

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

**November 21 through November 27, 2024**

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

Particulate monitoring and air sampling occurred from November 21 through November 27, 2024, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers ( $\mu\text{m}$ ), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM<sub>10</sub>". Monitoring for PM<sub>10</sub> was conducted 24 hours a day, 7 days a week from November 21 through November 27 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM<sub>10</sub>, 24-hour time-weighted average of 150 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), which was selected as the screening level for this activity.

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

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

### ***Air Monitoring Results***

In addition to the air sampling activities, real-time PM<sub>10</sub> concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM<sub>10</sub> monitoring results exceeded the 150  $\mu\text{g}/\text{m}^3$  screening level established in the CAMSP, as shown in **Table 1**.

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

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

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

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

### ***Meteorological Summary***

Overall wind conditions during this weekly event averaged 1.3 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.

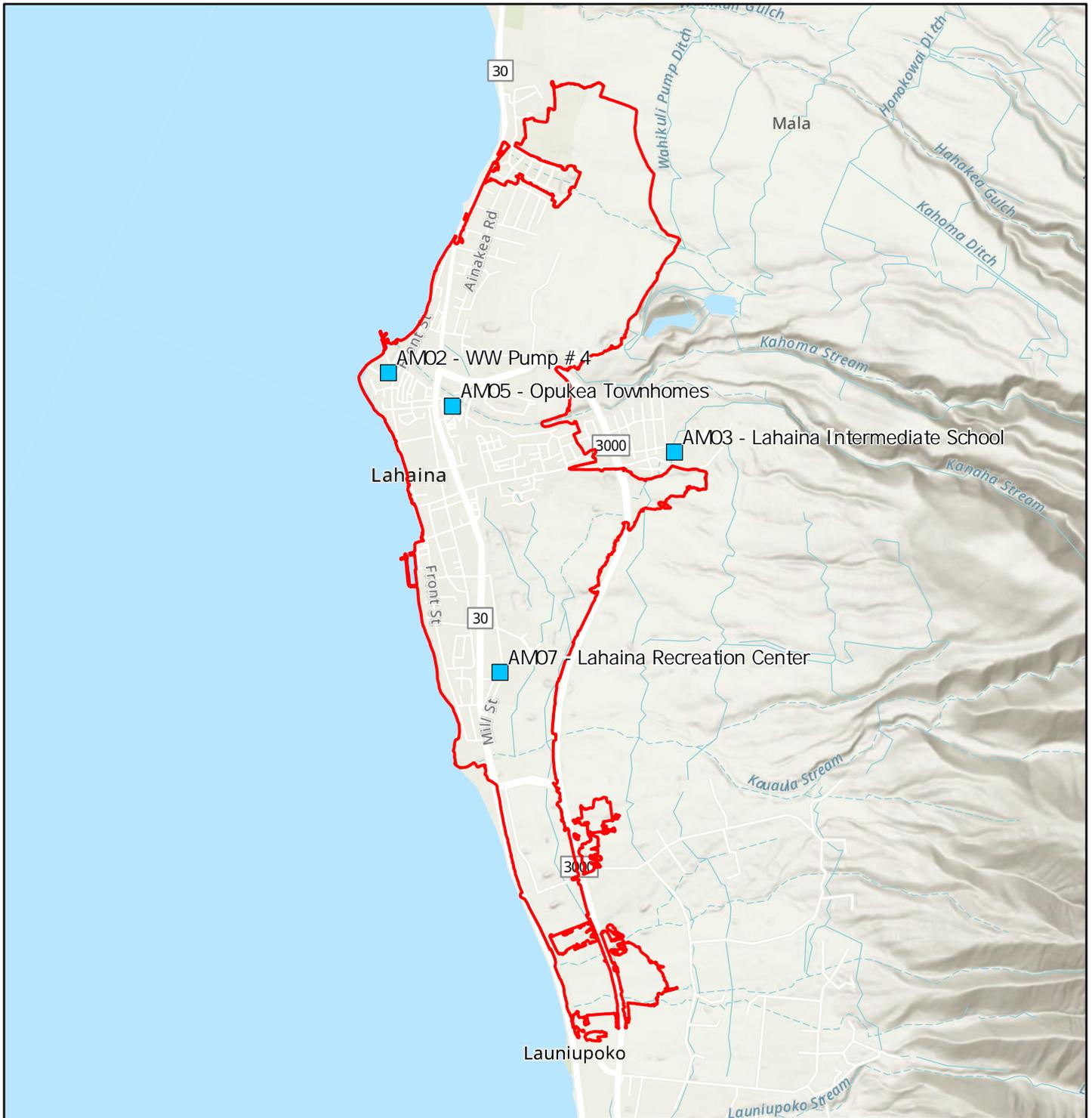
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM<sub>10</sub> by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

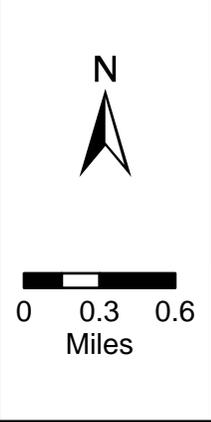
Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

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

## **Attachments**



- Air Sampling Locations
- Lahaina Fire Perimeter



**Figure 1**  
Air Sampling Locations

Hawaii DOH  
2023 Lahaina Wildfire

**Table 3**  
**State of Hawaii, Department of Health, Clean Air Branch**  
**Averaged Meteorological Data**  
**Maui Wildfires, Lahaina**  
**November 21, through November 27, 2024**

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
11/21/2024	AM-02	WW Pump Station #4	0.8	SSE	77	61	762.0
11/21/2024	AM-03	Lahaina Intermediate School	1.1	ESE	76	59	752.8
11/21/2024	AM-05	Opukea Townhomes	1.2	SE	77	57	761.5
11/21/2024	AM-07	Lahaina Recreational Center	1.4	SE	76	61	761.3
11/22/2024	AM-02	WW Pump Station #4	0.9	SSE	77	63	763.0
11/22/2024	AM-03	Lahaina Intermediate School	0.9	SE	75	62	753.7
11/22/2024	AM-05	Opukea Townhomes	0.9	ESE	76	59	762.5
11/22/2024	AM-07	Lahaina Recreational Center	1.4	SE	75	64	762.3
11/23/2024	AM-02	WW Pump Station #4	1.0	SE	77	64	762.1
11/23/2024	AM-03	Lahaina Intermediate School	1.2	SE	75	60	752.8
11/23/2024	AM-05	Opukea Townhomes	1.1	E	77	58	761.6
11/23/2024	AM-07	Lahaina Recreational Center	1.5	SSE	75	64	761.3
11/24/2024	AM-02	WW Pump Station #4	0.9	SSE	76	65	761.0
11/24/2024	AM-03	Lahaina Intermediate School	1.0	SE	75	63	751.7
11/24/2024	AM-05	Opukea Townhomes	1.0	E	76	59	760.5
11/24/2024	AM-07	Lahaina Recreational Center	1.4	SSE	74	66	760.2
11/25/2024	AM-02	WW Pump Station #4	1.0	SSE	78	67	760.9
11/25/2024	AM-03	Lahaina Intermediate School	1.6	E	77	61	751.6
11/25/2024	AM-05	Opukea Townhomes	1.5	E	78	61	760.4
11/25/2024	AM-07	Lahaina Recreational Center	1.7	ESE	76	64	760.2
11/26/2024	AM-02	WW Pump Station #4	1.3	SSE	78	63	761.8
11/26/2024	AM-03	Lahaina Intermediate School	1.9	ESE	77	58	752.4
11/26/2024	AM-05	Opukea Townhomes	1.6	E	78	58	761.3
11/26/2024	AM-07	Lahaina Recreational Center	2.0	SSE	76	62	761.0
11/27/2024	AM-02	WW Pump Station #4	1.3	SE	79	62	761.5
11/27/2024	AM-03	Lahaina Intermediate School	1.4	ESE	77	61	752.1
11/27/2024	AM-05	Opukea Townhomes	2.0	E	78	58	761.0
11/27/2024	AM-07	Lahaina Recreational Center	1.4	ESE	76	64	760.7

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

**Table 1**  
**State of Hawaii, Department of Health, Clean Air Branch**  
**Particulate Monitoring Results for PM<sub>10</sub>**  
**Maui Wildfires, Lahaina**  
**November 21 through November 27, 2024**

Screening Level		TWA Results 150 (µg/m <sup>3</sup> )
11/21/2024	Opukea Townhomes (AM-05)	7.3
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	5.0
	Lahaina Recreation Center (AM-07)	7.6
11/22/2024	Opukea Townhomes (AM-05)	5.2
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Recreation Center (AM-07)	7.1
11/23/2024	Opukea Townhomes (AM-05)	6.8
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	5.2
	Lahaina Recreation Center (AM-07)	5.0
11/24/2024	Opukea Townhomes (AM-05)	5.4
	WW Pump Station #4 (AM-02)	6.6
	Lahaina Intermediate School (AM-03)	6.1
	Lahaina Recreation Center (AM-07)	6.4
11/25/2024	Opukea Townhomes (AM-05)	9.7
	WW Pump Station #4 (AM-02)	7.0
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Recreation Center (AM-07)	9.9
11/26/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Recreation Center (AM-07)	10
11/27/2024	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	9.9
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Recreation Center (AM-07)	7.2

**Notes:**

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

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

**Table 2**  
**State of Hawaii, Department of Health, Clean Air Branch**  
**Asbestos and Metals Sampling Results**  
**Maui Wildfires, Lahaina**  
**November 21 through November 27, 2024**

