenium	7782-49-2	0.183		0.00813
Thallium	7440-28-0	7.21E-4		6.93E-4
Vanadium	7440-62-2	0.807		0.0369
Zinc	7440-66-6	8.55	U	91.8



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM08-012225-HM **Lab ID:** 5012731-32 **Sampled:** 01/22/25 23:59
Matrix: Air **Sample Volume:** 1947.459 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 11:17
Comments: Q8525993 - Received in good condition.

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.190	SL	0.0292	
Arsenic	7440-38-2	2.58		0.00743	
Barium	7440-39-3	6.15	LJ, QX	1.29	
Beryllium	7440-41-7	0.0166		0.00159	
Cadmium	7440-43-9	0.0191		0.00428	
Chromium	7440-47-3	3.73		2.04	
Cobalt	7440-48-4	0.605		0.0434	
Copper	7440-50-8	41.6		0.628	
Lead	7439-92-1	1.45		0.112	
Manganese	7439-96-5	18.0		0.465	
Molybdenum	7439-98-7	2.29	LJ, QX	0.329	
Nickel	7440-02-0	1.78		0.617	
Selenium	7782-49-2	0.220		0.00844	
Thallium	7440-28-0	0.00473		7.19E-4	
Vanadium	7440-62-2	1.95		0.0383	
Zinc	7440-66-6	20.6	U	95.2	



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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-012225-HM **Lab ID:** 5012731-33 **Sampled:** 01/22/25 00:00
Matrix: Air **Sample Volume:** 2042.239 m³ **Received:** 01/27/25 10:52
Filter ID: **Analysis Date:** 01/29/25 11:35
Comments: Q8525987 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	0.0195	SL, U	0.0279
Arsenic	7440-38-2	0.00625	U	0.00708
Barium	7440-39-3	1.14	LJ, QX, U	1.23
Beryllium	7440-41-7	1.25E-4	U	0.00151
Cadmium	7440-43-9	6.45E-4	U	0.00408
Chromium	7440-47-3	0.827	U	1.94
Cobalt	7440-48-4	0.0101	U	0.0414
Copper	7440-50-8	0.260	U	0.599
Lead	7439-92-1	0.0236	U	0.107
Manganese	7439-96-5	0.168	U	0.444
Molybdenum	7439-98-7	0.151	LJ, QX, U	0.314
Nickel	7440-02-0	0.397	U	0.589
Selenium	7782-49-2	0.00218	U	0.00805
Thallium	7440-28-0	9.88E-5	U	6.86E-4
Vanadium	7440-62-2	0.00258	U	0.0365
Zinc	7440-66-6	2.55	U	90.8



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 SUBMITTED: 01/27/25
 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 2501071 - B5A2804

Calibration Blank (2501071-CCB1)

Prepared & Analyzed: 01/28/25

Antimony	0.420		ng/l							
Arsenic	3.18		ng/l							
Barium	0.878		ng/l							
Beryllium	-0.649		ng/l							U
Cadmium	0.0521		ng/l							
Chromium	2.77		ng/l							
Cobalt	0.272		ng/l							
Copper	19.0		ng/l							
Lead	3.24		ng/l							
Manganese	0.858		ng/l							
Molybdenum	18.8		ng/l							
Nickel	9.60		ng/l							
Selenium	-0.834		ng/l							U
Thallium	1.53		ng/l							
Vanadium	-46.0		ng/l							U
Zinc	-77.0		ng/l							U

Calibration Blank (2501071-CCB2)

Prepared & Analyzed: 01/28/25

Antimony	0.449		ng/l							
Arsenic	5.13		ng/l							
Barium	1.57		ng/l							
Beryllium	-0.857		ng/l							U
Cadmium	0.178		ng/l							
Chromium	4.66		ng/l							
Cobalt	0.113		ng/l							
Copper	20.2		ng/l							
Lead	2.34		ng/l							
Manganese	1.59		ng/l							
Molybdenum	1.55		ng/l							
Nickel	13.0		ng/l							
Selenium	-6.60		ng/l							U
Thallium	0.994		ng/l							
Vanadium	-45.5		ng/l							U
Zinc	-104		ng/l							U

Calibration Blank (2501071-CCB3)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	0.234		ng/l							
Arsenic	9.87		ng/l							
Barium	0.917		ng/l							
Beryllium	-1.04		ng/l							U

Eastern Research Group

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FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 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 2501071 - B5A2804

Calibration Blank (2501071-CCB3) Contin

Prepared: 01/28/25 Analyzed: 01/29/25

Cadmium	0.166		ng/l							
Chromium	4.21		ng/l							
Cobalt	0.222		ng/l							
Copper	22.7		ng/l							
Lead	2.49		ng/l							
Manganese	0.702		ng/l							
Molybdenum	-0.970		ng/l							U
Nickel	11.5		ng/l							
Selenium	1.96		ng/l							
Thallium	0.984		ng/l							
Vanadium	-58.8		ng/l							U
Zinc	-111		ng/l							U

Calibration Blank (2501071-CCB4)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	0.0570		ng/l							
Arsenic	8.28		ng/l							
Barium	0.750		ng/l							
Beryllium	-1.55		ng/l							U
Cadmium	0.257		ng/l							
Chromium	2.98		ng/l							
Cobalt	0.185		ng/l							
Copper	24.8		ng/l							
Lead	2.17		ng/l							
Manganese	0.975		ng/l							
Molybdenum	-0.531		ng/l							U
Nickel	15.1		ng/l							
Selenium	-7.94		ng/l							U
Thallium	0.895		ng/l							
Vanadium	-65.0		ng/l							U
Zinc	-94.9		ng/l							U

Calibration Blank (2501071-CCB5)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	0.356		ng/l							
Arsenic	4.68		ng/l							
Barium	1.21		ng/l							
Beryllium	-1.91		ng/l							U
Cadmium	0.116		ng/l							
Chromium	4.65		ng/l							
Cobalt	0.358		ng/l							
Copper	21.8		ng/l							

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

FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 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 2501071 - B5A2804

Calibration Blank (2501071-CCB5) Contin

Prepared: 01/28/25 Analyzed: 01/29/25

Lead	2.28		ng/l							
Manganese	-0.768		ng/l							U
Molybdenum	-1.27		ng/l							U
Nickel	14.8		ng/l							
Selenium	0.915		ng/l							
Thallium	0.914		ng/l							
Vanadium	-75.0		ng/l							U
Zinc	-101		ng/l							U

Calibration Blank (2501071-CCB6)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	0.484		ng/l							
Arsenic	9.87		ng/l							
Barium	4.70		ng/l							
Beryllium	-1.47		ng/l							U
Cadmium	0.191		ng/l							
Chromium	3.81		ng/l							
Cobalt	0.377		ng/l							
Copper	29.8		ng/l							
Lead	3.02		ng/l							
Manganese	1.78		ng/l							
Molybdenum	1.92		ng/l							
Nickel	15.2		ng/l							
Selenium	-1.97		ng/l							U
Thallium	1.21		ng/l							
Vanadium	-84.2		ng/l							U
Zinc	-105		ng/l							U

Calibration Blank (2501071-CCB7)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	0.465		ng/l							
Arsenic	0.0295		ng/l							
Barium	2.49		ng/l							
Beryllium	-1.60		ng/l							U
Cadmium	0.194		ng/l							
Chromium	4.22		ng/l							
Cobalt	0.451		ng/l							
Copper	28.5		ng/l							
Lead	3.54		ng/l							
Manganese	1.64		ng/l							
Molybdenum	1.74		ng/l							
Nickel	13.4		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501071 - B5A2804

Calibration Blank (2501071-CCB7) Contin

Prepared: 01/28/25 Analyzed: 01/29/25

Selenium	-2.49		ng/l							U
Thallium	1.52		ng/l							
Vanadium	-88.4		ng/l							U
Zinc	-83.6		ng/l							U

Calibration Check (2501071-CCV1)

Prepared & Analyzed: 01/28/25

Antimony	20100		ng/l	20008		101	90-110			
Arsenic	20200		ng/l	20004		101	90-110			
Barium	200000		ng/l	200200		100	90-110			
Beryllium	4810		ng/l	5002.5		96.2	90-110			
Cadmium	20400		ng/l	20014		102	90-110			
Chromium	246000		ng/l	240050		103	90-110			
Cobalt	51200		ng/l	50020		102	90-110			
Copper	2.06E6		ng/l	2.0020E6		103	90-110			
Lead	200000		ng/l	200060		100	90-110			
Manganese	504000		ng/l	498900		101	90-110			
Molybdenum	50500		ng/l	50005		101	90-110			
Nickel	123000		ng/l	120040		103	90-110			
Selenium	19600		ng/l	20002		98.2	90-110			
Thallium	489		ng/l	499.95		97.9	90-110			
Vanadium	19600		ng/l	20030		97.8	90-110			
Zinc	506000		ng/l	500000		101	90-110			

Calibration Check (2501071-CCV2)

Prepared & Analyzed: 01/28/25

Antimony	20300		ng/l	20008		101	90-110			
Arsenic	20200		ng/l	20004		101	90-110			
Barium	201000		ng/l	200200		100	90-110			
Beryllium	4790		ng/l	5002.5		95.8	90-110			
Cadmium	20400		ng/l	20014		102	90-110			
Chromium	248000		ng/l	240050		103	90-110			
Cobalt	50400		ng/l	50020		101	90-110			
Copper	2.05E6		ng/l	2.0020E6		103	90-110			
Lead	201000		ng/l	200060		100	90-110			
Manganese	505000		ng/l	498900		101	90-110			
Molybdenum	50800		ng/l	50005		102	90-110			
Nickel	121000		ng/l	120040		101	90-110			
Selenium	20000		ng/l	20002		99.8	90-110			
Thallium	486		ng/l	499.95		97.2	90-110			
Vanadium	20100		ng/l	20030		100	90-110			
Zinc	507000		ng/l	500000		101	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501071 - B5A2804

Calibration Check (2501071-CCV3)

Prepared & Analyzed: 01/28/25

Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20600		ng/l	20004		103	90-110			
Barium	205000		ng/l	200200		102	90-110			
Beryllium	4790		ng/l	5002.5		95.7	90-110			
Cadmium	20900		ng/l	20014		105	90-110			
Chromium	253000		ng/l	240050		105	90-110			
Cobalt	51300		ng/l	50020		103	90-110			
Copper	2.10E6		ng/l	2.0020E6		105	90-110			
Lead	205000		ng/l	200060		102	90-110			
Manganese	515000		ng/l	498900		103	90-110			
Molybdenum	52200		ng/l	50005		104	90-110			
Nickel	124000		ng/l	120040		103	90-110			
Selenium	20100		ng/l	20002		101	90-110			
Thallium	492		ng/l	499.95		98.3	90-110			
Vanadium	20500		ng/l	20030		102	90-110			
Zinc	513000		ng/l	500000		103	90-110			

Calibration Check (2501071-CCV4)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	20800		ng/l	20008		104	90-110			
Arsenic	20800		ng/l	20004		104	90-110			
Barium	206000		ng/l	200200		103	90-110			
Beryllium	4960		ng/l	5002.5		99.2	90-110			
Cadmium	21000		ng/l	20014		105	90-110			
Chromium	253000		ng/l	240050		106	90-110			
Cobalt	51700		ng/l	50020		103	90-110			
Copper	2.13E6		ng/l	2.0020E6		106	90-110			
Lead	205000		ng/l	200060		102	90-110			
Manganese	521000		ng/l	498900		104	90-110			
Molybdenum	52700		ng/l	50005		105	90-110			
Nickel	125000		ng/l	120040		104	90-110			
Selenium	20200		ng/l	20002		101	90-110			
Thallium	489		ng/l	499.95		97.8	90-110			
Vanadium	20500		ng/l	20030		102	90-110			
Zinc	519000		ng/l	500000		104	90-110			