Analyte	Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc	
Units*	s/cc	µg/m <sup>3</sup>																
Site Screening Action Level	0.003 <sup>1</sup>	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200	
11/21/2024	Opukea Townhomes (AM-05)	<0.0024	0.000140	0.000282	0.00545	0.0000124	ND	0.00333	0.000524	0.0545	0.000674	0.0144	0.00287	0.00194	0.000166	0.00000140	0.00163	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000238	0.000398	0.0105	0.0000287	ND	0.00485	0.00111	0.0490	0.00103	0.0304	0.00174	0.00311	0.000241	0.00000192	0.00357	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000819	0.000141	0.00281	0.0000208	ND	0.00231	0.000378	0.0601	0.000239	0.00963	0.00240	0.00120	0.000158	0.00000106	0.000938	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000819	0.000474	0.00574	0.0000220	ND	0.00339	0.000744	0.0302	0.000474	0.0256	0.00141	0.00183	0.000185	0.00000158	0.00197	ND
11/22/2024	Opukea Townhomes (AM-05)	<0.0024	0.000104	0.000212	0.00457	0.0000125	ND	0.00271	0.000474	0.0502	0.000671	0.0128	0.00257	0.00168	0.000157	0.00000144	0.00153	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000452	0.000652	0.0135	0.0000415	0.000250	0.00563	0.00136	0.0558	0.00233	0.0409	0.00206	0.00381	0.000277	0.00000242	0.00428	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000712	0.000213	0.00456	0.0000354	ND	0.00373	0.000711	0.0590	0.000371	0.0172	0.00271	0.00235	0.000203	0.00000154	0.00194	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000819	0.000910	0.0157	0.0000760	ND	0.00734	0.00202	0.0296	0.00165	0.0702	0.00126	0.00431	0.000385	0.00000344	0.00519	ND
11/23/2024	Opukea Townhomes (AM-05)	<0.0024	0.000124	0.000208	0.00485	0.0000110	ND	0.00322	0.000417	0.0367	0.000535	0.0115	0.00253	0.00203	0.000142	0.00000147	0.00133	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000241	0.000367	0.00976	0.0000309	ND	0.00475	0.00116	0.0440	0.00119	0.0292	0.00262	0.00339	0.000217	0.00000224	0.00336	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000779	0.000186	0.00428	0.0000220	ND	0.00332	0.000568	0.0671	0.000489	0.0132	0.00366	0.00213	0.000160	0.00000167	0.00144	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000102	0.000311	0.00568	0.0000283	ND	0.00317	0.000720	0.0283	0.000969	0.0242	0.00132	0.00193	0.000206	0.00000188	0.00190	ND
11/24/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000997	0.000176	0.00386	0.00000966	ND	0.00235	0.000362	0.0308	0.000506	0.0106	0.00226	0.00156	0.000150	0.00000137	0.00150	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000258	0.000230	0.00691	0.0000119	0.000128	0.00242	0.000426	0.0536	0.000948	0.0139	0.00356	0.00157	0.000170	0.00000148	0.00173	ND
	Lahaina Intermediate School (AM-03)	<0.0030	0.0000540	0.000214	0.00242	0.00000954	ND	0.00193	0.000270	0.0451	0.000401	0.00720	0.00277	0.00122	0.0000132	0.00000116	0.00110	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000748	0.000280	0.00364	0.0000177	ND	0.00253	0.000455	0.0200	0.000436	0.0170	0.00126	0.00150	0.000168	0.00000142	0.00159	ND
11/25/2024	Opukea Townhomes (AM-05)	<0.0024	0.000172	0.000290	0.00720	0.0000219	ND	0.00576	0.000973	0.0398	0.000562	0.0238	0.00282	0.00393	0.000174	0.00000175	0.00283	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000218	0.000365	0.00926	0.0000263	ND	0.00420	0.000968	0.0561	0.00130	0.0262	0.00251	0.00291	0.000189	0.00000185	0.00294	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000585	0.000199	0.00464	0.0000351	ND	0.00801	0.000907	0.0716	0.000628	0.0207	0.00320	0.00583	0.000200	0.00000167	0.00212	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000132	0.000660	0.00607	0.0000310	ND	0.00529	0.00106	0.0310	0.000867	0.0354	0.00145	0.00269	0.000228	0.00000248	0.00291	ND
11/26/2024	Opukea Townhomes (AM-05)	<0.0024	0.000137	0.000791	0.0167	0.0000697	ND	0.0121	0.00309	0.0428	0.00117	0.0722	0.00258	0.00963	0.000384	0.00000368	0.00856	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000247	0.000613	0.0153	0.0000425	ND	0.00666	0.00161	0.0703	0.00260	0.0460	0.00265	0.00473	0.000319	0.00000254	0.00508	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000740	0.000260	0.00487	0.0000461	ND	0.00533	0.00108	0.0617	0.000657	0.0257	0.00359	0.00320	0.000252	0.00000198	0.00251	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000141	0.00143	0.0113	0.0000750	ND	0.0102	0.00250	0.0241	0.00134	0.0826	0.00108	0.00563	0.000447	0.00000423	0.00661	ND
11/27/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000948	0.000850	0.0171	0.0000767	ND	0.0149	0.00379	0.0377	0.000893	0.0839	0.00190	0.0103	0.000413	0.00000368	0.0103	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000172	0.000754	0.0139	0.0000543	ND	0.00717	0.00172	0.0625	0.00397	0.0536	0.00205	0.00436	0.000339	0.00000269	0.00561	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000495	0.000253	0.00443	0.0000500	ND	0.00581	0.00120	0.0485	0.000389	0.0282	0.00220	0.00325	0.000257	0.00000187	0.00266	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000789	0.000749	0.00649	0.0000383	0.0000665	0.00604	0.00126	0.0183	0.000888	0.0422	0.00105	0.00293	0.000277	0.00000232	0.00341	ND
95% Upper Confidence Limit <sup>2</sup>	NA	0.000170	0.000560	0.00982	0.0000450	0.000306	0.00644	0.00149	0.0526	0.00128	0.0419	0.00262	0.00417	0.000270	0.00000240	0.00409	NA	

**Notes:**

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

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

s/cc = structures per cubic centimeter

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

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

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

# **Appendix 1**



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

**EMSL Order:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM05-112124-AB      **Sample Description:** DL264103

EMSL Sample Number: 042424386-0001      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7161.4  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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 <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	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	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	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 <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	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	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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



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

**EMSL Order ID: 042424386**  
**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: 042424386-0001			Customer Sample: MFL-AM05-112124-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	J2	None Detected									
B2	F1	None Detected									
B2	C3	None Detected									
B3	B8	None Detected									
B3	I5	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:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM02-112124-AB      **Sample Description:** DL264067

EMSL Sample Number: 042424386-0002      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7160.4  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

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

**Comment**

Approved Signatory

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EMSL Order ID: **042424386**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424386-0002</b>			Customer Sample: <b>MFL-AM02-112124-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J4	None Detected									
B5	G2	None Detected									
B5	C3	None Detected									
B6	C8	None Detected									
B6	G3	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM03-112124-AB      **Sample Description:** DL264089

EMSL Sample Number: 042424386-0003      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7275.1  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

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

**Comment**

Approved Signatory

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EMSL Order ID: **042424386**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

### Analytical Bench Sheet Data

EMSL Sample ID: <b>042424386-0003</b>			Customer Sample: <b>MFL-AM03-112124-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A2	None Detected									
C1	D5	None Detected									
C1	H6	None Detected									
C2	H3	None Detected									
C2	C8	None Detected									

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



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**EMSL Order:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Phone:** (703) 489-2674  
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**Received Date:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM07-112124-AB      **Sample Description:** DL264093

EMSL Sample Number: 042424386-0004      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7166.6  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

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

**Comment**

Approved Signatory

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**EMSL Order ID: 042424386**  
**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: 042424386-0004			Customer Sample: MFL-AM07-112124-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	A7	None Detected									
C5	E9	None Detected									
C5	H10	None Detected									
C6	G4	None Detected									
C6	C5	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Fax:** N/A  
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**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-FB01-112124-AB      **Sample Description:** DL264082

EMSL Sample Number: 042424386-0005      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L) : 0.0  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 10  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 22.82			
<b>Total Amphibole</b>	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			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
<b>Total All Structures</b>	-	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 <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 22.82			
<b>Total Amphibole (PCMe)</b>	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			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 22.82			
Other Minerals	-	0	0	< 22.82			
<b>Total All Structures (PCMe)</b>	-	0	0	< 22.82			

**Comment**

Approved Signatory

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EMSL Order ID: **042424386**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424386-0005</b>			Customer Sample: <b>MFL-FB01-112124-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A2	None Detected									
D1	C6	None Detected									
D1	E8	None Detected									
D1	G6	None Detected									
D1	I4	None Detected									
D2	A1	None Detected									
D2	C2	None Detected									
D2	E4	None Detected									
D2	G6	None Detected									
D2	I8	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Phone:** (703) 489-2674  
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**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM05-112224-AB      **Sample Description:** DL264061

EMSL Sample Number: 042424386-0006      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7161.5  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

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

**Comment**

Approved Signatory

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

**EMSL Order ID: 042424386**  
**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: 042424386-0006			Customer Sample: MFL-AM05-112224-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	A4	None Detected									
D5	D8	None Detected									
D5	J9	None Detected									
D6	H3	None Detected									
D6	B4	None Detected									

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



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**EMSL Order:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM02-112224-AB</b>	<b>Sample Description:</b>	<b>DL264068</b>
EMSL Sample Number:	042424386-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6682.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0009</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0027</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
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	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	

**Comment**

Approved Signatory

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EMSL Order ID: **042424386**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424386-0007</b>			Customer Sample: <b>MFL-AM02-112224-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	B9	None Detected									
E1	E4	None Detected									
E1	H6	None Detected									
E2	I5	None Detected									
E2	D6	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Received Date:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-112224-AB</b>	<b>Sample Description:</b>	<b>DL264061</b>
EMSL Sample Number:	042424386-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6704.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0009</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0027</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
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	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Other Minerals	-	0	0	< 45.65	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	