Calibration Check (2501071-CCV5)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	21300		ng/l	20008		106	90-110			
Arsenic	21100		ng/l	20004		106	90-110			
Barium	213000		ng/l	200200		106	90-110			
Beryllium	4860		ng/l	5002.5		97.1	90-110			

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

Batch 2501071 - B5A2804

Calibration Check (2501071-CCV5) Contin

Prepared: 01/28/25 Analyzed: 01/29/25

Cadmium	21600		ng/l	20014		108	90-110			
Chromium	260000		ng/l	240050		108	90-110			
Cobalt	53000		ng/l	50020		106	90-110			
Copper	2.19E6		ng/l	2.0020E6		109	90-110			
Lead	208000		ng/l	200060		104	90-110			
Manganese	535000		ng/l	498900		107	90-110			
Molybdenum	53800		ng/l	50005		108	90-110			
Nickel	128000		ng/l	120040		107	90-110			
Selenium	20500		ng/l	20002		102	90-110			
Thallium	497		ng/l	499.95		99.4	90-110			
Vanadium	21000		ng/l	20030		105	90-110			
Zinc	533000		ng/l	500000		107	90-110			

Calibration Check (2501071-CCV6)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	21000		ng/l	20008		105	90-110			
Arsenic	21000		ng/l	20004		105	90-110			
Barium	234000		ng/l	200200		117	90-110			LJ, QX
Beryllium	5030		ng/l	5002.5		101	90-110			
Cadmium	21300		ng/l	20014		107	90-110			
Chromium	258000		ng/l	240050		108	90-110			
Cobalt	53200		ng/l	50020		106	90-110			
Copper	2.21E6		ng/l	2.0020E6		110	90-110			
Lead	207000		ng/l	200060		104	90-110			
Manganese	533000		ng/l	498900		107	90-110			
Molybdenum	55300		ng/l	50005		111	90-110			LJ, QX
Nickel	128000		ng/l	120040		107	90-110			
Selenium	20400		ng/l	20002		102	90-110			
Thallium	484		ng/l	499.95		96.8	90-110			
Vanadium	20800		ng/l	20030		104	90-110			
Zinc	530000		ng/l	500000		106	90-110			

Calibration Check (2501071-CCV7)

Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	20600		ng/l	20008		103	90-110			
Arsenic	20800		ng/l	20004		104	90-110			
Barium	241000		ng/l	200200		120	90-110			LJ, QX
Beryllium	5200		ng/l	5002.5		104	90-110			
Cadmium	21000		ng/l	20014		105	90-110			
Chromium	258000		ng/l	240050		107	90-110			
Cobalt	52600		ng/l	50020		105	90-110			
Copper	2.20E6		ng/l	2.0020E6		110	90-110			

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

Batch 2501071 - B5A2804

Calibration Check (2501071-CCV7) Contin

Prepared: 01/28/25 Analyzed: 01/29/25

Lead	206000		ng/l	200060		103	90-110			
Manganese	523000		ng/l	498900		105	90-110			
Molybdenum	55700		ng/l	50005		111	90-110			LJ, QX
Nickel	127000		ng/l	120040		106	90-110			
Selenium	20200		ng/l	20002		101	90-110			
Thallium	486		ng/l	499.95		97.2	90-110			
Vanadium	20800		ng/l	20030		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			

High Cal Check (2501071-HCV1)

Prepared & Analyzed: 01/28/25

Antimony	41000		ng/l	40016		102	95-105			
Arsenic	40800		ng/l	40008		102	95-105			
Barium	405000		ng/l	400400		101	95-105			
Beryllium	9690		ng/l	10005		96.8	95-105			
Cadmium	40700		ng/l	40028		102	95-105			
Chromium	483000		ng/l	480100		101	95-105			
Cobalt	101000		ng/l	100040		101	95-105			
Copper	4.04E6		ng/l	4.0040E6		101	95-105			
Lead	407000		ng/l	400120		102	95-105			
Manganese	1.01E6		ng/l	997800		102	95-105			
Molybdenum	102000		ng/l	100010		102	95-105			
Nickel	242000		ng/l	240070		101	95-105			
Selenium	40200		ng/l	40004		100	95-105			
Thallium	1010		ng/l	999.90		101	95-105			
Vanadium	40500		ng/l	40060		101	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			

Initial Cal Blank (2501071-ICB1)

Prepared & Analyzed: 01/28/25

Antimony	2.85		ng/l							
Arsenic	-2.32		ng/l							U
Barium	2.77		ng/l							
Beryllium	-0.194		ng/l							U
Cadmium	0.335		ng/l							
Chromium	6.20		ng/l							
Cobalt	0.836		ng/l							
Copper	102		ng/l							
Lead	17.2		ng/l							
Manganese	11.1		ng/l							
Molybdenum	21.2		ng/l							
Nickel	9.07		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501071 - B5A2804

Initial Cal Blank (2501071-ICB1) Continuu

Prepared & Analyzed: 01/28/25

Selenium	1.51		ng/l							
Thallium	1.77		ng/l							
Vanadium	-63.5		ng/l							U
Zinc	-79.2		ng/l							U

Initial Cal Check (2501071-ICV1)

Prepared & Analyzed: 01/28/25

Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4920		ng/l	5000.0		98.3	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49800		ng/l	50000		99.7	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	519		ng/l	500.00		104	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	511000		ng/l	500000		102	90-110			

Interference Check A (2501071-IFA1)

Prepared & Analyzed: 01/28/25

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	309000		ng/l	300000		103	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			BR, U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2501071 - B5A2804

Interference Check B (2501071-IFB1)

Prepared & Analyzed: 01/28/25

Antimony	20500		ng/l	20008		102	80-120			
Arsenic	20700		ng/l	20004		104	80-120			
Barium	201000		ng/l	200200		100	80-120			
Beryllium	4690		ng/l	5002.5		93.7	80-120			
Cadmium	20000		ng/l	20014		100	80-120			
Chromium	241000		ng/l	240050		101	80-120			
Cobalt	50200		ng/l	50020		100	80-120			
Copper	1.92E6		ng/l	2.0020E6		96.1	80-120			
Lead	207000		ng/l	200060		103	80-120			
Manganese	508000		ng/l	498900		102	80-120			
Molybdenum	363000		ng/l	350000		104	80-120			
Nickel	118000		ng/l	120040		98.4	80-120			
Selenium	19600		ng/l	20002		97.8	80-120			
Thallium	521		ng/l	499.95		104	80-120			
Vanadium	19100		ng/l	20030		95.2	80-120			
Zinc	471000		ng/l	500000		94.3	80-120			

Batch B5A2804 - ICP-MS Extraction

Blank (B5A2804-BLK1)

Prepared & Analyzed: 01/28/25

Antimony	ND	0.0350	ng/m ³ Air							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
Zinc	ND	114	ng/m ³ Air							U

LCS (B5A2804-BS1)

Prepared & Analyzed: 01/28/25

Antimony	0.856	0.0350	ng/m ³ Air	1.3835		61.9	80-120			SL
Arsenic	2.74	0.00889	ng/m ³ Air	2.7664		99.2	80-120			
Barium	28.8	1.54	ng/m ³ Air	27.686		104	80-120			

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

FILE #: 4205.00.003.001
 REPORTED: 02/05/25 11:12
 SUBMITTED: 01/27/25
 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 B5A2804 - ICP-MS Extraction

LCS (B5A2804-BS1) Continued

Prepared & Analyzed: 01/28/25

Beryllium	1.28	0.00190	ng/m ³ Air	1.3836		92.5	80-120			
Cadmium	1.39	0.00512	ng/m ³ Air	1.3839		100	80-120			
Chromium	15.4	2.44	ng/m ³ Air	13.832		111	80-120			
Cobalt	1.39	0.0520	ng/m ³ Air	1.3835		100	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		99.5	80-120			
Manganese	8.53	0.557	ng/m ³ Air	8.2792		103	80-120			
Molybdenum	1.56	0.394	ng/m ³ Air	1.3831		112	80-120			
Nickel	3.46	0.739	ng/m ³ Air	2.7667		125	80-120			
Selenium	2.71	0.0101	ng/m ³ Air	2.7661		98.1	80-120			
Thallium	0.137	8.61E-4	ng/m ³ Air	0.13828		98.7	80-120			
Vanadium	2.74	0.0458	ng/m ³ Air	2.7700		99.1	80-120			
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5A2804-BS2)

Prepared & Analyzed: 01/28/25

Antimony	0.871	0.0350	ng/m ³ Air	1.3835		62.9	80-120			SL
Arsenic	2.67	0.00889	ng/m ³ Air	2.7664		96.6	80-120			
Barium	28.7	1.54	ng/m ³ Air	27.686		103	80-120			
Beryllium	1.26	0.00190	ng/m ³ Air	1.3836		91.3	80-120			
Cadmium	1.37	0.00512	ng/m ³ Air	1.3839		98.7	80-120			
Chromium	14.9	2.44	ng/m ³ Air	13.832		108	80-120			
Cobalt	1.35	0.0520	ng/m ³ Air	1.3835		97.2	80-120			
Copper	28.6	0.752	ng/m ³ Air	27.686		103	80-120			
Lead	13.5	0.134	ng/m ³ Air	13.833		97.9	80-120			
Manganese	8.36	0.557	ng/m ³ Air	8.2792		101	80-120			
Molybdenum	1.50	0.394	ng/m ³ Air	1.3831		108	80-120			
Nickel	3.18	0.739	ng/m ³ Air	2.7667		115	80-120			
Selenium	2.65	0.0101	ng/m ³ Air	2.7661		95.8	80-120			
Thallium	0.134	8.61E-4	ng/m ³ Air	0.13828		97.1	80-120			
Vanadium	2.72	0.0458	ng/m ³ Air	2.7700		98.2	80-120			
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5A2804-BS3)

Prepared & Analyzed: 01/28/25

Antimony	1.36	0.0350	ng/m ³ Air	1.3835		98.1	80-120			
Arsenic	2.71	0.00889	ng/m ³ Air	2.7664		98.1	80-120			
Barium	27.2	1.54	ng/m ³ Air	27.686		98.1	80-120			
Beryllium	1.26	0.00190	ng/m ³ Air	1.3836		91.1	80-120			
Cadmium	1.37	0.00512	ng/m ³ Air	1.3839		99.0	80-120			
Chromium	14.1	2.44	ng/m ³ Air	13.832		102	80-120			
Cobalt	1.36	0.0520	ng/m ³ Air	1.3835		98.1	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A2804 - ICP-MS Extraction

LCS (B5A2804-BS3) Continued

Prepared & Analyzed: 01/28/25

Copper	28.2	0.752	ng/m ³ Air	27.686		102	80-120			
Lead	13.4	0.134	ng/m ³ Air	13.833		97.0	80-120			
Manganese	8.28	0.557	ng/m ³ Air	8.2792		100	80-120			
Molybdenum	1.33	0.394	ng/m ³ Air	1.3831		96.3	80-120			
Nickel	2.79	0.739	ng/m ³ Air	2.7667		101	80-120			
Selenium	2.64	0.0101	ng/m ³ Air	2.7661		95.5	80-120			
Thallium	0.133	8.61E-4	ng/m ³ Air	0.13828		96.5	80-120			
Vanadium	2.71	0.0458	ng/m ³ Air	2.7700		97.8	80-120			
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