**Comment**

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**EMSL Order ID: 042424386**  
**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: 042424386-0008		Customer Sample: MFL-AM03-112224-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	J6	None Detected									
E5	F3	None Detected									
E5	C4	None Detected									
E6	H5	None Detected									
E6	C6	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM07-112224-AB      **Sample Description:** DL264102

EMSL Sample Number: 042424386-0009      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7271.5  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

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

**Comment**

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**EMSL Order ID: 042424386**  
**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: 042424386-0009			Customer Sample: MFL-AM07-112224-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	I5	None Detected									
F2	F2	None Detected									
F2	C3	None Detected									
F3	J4	None Detected									
F3	C2	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Phone:** (703) 489-2674  
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**Received Date:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-FB01-112224-AB</b>	<b>Sample Description:</b>	<b>DL264072</b>
EMSL Sample Number:	042424386-0010	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 <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc):</b>	<b>N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
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			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
Other Minerals	-	0	0	< 22.82			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			

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

**Comment**

Approved Signatory

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

**EMSL Order ID: 042424386**  
**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: 042424386-0010		Customer Sample: MFL-FB01-112224-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A9	None Detected									
F5	C10	None Detected									
F5	E7	None Detected									
F5	G10	None Detected									
F5	I8	None Detected									
F6	J3	None Detected									
F6	H3	None Detected									
F6	F2	None Detected									
F6	D4	None Detected									
F6	B6	None Detected									

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



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**EMSL Order:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM05-112324-AB      **Sample Description:** DL264088

EMSL Sample Number: 042424386-0011      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7196.5  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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 <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	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	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	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 <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	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	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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EMSL Order ID: **042424386**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424386-0011</b>			Customer Sample: <b>MFL-AM05-112324-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A4	None Detected									
G1	D3	None Detected									
G1	H4	None Detected									
G2	C5	None Detected									
G2	G3	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:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM02-112324-AB      **Sample Description:** DL264096

EMSL Sample Number: 042424386-0012      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 6997.7  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

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

**Comment**

Approved Signatory

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**EMSL Order ID: 042424386**  
**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: 042424386-0012			Customer Sample: MFL-AM02-112324-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	A6	None Detected									
G5	D7	None Detected									
G5	G5	None Detected									
G6	H5	None Detected									
G6	B4	None Detected									

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



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**EMSL Order:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Project: Maui Fires Lahaina**

**Phone:** (703) 489-2674  
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**Received Date:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-112324-AB</b>	<b>Sample Description:</b>	<b>DL264084</b>
EMSL Sample Number:	042424386-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7234.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

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

**Comment**

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**EMSL Order ID: 042424386**  
**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:		042424386-0013					Customer Sample:		MFL-AM03-112324-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	I3	None Detected									
H1	F4	None Detected									
H1	B4	None Detected									
H2	B5	None Detected									
H2	G7	None Detected									

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



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**EMSL Order:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM07-112324-AB</b>	<b>Sample Description:</b>	<b>DL264097</b>
EMSL Sample Number:	042424386-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7165.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

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

**Comment**

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**EMSL Order ID: 042424386**  
**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: 042424386-0014			Customer Sample: MFL-AM07-112324-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	B5	None Detected									
H5	F3	None Detected									
H5	I6	None Detected									
H6	B7	None Detected									
H6	E3	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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 Denver, CO, 80202

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-FB01-112324-AB</b>	<b>Sample Description:</b>	<b>DL264081</b>
EMSL Sample Number:	042424386-0015	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 <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc):</b>	<b>N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
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			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
Other Minerals	-	0	0	< 22.82			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			

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

**Comment**

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EMSL Order ID: **042424386**  
 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:		042424386-0015					Customer Sample:		MFL-FB01-112324-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	A5	None Detected									
I1	C8	None Detected									
I1	E10	None Detected									
I1	G5	None Detected									
I1	I5	None Detected									
I2	A3	None Detected									
I2	C4	None Detected									
I2	E1	None Detected									
I2	G4	None Detected									
I2	I6	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM05-112424-AB</b>	<b>Sample Description:</b>	<b>DL264080</b>
EMSL Sample Number:	042424386-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7179.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 45.65	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 45.65</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

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

**Comment**

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EMSL Order ID: 042424386

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: 042424386-0016			Customer Sample: MFL-AM05-112424-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	I3	None Detected									
I5	F2	None Detected									
I5	B5	None Detected									
I6	A7	None Detected									
I6	H6	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM02-112424-AB      **Sample Description:** DL264086

EMSL Sample Number: 042424386-0017      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 6970.9  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

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

**Comment**

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EMSL Order ID: **042424386**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424386-0017</b>			Customer Sample: <b>MFL-AM02-112424-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	B5	None Detected									
J1	E2	None Detected									
J1	G6	None Detected									
J2	B6	None Detected									
J2	G8	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:** 042424386  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Project: Maui Fires Lahaina**

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**Received Date:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-112424-AB</b>	<b>Sample Description:</b>	<b>DL264095</b>
EMSL Sample Number:	042424386-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7424.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	4
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0010</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0030</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.06</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.06</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
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	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.06</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	
Other Minerals	-	0	0	< 57.06	< 0.0030	Not Applicable - 0.0030	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 57.06</b>	<b>&lt; 0.0030</b>	<b>Not Applicable - 0.0030</b>	

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

**Comment**

Approved Signatory

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

EMSL Order ID: **042424386**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424386-0018</b>			Customer Sample: <b>MFL-AM03-112424-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I4	None Detected									
J5	F8	None Detected									
J6	A6	None Detected									
J6	E4	None Detected									

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



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

**EMSL Order:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM07-112424-AB      **Sample Description:** DL264078

EMSL Sample Number: 042424386-0019      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7120.2  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0131  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

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

**Comment**

Approved Signatory

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

EMSL Order ID: 042424386

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:		042424386-0019		Customer Sample:		MFL-AM07-112424-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	I8	None Detected									
K1	F9	None Detected									
K1	C9	None Detected									
K2	C2	None Detected									
K2	G4	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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

**EMSL Order:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

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

<b>Customer Sample Number:</b>	<b>MFL-FB01-112424-AB</b>	<b>Sample Description:</b>	<b>DL264065</b>
EMSL Sample Number:	042424386-0020	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 <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc):</b>	<b>N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
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			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
Other Minerals	-	0	0	< 22.82			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			

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

**Comment**

Approved Signatory

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

EMSL Order ID: 042424386  
 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:		042424386-0020		Customer Sample:		MFL-FB01-112424-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A5	None Detected									
K5	C3	None Detected									
K5	E8	None Detected									
K5	G6	None Detected									
K5	I3	None Detected									
K6	J7	None Detected									
K6	H5	None Detected									
K6	F7	None Detected									
K6	D5	None Detected									
K6	B3	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:** 042424386  
**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:** 11/27/2024 10:00 AM  
**Analysis Date:** 12/03/2024  
**Report Date:** 12/03/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>Lab Blank</b>	<b>Sample Description: Lab Blank</b>
EMSL Sample Number:	042424386-0021	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 <sup>2</sup> ): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ): 0.0131
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: P. Harrison
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	1	
Target Analytical Sensitivity (Structures/cc):	0.001	
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc): N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
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			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			
Other Minerals	-	0	0	< 22.82			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 22.82</b>			

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

**Comment**

Approved Signatory

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

**EMSL Order ID: 042424386**  
**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: 042424386-0021			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	J2	None Detected									
A1	H3	None Detected									
A1	F2	None Detected									
A1	D6	None Detected									
A1	B3	None Detected									
A2	A7	None Detected									
A2	C10	None Detected									
A2	E10	None Detected									
A2	G8	None Detected									
A2	H10	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 Analytical, Inc.  
200 Route 130 North  
Cinnaminson, NJ 08077



EMSL Order Number / Lab Use Only

# #042424386

PHONE: (800) 220-3675

EMAIL: CinnAslab@EMSL.com

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24 NOV 27 AM 10:11

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

#### Project Information

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

Turn-Around-Time (TAT)

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

HERA ONLY

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-112124-AB	DL264103	7161.432	11/21/24 1055
MFL-AM02-112124-AB	DL264067	7160.374	11/21/24 1108
MFL-AM03-112124-AB	DL264089	7275.063	11/21/24 1251
MFL-AM07-112124-AB	DL264093	7166.587	11/21/24 1309
MFL-FB01-112124-AB	DL264082	0	11/21/24 1200
MFL-AM05-112224-AB	DL264061	7161.539	11/22/24 1052
MFL-AM02-112224-AB	DL264068	6662.507	11/22/24 1124
MFL-AM03-112224-AB	DL264071	6704.177	11/22/24 1250

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

All samples received acceptable for analysis. (20) [Signature]

Method of Shipment: <u>Fedex</u>	Sample Condition Upon Receipt:
Relinquished by: <u>[Signature]</u> Date/Time: <u>11/25/24 1100</u>	Received by: <u>[Signature]</u> Date/Time: <u>11-27-24</u>
Relinquished by:	Received by:

Controlled Document - COC-05 Asbestos R16 10/28/2021  AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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



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

Reviewed by:

Kierra Johnson 12/04/2024 and Shanna Vasser 12/06/2024

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

Collection date(s): 11/21/2024 – 11/24/2024

Report No: 42424386

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

**EMSL Order:** 042424729  
**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:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/05/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM05-112524-AB      **Sample Description:** DL264085

EMSL Sample Number: 042424729-0001      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7198.2  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0130  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 3  
 Target Analytical Sensitivity (Structures/cc): 0.001  
**Analytical Sensitivity (Structures/cc): 0.0008      Limit of Detection (Structures/cc): 0.0024**

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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

**EMSL Order ID: 042424729**  
**Client: Tetra Tech**  
**Project ID: Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

<b>EMSL Sample ID: 042424729-0001</b>			<b>Customer Sample: MFL-AM05-112524-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	B4	None Detected									
D2	D7	None Detected									
D2	G4	None Detected									
D3	B4	None Detected									
D3	G2	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:** 042424729  
**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:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/05/2024  
**Report Date:** 12/07/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM02-112524-AB</b>	<b>Sample Description:</b>	<b>DL264066</b>
EMSL Sample Number:	042424729-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7278.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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