LCS (B5A2804-BS4)

Prepared & Analyzed: 01/28/25

Antimony	1.39	0.0350	ng/m ³ Air	1.3835		100	80-120			
Arsenic	2.76	0.00889	ng/m ³ Air	2.7664		99.9	80-120			
Barium	28.1	1.54	ng/m ³ Air	27.686		101	80-120			
Beryllium	1.30	0.00190	ng/m ³ Air	1.3836		94.2	80-120			
Cadmium	1.40	0.00512	ng/m ³ Air	1.3839		101	80-120			
Chromium	14.4	2.44	ng/m ³ Air	13.832		104	80-120			
Cobalt	1.38	0.0520	ng/m ³ Air	1.3835		99.4	80-120			
Copper	28.7	0.752	ng/m ³ Air	27.686		104	80-120			
Lead	13.7	0.134	ng/m ³ Air	13.833		99.0	80-120			
Manganese	8.46	0.557	ng/m ³ Air	8.2792		102	80-120			
Molybdenum	1.36	0.394	ng/m ³ Air	1.3831		98.7	80-120			
Nickel	2.98	0.739	ng/m ³ Air	2.7667		108	80-120			
Selenium	2.72	0.0101	ng/m ³ Air	2.7661		98.4	80-120			
Thallium	0.137	8.61E-4	ng/m ³ Air	0.13828		99.2	80-120			
Vanadium	2.78	0.0458	ng/m ³ Air	2.7700		100	80-120			
Zinc	ND	114	ng/m ³ Air	82.975			80-120			U

Duplicate (B5A2804-DUP1)

Source: 5012731-12

Prepared & Analyzed: 01/28/25

Antimony	0.104	0.0276	ng/m ³ Air		0.106			2.18	10	SL
Arsenic	0.142	0.00701	ng/m ³ Air		0.139			2.22	10	
Barium	1.56	1.21	ng/m ³ Air		1.57			0.426	10	
Beryllium	0.00370	0.00150	ng/m ³ Air		0.00356			4.00	10	
Cadmium	0.0419	0.00404	ng/m ³ Air		0.0383			9.05	10	
Chromium	ND	1.92	ng/m ³ Air		ND				10	U
Cobalt	0.0887	0.0410	ng/m ³ Air		0.0902			1.67	10	
Copper	30.0	0.593	ng/m ³ Air		30.5			1.81	10	
Lead	0.663	0.106	ng/m ³ Air		0.670			1.01	10	
Manganese	2.23	0.439	ng/m ³ Air		2.23			0.0140	10	
Molybdenum	1.63	0.311	ng/m ³ Air		1.63			0.302	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 B5A2804 - ICP-MS Extraction

Duplicate (B5A2804-DUP1) Continued Source: 5012731-12 Prepared & Analyzed: 01/28/25

Nickel	0.987	0.582	ng/m ³ Air		0.991			0.418	10	
Selenium	0.162	0.00796	ng/m ³ Air		0.159			1.90	10	
Thallium	0.00167	6.79E-4	ng/m ³ Air		0.00174			4.15	10	
Vanadium	0.544	0.0361	ng/m ³ Air		0.540			0.790	10	
Zinc	ND	89.9	ng/m ³ Air		ND				10	U

Duplicate (B5A2804-DUP2) Source: 5012731-06 Prepared & Analyzed: 01/28/25

Antimony	0.262	0.0299	ng/m ³ Air		0.265			1.14	10	SL
Arsenic	0.208	0.00760	ng/m ³ Air		0.206			1.30	10	
Barium	3.61	1.32	ng/m ³ Air		3.61			0.00260	10	
Beryllium	0.00580	0.00162	ng/m ³ Air		0.00615			5.91	10	
Cadmium	0.0903	0.00438	ng/m ³ Air		0.0876			2.97	10	
Chromium	ND	2.09	ng/m ³ Air		ND				10	U
Cobalt	0.200	0.0445	ng/m ³ Air		0.206			2.95	10	
Copper	80.2	0.643	ng/m ³ Air		75.1			6.58	10	
Lead	1.65	0.115	ng/m ³ Air		1.50			9.66	10	
Manganese	6.09	0.476	ng/m ³ Air		6.36			4.37	10	
Molybdenum	2.60	0.337	ng/m ³ Air		2.56			1.38	10	
Nickel	1.17	0.632	ng/m ³ Air		1.14			2.28	10	
Selenium	0.381	0.00864	ng/m ³ Air		0.382			0.378	10	
Thallium	0.00300	7.36E-4	ng/m ³ Air		0.00314			4.50	10	
Vanadium	0.870	0.0392	ng/m ³ Air		0.879			0.972	10	
Zinc	ND	97.5	ng/m ³ Air		ND				10	U

Duplicate (B5A2804-DUP3) Source: 5012731-20 Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	0.211	0.0275	ng/m ³ Air		0.214			1.41	10	SL
Arsenic	0.523	0.00697	ng/m ³ Air		0.521			0.352	10	
Barium	7.82	1.21	ng/m ³ Air		7.97			1.90	10	
Beryllium	0.0172	0.00149	ng/m ³ Air		0.0157			9.22	10	
Cadmium	0.292	0.00402	ng/m ³ Air		0.296			1.31	10	
Chromium	2.67	1.91	ng/m ³ Air		2.69			0.764	10	
Cobalt	0.513	0.0408	ng/m ³ Air		0.514			0.142	10	
Copper	53.8	0.590	ng/m ³ Air		54.1			0.491	10	
Lead	1.96	0.105	ng/m ³ Air		1.98			0.723	10	
Manganese	16.0	0.437	ng/m ³ Air		16.0			0.254	10	
Molybdenum	2.39	0.309	ng/m ³ Air		2.43			1.52	10	
Nickel	1.81	0.580	ng/m ³ Air		1.83			0.931	10	
Selenium	0.236	0.00792	ng/m ³ Air		0.232			1.56	10	
Thallium	0.00305	6.75E-4	ng/m ³ Air		0.00314			2.95	10	
Vanadium	1.72	0.0359	ng/m ³ Air		1.73			0.587	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 B5A2804 - ICP-MS Extraction

Duplicate (B5A2804-DUP3) Continued Source: 5012731-20 Prepared: 01/28/25 Analyzed: 01/29/25

Zinc	ND	89.4	ng/m ³ Air		ND				10	U
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Duplicate (B5A2804-DUP4) Source: 5012731-31 Prepared: 01/28/25 Analyzed: 01/29/25

Antimony	0.0850	0.0282	ng/m ³ Air		0.0843			0.824	10	SL
Arsenic	0.194	0.00716	ng/m ³ Air		0.196			1.10	10	
Barium	3.69	1.24	ng/m ³ Air		3.62			2.10	10	LJ, QX
Beryllium	0.00590	0.00153	ng/m ³ Air		0.00573			2.85	10	
Cadmium	0.0162	0.00412	ng/m ³ Air		0.0166			2.74	10	
Chromium	ND	1.96	ng/m ³ Air		ND				10	U
Cobalt	0.199	0.0419	ng/m ³ Air		0.200			0.455	10	
Copper	28.1	0.606	ng/m ³ Air		28.0			0.119	10	
Lead	0.803	0.108	ng/m ³ Air		0.801			0.256	10	
Manganese	6.07	0.449	ng/m ³ Air		6.05			0.253	10	
Molybdenum	1.73	0.317	ng/m ³ Air		1.71			1.04	10	LJ, QX
Nickel	0.988	0.595	ng/m ³ Air		0.990			0.161	10	
Selenium	0.194	0.00813	ng/m ³ Air		0.183			6.19	10	
Thallium	ND	6.93E-4	ng/m ³ Air		7.21E-4				10	U
Vanadium	0.812	0.0369	ng/m ³ Air		0.807			0.670	10	
Zinc	ND	91.8	ng/m ³ Air		ND				10	U

Matrix Spike (B5A2804-MS1) Source: 5012731-12 Prepared & Analyzed: 01/28/25

Antimony	0.743	0.0276	ng/m ³ Air	1.0904	0.106	58.4	80-120			SL
Arsenic	2.25	0.00701	ng/m ³ Air	2.1803	0.139	96.9	80-120			
Barium	22.6	1.21	ng/m ³ Air	21.821	1.57	96.5	80-120			
Beryllium	1.09	0.00150	ng/m ³ Air	1.0905	0.00356	99.8	80-120			
Cadmium	1.13	0.00404	ng/m ³ Air	1.0907	0.0383	99.6	80-120			
Chromium	11.8	1.92	ng/m ³ Air	10.902	ND	109	80-120			
Cobalt	1.13	0.0410	ng/m ³ Air	1.0904	0.0902	95.4	80-120			
Copper	51.1	0.593	ng/m ³ Air	21.821	30.5	94.2	80-120			
Lead	11.3	0.106	ng/m ³ Air	10.903	0.670	97.9	80-120			
Manganese	8.44	0.439	ng/m ³ Air	6.5254	2.23	95.2	80-120			
Molybdenum	2.66	0.311	ng/m ³ Air	1.0901	1.63	94.1	80-120			
Nickel	3.02	0.582	ng/m ³ Air	2.1806	0.991	92.9	80-120			
Selenium	2.24	0.00796	ng/m ³ Air	2.1801	0.159	95.4	80-120			
Thallium	0.107	6.79E-4	ng/m ³ Air	0.10898	0.00174	96.2	80-120			
Vanadium	2.64	0.0361	ng/m ³ Air	2.1832	0.540	96.1	80-120			
Zinc	ND	89.9	ng/m ³ Air	65.397	ND		80-120			U

Matrix Spike (B5A2804-MS2) Source: 5012731-06 Prepared & Analyzed: 01/28/25

Antimony	1.03	0.0299	ng/m ³ Air	1.1831	0.265	65.0	80-120			SL
Arsenic	2.60	0.00760	ng/m ³ Air	2.3657	0.206	101	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B5A2804 - ICP-MS Extraction

Matrix Spike (B5A2804-MS2) Continued Source: 5012731-06 Prepared & Analyzed: 01/28/25

Barium	27.5	1.32	ng/m ³ Air	23.676	3.61	101	80-120			
Beryllium	1.11	0.00162	ng/m ³ Air	1.1832	0.00615	93.1	80-120			
Cadmium	1.29	0.00438	ng/m ³ Air	1.1834	0.0876	101	80-120			
Chromium	13.6	2.09	ng/m ³ Air	11.828	ND	115	80-120			
Cobalt	1.40	0.0445	ng/m ³ Air	1.1831	0.206	101	80-120			
Copper	103	0.643	ng/m ³ Air	23.676	75.1	118	80-120			
Lead	13.4	0.115	ng/m ³ Air	11.830	1.50	101	80-120			
Manganese	13.6	0.476	ng/m ³ Air	7.0800	6.36	103	80-120			
Molybdenum	3.87	0.337	ng/m ³ Air	1.1827	2.56	111	80-120			
Nickel	3.51	0.632	ng/m ³ Air	2.3659	1.14	100	80-120			
Selenium	2.71	0.00864	ng/m ³ Air	2.3655	0.382	98.2	80-120			
Thallium	0.118	7.36E-4	ng/m ³ Air	0.11825	0.00314	96.8	80-120			
Vanadium	3.27	0.0392	ng/m ³ Air	2.3688	0.879	101	80-120			
Zinc	ND	97.5	ng/m ³ Air	70.956	ND		80-120			U