EMSL Order ID: **042424729**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424729-0002</b>			Customer Sample: <b>MFL-AM02-112524-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A3	None Detected									
B5	C5	None Detected									
B5	E8	None Detected									
B6	D9	None Detected									
B6	F7	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:** 042424729  
**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:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/05/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-112524-AB</b>	<b>Sample Description:</b>	<b>DL264064</b>
EMSL Sample Number:	042424729-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7245.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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**EMSL Order ID: 042424729**  
**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: 042424729-0003			Customer Sample: MFL-AM03-112524-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	J5	None Detected									
C1	G10	None Detected									
C1	C7	None Detected									
C2	H7	None Detected									
C2	E9	None Detected									

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

**EMSL Analytical, Inc.**

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**EMSL Order:** 042424729  
**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:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/05/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM07-112524-AB</b>	<b>Sample Description:</b>	<b>DL264109</b>
EMSL Sample Number:	042424729-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7286.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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

EMSL Order ID: **042424729**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424729-0004</b>			Customer Sample: <b>MFL-AM07-112524-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B3	None Detected									
C5	F2	None Detected									
C5	H5	None Detected									
C6	F3	None Detected									
C6	B4	None Detected									

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



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

**EMSL Order:** 042424729  
**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:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/05/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-FB01-112524-AB</b>	<b>Sample Description:</b>	<b>DL264077</b>
EMSL Sample Number:	042424729-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc):</b>	<b>N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			

**Comment**

Approved Signatory

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EMSL Order ID: **042424729**  
 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:		042424729-0005					Customer Sample:		MFL-FB01-112524-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	A10	None Detected									
D1	C5	None Detected									
D1	E5	None Detected									
D1	G9	None Detected									
D1	I10	None Detected									
D2	A6	None Detected									
D2	C9	None Detected									
D2	E8	None Detected									
D2	G6	None Detected									
D2	I10	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:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/05/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM05-112624-AB      **Sample Description:** DL264087

EMSL Sample Number: 042424729-0006      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7207.0  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0130  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 3  
 Target Analytical Sensitivity (Structures/cc): 0.001  
**Analytical Sensitivity (Structures/cc): 0.0008      Limit of Detection (Structures/cc): 0.0024**

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

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**EMSL Order ID: 042424729**  
**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: 042424729-0006			Customer Sample: MFL-AM05-112624-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	D6	None Detected									
D5	H2	None Detected									
D6	C5	None Detected									
D6	G5	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:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM02-112624-AB **Sample Description:** DL264059

EMSL Sample Number: 042424729-0007 **Sample Matrix:** Air  
 Magnification used for fiber counting: 20,000 **Volume (L):** 7111.3  
 Aspect ratio for fiber definition: 3:1 **Area of original collection filter (mm<sup>2</sup>):** 385  
 Minimum Length (µm): ≥ 0.5 **Grid Opening Area (mm<sup>2</sup>):** 0.0130  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A) **Grid Openings Analyzed:** 5  
 Minimum Level of analysis (chrysotile): CD **Analyst:** P. Harrison  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 5  
 Target Analytical Sensitivity (Structures/cc): 0.001  
**Analytical Sensitivity (Structures/cc): 0.0008** **Limit of Detection (Structures/cc): 0.0024**

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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**EMSL Order ID: 042424729**  
**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: 042424729-0007			Customer Sample: MFL-AM02-112624-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J7	None Detected									
E1	F9	None Detected									
E1	C6	None Detected									
E2	C6	None Detected									
E2	H9	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:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-112624-AB</b>	<b>Sample Description:</b>	<b>DL698282</b>
EMSL Sample Number:	042424729-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7185.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

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EMSL Order ID: **042424729**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424729-0008</b>			Customer Sample: <b>MFL-AM03-112624-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A7	None Detected									
E5	D6	None Detected									
E5	G5	None Detected									
E6	A5	None Detected									
E6	E7	None Detected									

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



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**EMSL Order:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
 Tetra Tech  
 1560 Broadway, Suite 1400  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM07-112624-AB</b>	<b>Sample Description:</b>	<b>DL698139</b>
EMSL Sample Number:	042424729-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7153.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

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**EMSL Order ID: 042424729**  
**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: 042424729-0009			Customer Sample: MFL-AM07-112624-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	J4	None Detected									
F1	G1	None Detected									
F1	D4	None Detected									
F2	C8	None Detected									
F2	C5	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:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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 1560 Broadway, Suite 1400  
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**Phone:** (703) 489-2674  
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**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-FB01-112624-AB</b>	<b>Sample Description:</b>	<b>DL698004</b>
EMSL Sample Number:	042424729-0010	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 <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc):</b>	<b>N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			

**Comment**

  
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EMSL Order ID: **042424729**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424729-0010</b>		Customer Sample: <b>MFL-FB01-112624-AB</b>									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J5	None Detected									
F5	H2	None Detected									
F5	F1	None Detected									
F5	D6	None Detected									
F5	B2	None Detected									
F6	J10	None Detected									
F6	H7	None Detected									
F6	F2	None Detected									
F6	D7	None Detected									
F6	B2	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:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
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**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-AM05-112724-AB      **Sample Description:** DL698343

EMSL Sample Number: 042424729-0011      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7199.0  
 Aspect ratio for fiber definition: 3:1      Area of original collection filter (mm<sup>2</sup>): 385  
 Minimum Length (µm): ≥ 0.5      Grid Opening Area (mm<sup>2</sup>): 0.0130  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A)      Grid Openings Analyzed: 5  
 Minimum Level of analysis (chrysotile): CD      Analyst: P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

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EMSL Order ID: **042424729**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424729-0011</b>			Customer Sample: <b>MFL-AM05-112724-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	I2	None Detected									
G1	G4	None Detected									
G1	D10	None Detected									
G2	C2	None Detected									
G2	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:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	MFL-AM02-112724-AB	<b>Sample Description:</b>	DL698318
EMSL Sample Number:	042424729-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6859.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0009</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0027</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole</b>	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	

**Comment**

Approved Signatory

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

**EMSL Order ID: 042424729**  
**Client: Tetra Tech**  
**Project ID: Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

<b>EMSL Sample ID: 042424729-0012</b>			<b>Customer Sample: MFL-AM02-112724-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	J7	None Detected									
G5	H5	None Detected									
G5	C4	None Detected									
G6	I4	None Detected									
G6	G8	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:** 042424729  
**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:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-112724-AB</b>	<b>Sample Description:</b>	<b>DL698356</b>
EMSL Sample Number:	042424729-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7184.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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**EMSL Order ID: 042424729**  
**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: 042424729-0013			Customer Sample: MFL-AM03-112724-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	B6	None Detected									
H1	E9	None Detected									
H1	H5	None Detected									
H2	C6	None Detected									
H2	J8	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:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
 Tetra Tech  
 1560 Broadway, Suite 1400  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM07-112724-AB</b>	<b>Sample Description:</b>	<b>DL698168</b>
EMSL Sample Number:	042424729-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7130.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>0.0008</b>	<b>Limit of Detection (Structures/cc):</b>	<b>0.0024</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.00</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

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**EMSL Order ID: 042424729**  
**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: 042424729-0014			Customer Sample: MFL-AM07-112724-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	I2	None Detected									
H5	G5	None Detected									
H5	D7	None Detected									
H6	C5	None Detected									
H6	I7	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:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

**Customer Sample Number:** MFL-FB01-112724-AB **Sample Description:** DL698021

EMSL Sample Number: 042424729-0015 **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<sup>2</sup>):** 385  
 Minimum Length (µm): ≥ 0.5 **Grid Opening Area (mm<sup>2</sup>):** 0.0130  
 Chi<sup>2</sup> Test for Random Distribution on Filter: N/A (N/A) **Grid Openings Analyzed:** 10  
 Minimum Level of analysis (chrysotile): CD **Analyst:** P. Harrison  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 23.00			
<b>Total Amphibole</b>	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures</b>	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	CD	0	0	< 23.00			
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.00			

**Comment**

Approved Signatory

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EMSL Order ID: **042424729**  
 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:		042424729-0015						Customer Sample:		MFL-FB01-112724-AB	
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J6	None Detected									
I1	H10	None Detected									
I1	F1	None Detected									
I1	D2	None Detected									
I1	B3	None Detected									
I2	J3	None Detected									
I2	H10	None Detected									
I2	F7	None Detected									
I2	D8	None Detected									
I2	B7	None Detected									

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

**EMSL Analytical, Inc.**

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**EMSL Order:** 042424729  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

**Attn: Chelsea Saber**  
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**Fax:** N/A  
**Received Date:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/06/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-LB01-112624-AB</b>	<b>Sample Description:</b>	<b>DL698077</b>
EMSL Sample Number:	042424729-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ):	0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	1		
Target Analytical Sensitivity (Structures/cc):	0.001		
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc):</b>	<b>N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			

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

EMSL Order ID: **042424729**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424729-0016</b>			Customer Sample: <b>MFL-LB01-112624-AB</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A4	None Detected									
I5	C1	None Detected									
I5	E3	None Detected									
I5	G2	None Detected									
I5	I6	None Detected									
I6	J6	None Detected									
I6	H8	None Detected									
I6	F10	None Detected									
I6	D9	None Detected									
I6	B6	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  
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<http://www.EMSL.com> / [cinnaslab@EMSL.com](mailto:cinnaslab@EMSL.com)

**EMSL Order:** 042424729  
**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:** 12/04/2024 09:30 AM  
**Analysis Date:** 12/05/2024  
**Report Date:** 12/07/2024

**Project: Maui Fires Lahaina**

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

<b>Customer Sample Number:</b>	<b>Lab Blank</b>	<b>Sample Description: Lab Blank</b>
EMSL Sample Number:	042424729-0017	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm <sup>2</sup> ): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm <sup>2</sup> ): 0.0130
Chi <sup>2</sup> Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: P. Harrison
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	1	
Target Analytical Sensitivity (Structures/cc):	0.001	
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc): N/A</b>

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm <sup>2</sup> )	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile (PCMe)</b>	<b>CD</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			
Other Minerals	-	0	0	< 23.00			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.00</b>			

**Comment**

Approved Signatory

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EMSL Order ID: **042424729**  
 Client: **Tetra Tech**  
 Project ID: **Maui Fires Lahaina**

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

**Analytical Bench Sheet Data**

EMSL Sample ID: <b>042424729-0017</b>			Customer Sample: <b>Lab Blank</b>								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A3	None Detected									
A1	C4	None Detected									
A1	E10	None Detected									
A1	F4	None Detected									
A1	I4	None Detected									
A2	J9	None Detected									
A2	H6	None Detected									
A2	F2	None Detected									
A2	D7	None Detected									
A2	B10	None Detected									

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



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

EMSL Order Number / Lab Use Only

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

EMSL ANALYTICAL, INC.  
TESTING LABS • PRODUCTS • TRAINING

#042424729

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

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

<b>Customer Information</b>		<b>Billing Information</b>	
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	City, State, Zip:	
Country:	US	Country:	
Phone:	203-489-2674	Phone:	
Email(s) for Report:	Chelsea.saber@tetratech.com	Email(s) for Invoice:	

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

**Turn-Around-Time (TAT)**

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

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

**Test Selection**

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

\*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-AM05-112524-AB	DL264085	7198.237	11/25/24 1056
MFL-AM02-112524-AB	DL264066	7278.060	11/25/24 1115
MFL-AM03-112524-AB	DL264064	7245.966	11/25/24 1304
MFL-AM07-112524-AB	DL264109	7285.960	11/25/24 1324
MFL-FB01-112524-AB	DL264077	0	11/25/24 1200
MFL-AM05-112624-AB	DL264087	7207.001	11/26/24 1054
MFL-AM02-112624-AB	DL264059	7111.312	11/26/24 1110
MFL-AM03-112624-AB	DL698282	7185.088	11/26/24 1255

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:	<i>Nicholas Keefe</i>	Received by:	<i>MT FT</i>
Date/Time:	11/30/24 1100	Date/Time:	12/4/24 930
Relinquished by:		Received by:	
Date/Time:		Date/Time:	

Controlled Document - COC-05 Asbestos R16 10/28/2021  AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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



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

Reviewed by:

Kierra Johnson 12/10/2024 and Shanna Vasser 12/11/2024

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

Collection date(s): 11/25/2024 – 11/27/2024

Report No: 42424729

- √ 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

December 12, 2024

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

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 12/05/24 11:40.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for National Hazardous Air Pollutant Support (US EPA Contract No. 68HERH22D0002). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift  
Program Manager  
[julie.swift@erg.com](mailto:julie.swift@erg.com)

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



# CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.  
1777 Sentry Pkwy, Bldg 12  
Blue Bell, PA 19422

ATTN: Ms. Chelsea Saber

PHONE: (703) 885-5495 FAX:

FILE #: 4205.00.003.001

REPORTED: 12/12/24 08:42

SUBMITTED: 12/05/24

AQS SITE CODE:

SITE CODE: Lahaina fires

## ANALYTICAL REPORT FOR SAMPLES

<u>SampleName</u>	<u>LabNumber</u>	<u>Matrix</u>	<u>Sampled</u>	<u>Received</u>
MFL-AM05-112124-HM	4120531-01	Air	11/21/24 23:59	12/05/24 11:40
MFL-AM02-112124-HM	4120531-02	Air	11/21/24 23:59	12/05/24 11:40
MFL-AM03-112124-HM	4120531-03	Air	11/21/24 23:59	12/05/24 11:40
MFL-AM07-112124-HM	4120531-04	Air	11/21/24 23:59	12/05/24 11:40
MFL-AM05-112224-HM	4120531-05	Air	11/22/24 23:59	12/05/24 11:40
MFL-AM02-112224-HM	4120531-06	Air	11/22/24 23:59	12/05/24 11:40
MFL-AM03-112224-HM	4120531-07	Air	11/22/24 23:59	12/05/24 11:40
MFL-AM07-112224-HM	4120531-08	Air	11/22/24 23:59	12/05/24 11:40
MFL-FB01-112224-HM	4120531-09	Air	11/22/24 00:00	12/05/24 11:40
MFL-AM05-112324-HM	4120531-10	Air	11/23/24 23:59	12/05/24 11:40
MFL-AM02-112324-HM	4120531-11	Air	11/23/24 23:59	12/05/24 11:40
MFL-AM03-112324-HM	4120531-12	Air	11/23/24 23:59	12/05/24 11:40
MFL-AM07-112324-HM	4120531-13	Air	11/23/24 23:59	12/05/24 11:40
MFL-AM05-112424-HM	4120531-14	Air	11/24/24 23:59	12/05/24 11:40
MFL-AM02-112424-HM	4120531-15	Air	11/24/24 23:59	12/05/24 11:40
MFL-AM03-112424-HM	4120531-16	Air	11/24/24 23:59	12/05/24 11:40
MFL-AM07-112424-HM	4120531-17	Air	11/24/24 23:59	12/05/24 11:40
MFL-FB01-112424-HM	4120531-18	Air	11/24/24 00:00	12/05/24 11:40
MFL-AM05-112524-HM	4120531-19	Air	11/25/24 23:59	12/05/24 11:40
MFL-AM02-112524-HM	4120531-20	Air	11/25/24 23:59	12/05/24 11:40
MFL-AM03-112524-HM	4120531-21	Air	11/25/24 23:59	12/05/24 11:40



# 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:** 12/12/24 08:42  
**SUBMITTED:** 12/05/24  
**AQS SITE CODE:**

<b>PHONE:</b> (703) 885-5495	<b>FAX:</b>			<b>SITE CODE:</b>	Lahaina fires
MFL-AM07-112524-HM	4120531-22	Air	11/25/24 23:59	12/05/24 11:40	
MFL-AM05-112624-HM	4120531-23	Air	11/26/24 23:59	12/05/24 11:40	
MFL-AM02-112624-HM	4120531-24	Air	11/26/24 23:59	12/05/24 11:40	
MFL-AM03-112624-HM	4120531-25	Air	11/26/24 23:59	12/05/24 11:40	
MFL-AM07-112624-HM	4120531-26	Air	11/26/24 23:59	12/05/24 11:40	
MFL-FB01-112624-HM	4120531-27	Air	11/26/24 00:00	12/05/24 11:40	
MFL-LB01-112624-HM	4120531-28	Air	11/26/24 00:00	12/05/24 11:40	
MFL-AM05-112724-HM	4120531-29	Air	11/27/24 23:59	12/05/24 11:40	
MFL-AM02-112724-HM	4120531-30	Air	11/27/24 23:59	12/05/24 11:40	
MFL-AM03-112724-HM	4120531-31	Air	11/27/24 23:59	12/05/24 11:40	
MFL-AM07-112724-HM	4120531-32	Air	11/27/24 23:59	12/05/24 11:40	



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

FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-112124-HM      **Lab ID:** 4120531-01      **Sampled:** 11/21/24 23:59  
**Matrix:** Air      **Sample Volume:** 1923.618 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 00:51  
**Comments:** Q8537023 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.140	SL	0.0326	
Arsenic	7440-38-2	0.282		0.00793	
Barium	7440-39-3	5.45	QB-01	0.905	
Beryllium	7440-41-7	0.0124		0.00271	
Cadmium	7440-43-9	0.0127	U	0.0627	
Chromium	7440-47-3	3.33		1.87	
Cobalt	7440-48-4	0.524		0.0369	
Copper	7440-50-8	54.5		2.22	
Lead	7439-92-1	0.674		0.181	
Manganese	7439-96-5	14.4		1.60	
Molybdenum	7439-98-7	2.87		0.304	
Nickel	7440-02-0	1.94		0.551	
Selenium	7782-49-2	0.166		0.00758	
Thallium	7440-28-0	0.00140		4.98E-4	
Vanadium	7440-62-2	1.63		0.0447	
Zinc	7440-66-6	16.6	U	65.0	



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 Blue Bell, PA 19422  
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 PHONE: (703) 885-5495 FAX:

FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
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 AQS SITE CODE:  
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**Description:** MFL-AM02-112124-HM      **Lab ID:** 4120531-02      **Sampled:** 11/21/24 23:59  
**Matrix:** Air      **Sample Volume:** 2091.231 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 01:07  
**Comments:** Q8537022 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.238	SL	0.0300
Arsenic	7440-38-2	0.398		0.00729
Barium	7440-39-3	10.5	QB-01	0.832
Beryllium	7440-41-7	0.0287		0.00249
Cadmium	7440-43-9	0.0186	U	0.0577
Chromium	7440-47-3	4.85		1.72
Cobalt	7440-48-4	1.11		0.0339
Copper	7440-50-8	49.0		2.05
Lead	7439-92-1	1.03		0.166
Manganese	7439-96-5	30.4		1.47
Molybdenum	7439-98-7	1.74		0.279
Nickel	7440-02-0	3.11		0.507
Selenium	7782-49-2	0.241		0.00697
Thallium	7440-28-0	0.00192		4.58E-4
Vanadium	7440-62-2	3.57		0.0412
Zinc	7440-66-6	21.7	U	59.8