Matrix Spike Dup (B5A2804-MSD1) Source: 5012731-12 Prepared & Analyzed: 01/28/25

Antimony	0.785	0.0276	ng/m ³ Air	1.0904	0.106	62.3	80-120	5.53	20	SL
Arsenic	2.31	0.00701	ng/m ³ Air	2.1803	0.139	99.6	80-120	2.59	20	
Barium	23.4	1.21	ng/m ³ Air	21.821	1.57	100	80-120	3.39	20	
Beryllium	1.03	0.00150	ng/m ³ Air	1.0905	0.00356	93.8	80-120	6.15	20	
Cadmium	1.13	0.00404	ng/m ³ Air	1.0907	0.0383	99.8	80-120	0.120	20	
Chromium	12.2	1.92	ng/m ³ Air	10.902	ND	112	80-120	3.29	20	
Cobalt	1.16	0.0410	ng/m ³ Air	1.0904	0.0902	98.5	80-120	2.96	20	
Copper	53.2	0.593	ng/m ³ Air	21.821	30.5	104	80-120	4.10	20	
Lead	11.6	0.106	ng/m ³ Air	10.903	0.670	100	80-120	2.08	20	
Manganese	8.79	0.439	ng/m ³ Air	6.5254	2.23	100	80-120	4.01	20	
Molybdenum	2.75	0.311	ng/m ³ Air	1.0901	1.63	102	80-120	3.24	20	
Nickel	3.16	0.582	ng/m ³ Air	2.1806	0.991	99.7	80-120	4.73	20	
Selenium	2.25	0.00796	ng/m ³ Air	2.1801	0.159	95.9	80-120	0.508	20	
Thallium	0.108	6.79E-4	ng/m ³ Air	0.10898	0.00174	97.7	80-120	1.56	20	
Vanadium	2.72	0.0361	ng/m ³ Air	2.1832	0.540	99.8	80-120	2.98	20	
Zinc	ND	89.9	ng/m ³ Air	65.397	ND		80-120		20	U

Matrix Spike Dup (B5A2804-MSD2) Source: 5012731-06 Prepared & Analyzed: 01/28/25

Antimony	1.02	0.0299	ng/m ³ Air	1.1831	0.265	64.1	80-120	0.958	20	SL
Arsenic	2.53	0.00760	ng/m ³ Air	2.3657	0.206	98.5	80-120	2.60	20	
Barium	27.2	1.32	ng/m ³ Air	23.676	3.61	99.8	80-120	0.977	20	
Beryllium	1.12	0.00162	ng/m ³ Air	1.1832	0.00615	94.4	80-120	1.37	20	
Cadmium	1.29	0.00438	ng/m ³ Air	1.1834	0.0876	101	80-120	0.156	20	
Chromium	15.3	2.09	ng/m ³ Air	11.828	ND	130	80-120	11.7	20	

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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: 02/05/25 11:12
 SUBMITTED: 01/27/25
 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 B5A2804 - ICP-MS Extraction

Matrix Spike Dup (B5A2804-MSD2) Contisource: 5012731-06 Prepared & Analyzed: 01/28/25

Cobalt	1.39	0.0445	ng/m ³ Air	1.1831	0.206	100	80-120	0.528	20	
Copper	101	0.643	ng/m ³ Air	23.676	75.1	111	80-120	1.65	20	
Lead	13.4	0.115	ng/m ³ Air	11.830	1.50	101	80-120	0.321	20	
Manganese	13.5	0.476	ng/m ³ Air	7.0800	6.36	100	80-120	1.32	20	
Molybdenum	3.87	0.337	ng/m ³ Air	1.1827	2.56	111	80-120	0.0540	20	
Nickel	4.00	0.632	ng/m ³ Air	2.3659	1.14	121	80-120	13.2	20	QM-07
Selenium	2.73	0.00864	ng/m ³ Air	2.3655	0.382	99.3	80-120	0.952	20	
Thallium	0.118	7.36E-4	ng/m ³ Air	0.11825	0.00314	97.3	80-120	0.574	20	
Vanadium	3.23	0.0392	ng/m ³ Air	2.3688	0.879	99.4	80-120	1.03	20	
Zinc	ND	97.5	ng/m ³ Air	70.956	ND		80-120		20	U

Post Spike (B5A2804-PS1) Source: 5012731-12 Prepared & Analyzed: 01/28/25

Antimony	0.323	0.0276	ng/m ³ Air	0.21799	0.106	99.7	75-125			SL
Arsenic	1.21	0.00701	ng/m ³ Air	1.0900	0.139	98.5	75-125			
Barium	3.73	1.21	ng/m ³ Air	2.1799	1.57	99.2	75-125			
Beryllium	0.212	0.00150	ng/m ³ Air	0.21799	0.00356	95.8	75-125			
Cadmium	0.151	0.00404	ng/m ³ Air	0.10900	0.0383	103	75-125			
Chromium	2.13	1.92	ng/m ³ Air	1.0900	ND	196	75-125			
Cobalt	0.308	0.0410	ng/m ³ Air	0.21799	0.0902	99.8	75-125			
Copper	42.0	0.593	ng/m ³ Air	10.900	30.5	105	75-125			
Lead	22.5	0.106	ng/m ³ Air	21.799	0.670	100	75-125			
Manganese	4.41	0.439	ng/m ³ Air	2.1799	2.23	100	75-125			
Molybdenum	2.70	0.311	ng/m ³ Air	1.0900	1.63	97.9	75-125			
Nickel	3.15	0.582	ng/m ³ Air	2.1799	0.991	99.3	75-125			
Selenium	1.23	0.00796	ng/m ³ Air	1.0900	0.159	98.2	75-125			
Thallium	0.0563	6.79E-4	ng/m ³ Air	5.4498E-2	0.00174	100	75-125			
Vanadium	1.63	0.0361	ng/m ³ Air	1.0900	0.540	100	75-125			
Zinc	ND	89.9	ng/m ³ Air	21.799	ND		75-125			U