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 REPORTED: 12/12/24 08:42  
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**Description:** MFL-AM03-112124-HM      **Lab ID:** 4120531-03      **Sampled:** 11/21/24 23:59  
**Matrix:** Air      **Sample Volume:** 1950.396 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 01:23  
**Comments:** Q8537021 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0819	SL	0.0322
Arsenic	7440-38-2	0.141		0.00782
Barium	7440-39-3	2.81	QB-01	0.893
Beryllium	7440-41-7	0.0208		0.00267
Cadmium	7440-43-9	0.00662	U	0.0618
Chromium	7440-47-3	2.31		1.84
Cobalt	7440-48-4	0.378		0.0364
Copper	7440-50-8	60.1		2.19
Lead	7439-92-1	0.239		0.179
Manganese	7439-96-5	9.63		1.58
Molybdenum	7439-98-7	2.40		0.299
Nickel	7440-02-0	1.20		0.544
Selenium	7782-49-2	0.158		0.00747
Thallium	7440-28-0	0.00106		4.91E-4
Vanadium	7440-62-2	0.938		0.0441
Zinc	7440-66-6	7.75	U	64.1



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**Description:** MFL-AM07-112124-HM      **Lab ID:** 4120531-04      **Sampled:** 11/21/24 23:59  
**Matrix:** Air      **Sample Volume:** 1763.668 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 01:37  
**Comments:** Q8537020 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0819	SL	0.0356
Arsenic	7440-38-2	0.474		0.00864
Barium	7440-39-3	5.74	QB-01	0.987
Beryllium	7440-41-7	0.0220		0.00295
Cadmium	7440-43-9	0.00971	U	0.0684
Chromium	7440-47-3	3.39		2.04
Cobalt	7440-48-4	0.744		0.0402
Copper	7440-50-8	30.2		2.43
Lead	7439-92-1	0.474		0.197
Manganese	7439-96-5	25.6		1.74
Molybdenum	7439-98-7	1.41		0.331
Nickel	7440-02-0	1.83		0.601
Selenium	7782-49-2	0.185		0.00827
Thallium	7440-28-0	0.00158		5.43E-4
Vanadium	7440-62-2	1.97		0.0488
Zinc	7440-66-6	11.1	U	70.8



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**Description:** MFL-AM05-112224-HM      **Lab ID:** 4120531-05      **Sampled:** 11/22/24 23:59  
**Matrix:** Air      **Sample Volume:** 1913.089 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/06/24 22:10  
**Comments:** Q8537017 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.104	SL	0.0328	
Arsenic	7440-38-2	0.212		0.00797	
Barium	7440-39-3	4.57	QB-01	0.910	
Beryllium	7440-41-7	0.0125		0.00272	
Cadmium	7440-43-9	0.0114	U	0.0630	
Chromium	7440-47-3	2.71		1.88	
Cobalt	7440-48-4	0.474		0.0371	
Copper	7440-50-8	50.2		2.24	
Lead	7439-92-1	0.671		0.182	
Manganese	7439-96-5	12.8		1.61	
Molybdenum	7439-98-7	2.57		0.305	
Nickel	7440-02-0	1.68		0.554	
Selenium	7782-49-2	0.157		0.00762	
Thallium	7440-28-0	0.00144		5.01E-4	
Vanadium	7440-62-2	1.53		0.0450	
Zinc	7440-66-6	13.9	U	65.3	



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FILE #: 4205.00.003.001  
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 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
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**Description:** MFL-AM02-112224-HM      **Lab ID:** 4120531-06      **Sampled:** 11/22/24 23:59  
**Matrix:** Air      **Sample Volume:** 2116.989 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 01:51  
**Comments:** Q8537016 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.452	SL	0.0297
Arsenic	7440-38-2	0.652		0.00720
Barium	7440-39-3	13.5	QB-01	0.822
Beryllium	7440-41-7	0.0415		0.00246
Cadmium	7440-43-9	0.250		0.0569
Chromium	7440-47-3	5.63		1.70
Cobalt	7440-48-4	1.36		0.0335
Copper	7440-50-8	55.8		2.02
Lead	7439-92-1	2.33		0.164
Manganese	7439-96-5	40.9		1.45
Molybdenum	7439-98-7	2.06		0.276
Nickel	7440-02-0	3.81		0.501
Selenium	7782-49-2	0.277		0.00689
Thallium	7440-28-0	0.00242		4.53E-4
Vanadium	7440-62-2	4.28		0.0407
Zinc	7440-66-6	40.9	U	59.0



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**Description:** MFL-AM03-112224-HM      **Lab ID:** 4120531-07      **Sampled:** 11/22/24 23:59  
**Matrix:** Air      **Sample Volume:** 1897.008 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 02:09  
**Comments:** Q8537015 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0712	SL	0.0331
Arsenic	7440-38-2	0.213		0.00804
Barium	7440-39-3	4.56	QB-01	0.918
Beryllium	7440-41-7	0.0354		0.00274
Cadmium	7440-43-9	0.0145	U	0.0636
Chromium	7440-47-3	3.73		1.90
Cobalt	7440-48-4	0.711		0.0374
Copper	7440-50-8	59.0		2.26
Lead	7439-92-1	0.371		0.184
Manganese	7439-96-5	17.2		1.62
Molybdenum	7439-98-7	2.71		0.308
Nickel	7440-02-0	2.35		0.559
Selenium	7782-49-2	0.203		0.00768
Thallium	7440-28-0	0.00154		5.05E-4
Vanadium	7440-62-2	1.94		0.0454
Zinc	7440-66-6	10.2	U	65.9



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM07-112224-HM      **Lab ID:** 4120531-08      **Sampled:** 11/22/24 23:59  
**Matrix:** Air      **Sample Volume:** 1835.768 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 02:26  
**Comments:** Q8537013 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0819	SL	0.0342
Arsenic	7440-38-2	0.910		0.00830
Barium	7440-39-3	15.7	QB-01	0.948
Beryllium	7440-41-7	0.0760		0.00284
Cadmium	7440-43-9	0.0373	U	0.0657
Chromium	7440-47-3	7.34		1.96
Cobalt	7440-48-4	2.02		0.0386
Copper	7440-50-8	29.6		2.33
Lead	7439-92-1	1.65		0.190
Manganese	7439-96-5	70.2		1.68
Molybdenum	7439-98-7	1.26		0.318
Nickel	7440-02-0	4.31		0.578
Selenium	7782-49-2	0.385		0.00794
Thallium	7440-28-0	0.00344		5.22E-4
Vanadium	7440-62-2	5.19		0.0469
Zinc	7440-66-6	18.9	U	68.1



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-FB01-112224-HM      **Lab ID:** 4120531-09      **Sampled:** 11/22/24 00:00  
**Matrix:** Air      **Sample Volume:** 1913.089 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 02:43  
**Comments:** Q8537004 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/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0210	SL, U	0.0328	
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.0140</b>	FB-01	<b>0.00797</b>	
<b>Barium</b>	<b>7440-39-3</b>	<b>0.925</b>	FB-01, QB-01	<b>0.910</b>	
Beryllium	7440-41-7	9.03E-4	U	0.00272	
Cadmium	7440-43-9	0.00215	U	0.0630	
Chromium	7440-47-3	0.846	U	1.88	
Cobalt	7440-48-4	0.0224	U	0.0371	
Copper	7440-50-8	0.942	U	2.24	
Lead	7439-92-1	0.0322	U	0.182	
Manganese	7439-96-5	0.699	U	1.61	
Molybdenum	7439-98-7	0.185	U	0.305	
Nickel	7440-02-0	0.414	U	0.554	
Selenium	7782-49-2	0.00463	U	0.00762	
Thallium	7440-28-0	1.29E-4	U	5.01E-4	
Vanadium	7440-62-2	0.0372	U	0.0450	
Zinc	7440-66-6	3.75	U	65.3	



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 SUBMITTED: 12/05/24  
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**Description:** MFL-AM05-112324-HM      **Lab ID:** 4120531-10      **Sampled:** 11/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 1946.379 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 02:57  
**Comments:** Q8537011 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.124	SL	0.0323
Arsenic	7440-38-2	0.208		0.00783
Barium	7440-39-3	4.85	QB-01	0.894
Beryllium	7440-41-7	0.0110		0.00267
Cadmium	7440-43-9	0.0165	U	0.0619
Chromium	7440-47-3	3.22		1.85
Cobalt	7440-48-4	0.417		0.0364
Copper	7440-50-8	36.7		2.20
Lead	7439-92-1	0.535		0.179
Manganese	7439-96-5	11.5		1.58
Molybdenum	7439-98-7	2.53		0.300
Nickel	7440-02-0	2.03		0.545
Selenium	7782-49-2	0.142		0.00749
Thallium	7440-28-0	0.00147		4.92E-4
Vanadium	7440-62-2	1.33		0.0442
Zinc	7440-66-6	14.3	U	64.2



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 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
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**Description:** MFL-AM02-112324-HM      **Lab ID:** 4120531-11      **Sampled:** 11/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 2017.956 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 03:12  
**Comments:** Q8537009 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.241	SL	0.0311
Arsenic	7440-38-2	0.367		0.00755
Barium	7440-39-3	9.76	QB-01	0.863
Beryllium	7440-41-7	0.0309		0.00258
Cadmium	7440-43-9	0.0274	U	0.0597
Chromium	7440-47-3	4.75		1.78
Cobalt	7440-48-4	1.16		0.0352
Copper	7440-50-8	44.0		2.12
Lead	7439-92-1	1.19		0.173
Manganese	7439-96-5	29.2		1.52
Molybdenum	7439-98-7	2.62		0.289
Nickel	7440-02-0	3.39		0.526
Selenium	7782-49-2	0.217		0.00722
Thallium	7440-28-0	0.00224		4.75E-4
Vanadium	7440-62-2	3.36		0.0427
Zinc	7440-66-6	21.7	U	61.9