Post Spike (B5A2804-PS2) Source: 5012731-06 Prepared & Analyzed: 01/28/25

Antimony	0.509	0.0299	ng/m ³ Air	0.23652	0.265	103	75-125			SL
Arsenic	1.36	0.00760	ng/m ³ Air	1.1826	0.206	97.4	75-125			
Barium	5.88	1.32	ng/m ³ Air	2.3652	3.61	96.0	75-125			
Beryllium	0.235	0.00162	ng/m ³ Air	0.23652	0.00615	96.6	75-125			
Cadmium	0.211	0.00438	ng/m ³ Air	0.11826	0.0876	105	75-125			
Chromium	2.88	2.09	ng/m ³ Air	1.1826	ND	244	75-125			
Cobalt	0.443	0.0445	ng/m ³ Air	0.23652	0.206	100	75-125			
Copper	87.9	0.643	ng/m ³ Air	11.826	75.1	108	75-125			
Lead	25.2	0.115	ng/m ³ Air	23.652	1.50	100	75-125			
Manganese	8.75	0.476	ng/m ³ Air	2.3652	6.36	101	75-125			

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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 B5A2804 - ICP-MS Extraction

Post Spike (B5A2804-PS2) Continued Source: 5012731-06 Prepared & Analyzed: 01/28/25

Molybdenum	3.74	0.337	ng/m ³ Air	1.1826	2.56	99.0	75-125			
Nickel	3.49	0.632	ng/m ³ Air	2.3652	1.14	99.2	75-125			
Selenium	1.48	0.00864	ng/m ³ Air	1.1826	0.382	93.1	75-125			
Thallium	0.0607	7.36E-4	ng/m ³ Air	5.9130E-2	0.00314	97.3	75-125			
Vanadium	2.06	0.0392	ng/m ³ Air	1.1826	0.879	99.6	75-125			
Zinc	ND	97.5	ng/m ³ Air	23.652	ND		75-125			U

Dilution Check (B5A2804-SRL1) Source: 5012731-12 Prepared & Analyzed: 01/28/25

Antimony	ND	0.138	ng/m ³ Air		ND			10		SL, U
Arsenic	0.137	0.0350	ng/m ³ Air		0.139			1.62	10	
Barium	ND	6.07	ng/m ³ Air		ND				10	U
Beryllium	ND	0.00749	ng/m ³ Air		ND				10	U
Cadmium	0.0377	0.0202	ng/m ³ Air		0.0383			1.51	10	
Chromium	ND	9.62	ng/m ³ Air		ND				10	U
Cobalt	ND	0.205	ng/m ³ Air		ND				10	U
Copper	30.5	2.96	ng/m ³ Air		30.5			0.118	10	
Lead	0.653	0.528	ng/m ³ Air		0.670			2.45	10	
Manganese	2.25	2.20	ng/m ³ Air		2.23			0.732	10	
Molybdenum	1.60	1.55	ng/m ³ Air		1.63			2.14	10	
Nickel	ND	2.91	ng/m ³ Air		ND				10	U
Selenium	0.161	0.0398	ng/m ³ Air		0.159			1.61	10	
Thallium	ND	0.00339	ng/m ³ Air		ND				10	U
Vanadium	0.522	0.180	ng/m ³ Air		0.540			3.30	10	
Zinc	ND	449	ng/m ³ Air		ND				10	U

Dilution Check (B5A2804-SRL2) Source: 5012731-06 Prepared & Analyzed: 01/28/25

Antimony	0.266	0.150	ng/m ³ Air		0.265			0.345	10	SL
Arsenic	0.208	0.0380	ng/m ³ Air		0.206			1.21	10	
Barium	ND	6.58	ng/m ³ Air		ND				10	U
Beryllium	ND	0.00812	ng/m ³ Air		ND				10	U
Cadmium	0.0858	0.0219	ng/m ³ Air		0.0876			2.14	10	
Chromium	ND	10.4	ng/m ³ Air		ND				10	U
Cobalt	ND	0.222	ng/m ³ Air		ND				10	U
Copper	75.8	3.22	ng/m ³ Air		75.1			0.959	10	
Lead	1.49	0.573	ng/m ³ Air		1.50			0.881	10	
Manganese	6.49	2.38	ng/m ³ Air		6.36			1.92	10	
Molybdenum	2.59	1.68	ng/m ³ Air		2.56			0.825	10	
Nickel	ND	3.16	ng/m ³ Air		ND				10	U
Selenium	0.417	0.0432	ng/m ³ Air		0.382			8.83	10	
Thallium	0.00481	0.00368	ng/m ³ Air		ND			41.9	10	

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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 B5A2804 - ICP-MS Extraction

Dilution Check (B5A2804-SRL2) ContinueSource: 5012731-06 Prepared & Analyzed: 01/28/25

Vanadium	0.874	0.196	ng/m ³ Air		0.879			0.580	10	
Zinc	ND	487	ng/m ³ Air		ND				10	U



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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
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.
BR	Sample Value Below Acceptable Range
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 02/06/2025 and Shanna Vasser 02/07/2025

Laboratory: Eastern Research Group – Morrisville, NC

Collection date(s): 01/16/2025 – 01/22/2025

Report No: 5012731

- √ 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-FB01-011625-HM, for arsenic in MFL-FB01-012025-HM, and for copper in MFL-LB01-012125-HM.

Notes: None.