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 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
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**Description:** MFL-AM03-112324-HM      **Lab ID:** 4120531-12      **Sampled:** 11/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 1918.398 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 04:44  
**Comments:** Q8537008 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0779	SL	0.0327	
Arsenic	7440-38-2	0.186		0.00795	
Barium	7440-39-3	4.28	QB-01	0.907	
Beryllium	7440-41-7	0.0220		0.00271	
Cadmium	7440-43-9	0.0158	U	0.0628	
Chromium	7440-47-3	3.32		1.87	
Cobalt	7440-48-4	0.568		0.0370	
Copper	7440-50-8	67.1		2.23	
Lead	7439-92-1	0.489		0.181	
Manganese	7439-96-5	13.2		1.60	
Molybdenum	7439-98-7	3.66		0.304	
Nickel	7440-02-0	2.13		0.553	
Selenium	7782-49-2	0.160		0.00760	
Thallium	7440-28-0	0.00167	QB-04	5.00E-4	
Vanadium	7440-62-2	1.44		0.0449	
Zinc	7440-66-6	10.9	U	65.1	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM07-112324-HM      **Lab ID:** 4120531-13      **Sampled:** 11/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 1878.603 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/06/24 18:15  
**Comments:** Q8537007 MS/MSD - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.102	SL	0.0334
Arsenic	7440-38-2	0.311		0.00812
Barium	7440-39-3	5.68	QB-01	0.927
Beryllium	7440-41-7	0.0283		0.00277
Cadmium	7440-43-9	0.0151	U	0.0642
Chromium	7440-47-3	3.17		1.91
Cobalt	7440-48-4	0.720		0.0378
Copper	7440-50-8	28.3		2.28
Lead	7439-92-1	0.969		0.185
Manganese	7439-96-5	24.2		1.64
Molybdenum	7439-98-7	1.32		0.311
Nickel	7440-02-0	1.93		0.565
Selenium	7782-49-2	0.206		0.00776
Thallium	7440-28-0	0.00188		5.10E-4
Vanadium	7440-62-2	1.90		0.0458
Zinc	7440-66-6	11.4	U	66.5



# CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.  
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 Blue Bell, PA 19422  
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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-112424-HM      **Lab ID:** 4120531-14      **Sampled:** 11/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 1922.391 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 05:03  
**Comments:** Q8537003 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0997	SL	0.0327	
Arsenic	7440-38-2	0.176		0.00793	
Barium	7440-39-3	3.86	QB-01	0.906	
Beryllium	7440-41-7	0.00966		0.00271	
Cadmium	7440-43-9	0.0112	U	0.0627	
Chromium	7440-47-3	2.35		1.87	
Cobalt	7440-48-4	0.362		0.0369	
Copper	7440-50-8	30.8		2.23	
Lead	7439-92-1	0.506		0.181	
Manganese	7439-96-5	10.6		1.60	
Molybdenum	7439-98-7	2.26		0.304	
Nickel	7440-02-0	1.56		0.552	
Selenium	7782-49-2	0.150		0.00758	
Thallium	7440-28-0	0.00137	QB-04	4.98E-4	
Vanadium	7440-62-2	1.50		0.0448	
Zinc	7440-66-6	9.92	U	65.0	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-112424-HM      **Lab ID:** 4120531-15      **Sampled:** 11/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 2070.764 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 05:18  
**Comments:** Q8537001 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.258	SL	0.0303	
Arsenic	7440-38-2	0.230		0.00736	
Barium	7440-39-3	6.91	QB-01	0.841	
Beryllium	7440-41-7	0.0119		0.00251	
Cadmium	7440-43-9	0.128		0.0582	
Chromium	7440-47-3	2.42		1.74	
Cobalt	7440-48-4	0.426		0.0343	
Copper	7440-50-8	53.6		2.07	
Lead	7439-92-1	0.948		0.168	
Manganese	7439-96-5	13.9		1.48	
Molybdenum	7439-98-7	3.56		0.282	
Nickel	7440-02-0	1.57		0.512	
Selenium	7782-49-2	0.170		0.00704	
Thallium	7440-28-0	0.00148	QB-04	4.63E-4	
Vanadium	7440-62-2	1.73		0.0416	
Zinc	7440-66-6	18.3	U	60.3	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-112424-HM      **Lab ID:** 4120531-16      **Sampled:** 11/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 1948.294 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 05:33  
**Comments:** Q8536999 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0540	SL	0.0322	
Arsenic	7440-38-2	0.214		0.00782	
Barium	7440-39-3	2.42	QB-01	0.894	
Beryllium	7440-41-7	0.00954		0.00267	
Cadmium	7440-43-9	0.00639	U	0.0619	
Chromium	7440-47-3	1.93		1.85	
Cobalt	7440-48-4	0.270		0.0364	
Copper	7440-50-8	45.1		2.20	
Lead	7439-92-1	0.401		0.179	
Manganese	7439-96-5	7.20		1.58	
Molybdenum	7439-98-7	2.77		0.300	
Nickel	7440-02-0	1.22		0.544	
Selenium	7782-49-2	0.132		0.00748	
Thallium	7440-28-0	0.00116	QB-04	4.92E-4	
Vanadium	7440-62-2	1.10		0.0442	
Zinc	7440-66-6	7.55	U	64.1	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM07-112424-HM      **Lab ID:** 4120531-17      **Sampled:** 11/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 1624.757 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 05:47  
**Comments:** Q8536998 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0748	SL	0.0387	
Arsenic	7440-38-2	0.280		0.00938	
Barium	7440-39-3	3.64	QB-01	1.07	
Beryllium	7440-41-7	0.0177		0.00320	
Cadmium	7440-43-9	0.0111	U	0.0742	
Chromium	7440-47-3	2.53		2.21	
Cobalt	7440-48-4	0.455		0.0437	
Copper	7440-50-8	20.0		2.63	
Lead	7439-92-1	0.436		0.214	
Manganese	7439-96-5	17.0		1.89	
Molybdenum	7439-98-7	1.26		0.359	
Nickel	7440-02-0	1.50		0.653	
Selenium	7782-49-2	0.168		0.00897	
Thallium	7440-28-0	0.00142	QB-04	5.90E-4	
Vanadium	7440-62-2	1.59		0.0530	
Zinc	7440-66-6	8.09	U	76.9	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-FB01-112424-HM      **Lab ID:** 4120531-18      **Sampled:** 11/24/24 00:00  
**Matrix:** Air      **Sample Volume:** 1922.391 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 06:03  
**Comments:** Q8536995 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/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
<b>Antimony</b>	<b>7440-36-0</b>	<b>0.105</b>	FB-01, SL	<b>0.0327</b>
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.0115</b>	FB-01	<b>0.00793</b>
<b>Barium</b>	<b>7440-39-3</b>	<b>0.965</b>	FB-01, QB-01	<b>0.906</b>
Beryllium	7440-41-7	7.07E-4	U	0.00271
Cadmium	7440-43-9	0.00198	U	0.0627
Chromium	7440-47-3	1.01	U	1.87
Cobalt	7440-48-4	0.0259	U	0.0369
Copper	7440-50-8	0.727	U	2.23
Lead	7439-92-1	0.0384	U	0.181
Manganese	7439-96-5	0.650	U	1.60
Molybdenum	7439-98-7	0.158	U	0.304
Nickel	7440-02-0	0.486	U	0.552
Selenium	7782-49-2	0.00499	U	0.00758
Thallium	7440-28-0	1.57E-4	QB-04, U	4.98E-4
Vanadium	7440-62-2	0.0434	U	0.0448
Zinc	7440-66-6	4.45	U	65.0



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 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-112524-HM      **Lab ID:** 4120531-19      **Sampled:** 11/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 1942.15 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 06:17  
**Comments:** Q8536997 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.172	SL	0.0323	
Arsenic	7440-38-2	0.290		0.00785	
Barium	7440-39-3	7.20	QB-01	0.896	
Beryllium	7440-41-7	0.0219		0.00268	
Cadmium	7440-43-9	0.0173	U	0.0621	
Chromium	7440-47-3	5.76		1.85	
Cobalt	7440-48-4	0.973		0.0365	
Copper	7440-50-8	39.8		2.20	
Lead	7439-92-1	0.562		0.179	
Manganese	7439-96-5	23.8		1.58	
Molybdenum	7439-98-7	2.82		0.301	
Nickel	7440-02-0	3.93		0.546	
Selenium	7782-49-2	0.174		0.00751	
Thallium	7440-28-0	0.00175	QB-04	4.93E-4	
Vanadium	7440-62-2	2.83		0.0443	
Zinc	7440-66-6	19.1	U	64.3	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-112524-HM      **Lab ID:** 4120531-20      **Sampled:** 11/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 2095.618 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 06:33  
**Comments:** Q8536996 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.218	SL	0.0300	
Arsenic	7440-38-2	0.365		0.00727	
Barium	7440-39-3	9.26	QB-01	0.831	
Beryllium	7440-41-7	0.0263		0.00248	
Cadmium	7440-43-9	0.0213	U	0.0575	
Chromium	7440-47-3	4.20		1.72	
Cobalt	7440-48-4	0.968		0.0339	
Copper	7440-50-8	56.1		2.04	
Lead	7439-92-1	1.30		0.166	
Manganese	7439-96-5	26.2		1.47	
Molybdenum	7439-98-7	2.51		0.279	
Nickel	7440-02-0	2.91		0.506	
Selenium	7782-49-2	0.189		0.00696	
Thallium	7440-28-0	0.00185	QB-04	4.57E-4	
Vanadium	7440-62-2	2.94		0.0411	
Zinc	7440-66-6	40.3	U	59.6	



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FILE #: 4205.00.003.001  
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 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-112524-HM      **Lab ID:** 4120531-21      **Sampled:** 11/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 1941.764 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 07:04  
**Comments:** Q8536994 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0585	SL	0.0323	
Arsenic	7440-38-2	0.199		0.00785	
Barium	7440-39-3	4.64	QB-01	0.897	
Beryllium	7440-41-7	0.0351		0.00268	
Cadmium	7440-43-9	0.0176	U	0.0621	
Chromium	7440-47-3	8.01		1.85	
Cobalt	7440-48-4	0.907		0.0365	
Copper	7440-50-8	71.6		2.20	
Lead	7439-92-1	0.628		0.179	
Manganese	7439-96-5	20.7		1.58	
Molybdenum	7439-98-7	3.20		0.301	
Nickel	7440-02-0	5.83		0.546	
Selenium	7782-49-2	0.200		0.00751	
Thallium	7440-28-0	0.00167	QB-04	4.94E-4	
Vanadium	7440-62-2	2.12		0.0443	
Zinc	7440-66-6	15.5	U	64.4	



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 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
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**Description:** MFL-AM07-112524-HM      **Lab ID:** 4120531-22      **Sampled:** 11/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 1814.786 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 08:35  
**Comments:** Q8536991 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.132	SL	0.0346	
Arsenic	7440-38-2	0.660		0.00840	
Barium	7440-39-3	6.07	QB-01	0.959	
Beryllium	7440-41-7	0.0310		0.00287	
Cadmium	7440-43-9	0.0210	U	0.0664	
Chromium	7440-47-3	5.29		1.98	
Cobalt	7440-48-4	1.06		0.0391	
Copper	7440-50-8	31.0		2.36	
Lead	7439-92-1	0.867		0.192	
Manganese	7439-96-5	35.4		1.69	
Molybdenum	7439-98-7	1.45		0.322	
Nickel	7440-02-0	2.69		0.585	
Selenium	7782-49-2	0.228		0.00803	
Thallium	7440-28-0	0.00248	QB-04	5.28E-4	
Vanadium	7440-62-2	2.91		0.0474	
Zinc	7440-66-6	24.0	LJ, QX, U	68.9	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-112624-HM      **Lab ID:** 4120531-23      **Sampled:** 11/26/24 23:59  
**Matrix:** Air      **Sample Volume:** 1875.08 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 08:51  
**Comments:** Q8536989 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.137	SL	0.0335
Arsenic	7440-38-2	0.791		0.00813
Barium	7440-39-3	16.7	QB-01	0.928
Beryllium	7440-41-7	0.0697		0.00278
Cadmium	7440-43-9	0.0427	U	0.0643
Chromium	7440-47-3	12.1		1.92
Cobalt	7440-48-4	3.09		0.0378
Copper	7440-50-8	42.8		2.28
Lead	7439-92-1	1.17		0.186
Manganese	7439-96-5	72.2		1.64
Molybdenum	7439-98-7	2.58		0.312
Nickel	7440-02-0	9.63		0.566
Selenium	7782-49-2	0.384		0.00777
Thallium	7440-28-0	0.00368	QB-04	5.11E-4
Vanadium	7440-62-2	8.56		0.0459
Zinc	7440-66-6	29.6	LJ, QX, U	66.6



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FILE #: 4205.00.003.001  
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 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-112624-HM      **Lab ID:** 4120531-24      **Sampled:** 11/26/24 23:59  
**Matrix:** Air      **Sample Volume:** 2058.644 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 09:11  
**Comments:** Q8536988 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.247	SL	0.0305
Arsenic	7440-38-2	0.613		0.00741
Barium	7440-39-3	15.3	QB-01	0.846
Beryllium	7440-41-7	0.0425		0.00253
Cadmium	7440-43-9	0.0297	U	0.0586
Chromium	7440-47-3	6.66		1.75
Cobalt	7440-48-4	1.61		0.0345
Copper	7440-50-8	70.3		2.08
Lead	7439-92-1	2.60		0.169
Manganese	7439-96-5	46.0		1.49
Molybdenum	7439-98-7	2.65		0.284
Nickel	7440-02-0	4.73		0.515
Selenium	7782-49-2	0.319		0.00708
Thallium	7440-28-0	0.00254	QB-04	4.66E-4
Vanadium	7440-62-2	5.08		0.0418
Zinc	7440-66-6	41.3	LJ, QX, U	60.7



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 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-112624-HM      **Lab ID:** 4120531-25      **Sampled:** 11/26/24 23:59  
**Matrix:** Air      **Sample Volume:** 1927.117 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 09:29  
**Comments:** Q8536987 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0740	SL	0.0326
Arsenic	7440-38-2	0.260		0.00791
Barium	7440-39-3	4.87	QB-01	0.903
Beryllium	7440-41-7	0.0461		0.00270
Cadmium	7440-43-9	0.0157	U	0.0626
Chromium	7440-47-3	5.33		1.87
Cobalt	7440-48-4	1.08		0.0368
Copper	7440-50-8	61.7		2.22
Lead	7439-92-1	0.657		0.181
Manganese	7439-96-5	25.7		1.60
Molybdenum	7439-98-7	3.59		0.303
Nickel	7440-02-0	3.20		0.550
Selenium	7782-49-2	0.252		0.00756
Thallium	7440-28-0	0.00198	QB-04	4.97E-4
Vanadium	7440-62-2	2.51		0.0447
Zinc	7440-66-6	14.1	LJ, QX, U	64.8



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 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM07-112624-HM      **Lab ID:** 4120531-26      **Sampled:** 11/26/24 23:59  
**Matrix:** Air      **Sample Volume:** 1862.612 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 09:45  
**Comments:** Q8536986 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.141	SL	0.0337
Arsenic	7440-38-2	1.43	LJ, QX	0.00818
Barium	7440-39-3	11.3	QB-01	0.935
Beryllium	7440-41-7	0.0750		0.00280
Cadmium	7440-43-9	0.0376	LJ, QX, U	0.0647
Chromium	7440-47-3	10.2		1.93
Cobalt	7440-48-4	2.50		0.0381
Copper	7440-50-8	24.1		2.30
Lead	7439-92-1	1.34		0.187
Manganese	7439-96-5	82.6		1.65
Molybdenum	7439-98-7	1.08	LJ, QX	0.314
Nickel	7440-02-0	5.63		0.570
Selenium	7782-49-2	0.447	LJ, QX	0.00783
Thallium	7440-28-0	0.00423	QB-04	5.14E-4
Vanadium	7440-62-2	6.61		0.0462
Zinc	7440-66-6	43.4	LJ, QX, U	67.1



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-FB01-112624-HM      **Lab ID:** 4120531-27      **Sampled:** 11/26/24 00:00  
**Matrix:** Air      **Sample Volume:** 1875.08 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 10:05  
**Comments:** Q9552334 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/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0138	SL, U	0.0335	
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.0124</b>	FB-01	<b>0.00813</b>	
Barium	7440-39-3	0.538	QB-01, U	0.928	
Beryllium	7440-41-7	0.00130	U	0.00278	
Cadmium	7440-43-9	0.00212	U	0.0643	
Chromium	7440-47-3	1.26	U	1.92	
Cobalt	7440-48-4	0.0352	U	0.0378	
Copper	7440-50-8	0.904	U	2.28	
Lead	7439-92-1	0.0632	U	0.186	
Manganese	7439-96-5	0.592	U	1.64	
Molybdenum	7439-98-7	0.234	U	0.312	
Nickel	7440-02-0	0.344	U	0.566	
Selenium	7782-49-2	0.00664	U	0.00777	
Thallium	7440-28-0	1.24E-4	QB-04, U	5.11E-4	
Vanadium	7440-62-2	0.0335	U	0.0459	
Zinc	7440-66-6	3.55	LJ, QX, U	66.6	



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 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-LB01-112624-HM      **Lab ID:** 4120531-28      **Sampled:** 11/26/24 00:00  
**Matrix:** Air      **Sample Volume:** 1875.08 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 10:18  
**Comments:** Q9552335 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/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0152	SL, U	0.0335	
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.0112</b>		<b>0.00813</b>	
Barium	7440-39-3	0.498	QB-01, U	0.928	
Beryllium	7440-41-7	7.92E-4	U	0.00278	
Cadmium	7440-43-9	0.00206	U	0.0643	
Chromium	7440-47-3	1.38	U	1.92	
Cobalt	7440-48-4	0.0337	U	0.0378	
Copper	7440-50-8	1.11	U	2.28	
Lead	7439-92-1	0.0584	U	0.186	
Manganese	7439-96-5	0.546	U	1.64	
Molybdenum	7439-98-7	0.237	U	0.312	
Nickel	7440-02-0	0.410	U	0.566	
Selenium	7782-49-2	0.00517	U	0.00777	
Thallium	7440-28-0	1.06E-4	QB-04, U	5.11E-4	
Vanadium	7440-62-2	0.0303	U	0.0459	
Zinc	7440-66-6	2.76	LJ, QX, U	66.6	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM05-112724-HM      **Lab ID:** 4120531-29      **Sampled:** 11/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 1918.372 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 10:32  
**Comments:** Q9552339 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0948	SL	0.0327
Arsenic	7440-38-2	0.850		0.00795
Barium	7440-39-3	17.1	QB-01	0.907
Beryllium	7440-41-7	0.0767		0.00271
Cadmium	7440-43-9	0.0338	U	0.0628
Chromium	7440-47-3	14.9		1.87
Cobalt	7440-48-4	3.79		0.0370
Copper	7440-50-8	37.7		2.23
Lead	7439-92-1	0.893		0.181
Manganese	7439-96-5	83.9		1.60
Molybdenum	7439-98-7	1.90		0.304
Nickel	7440-02-0	10.3		0.553
Selenium	7782-49-2	0.413		0.00760
Thallium	7440-28-0	0.00368	QB-04	5.00E-4
Vanadium	7440-62-2	10.3	E	0.0449
Zinc	7440-66-6	23.4	LJ, QX, U	65.1



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
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**Description:** MFL-AM02-112724-HM      **Lab ID:** 4120531-30      **Sampled:** 11/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 2133.393 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 10:49  
**Comments:** Q9552338 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.172	SL	0.0294
Arsenic	7440-38-2	0.754		0.00715
Barium	7440-39-3	13.9	QB-01	0.816
Beryllium	7440-41-7	0.0543		0.00244
Cadmium	7440-43-9	0.0547	U	0.0565
Chromium	7440-47-3	7.17		1.69
Cobalt	7440-48-4	1.72		0.0333
Copper	7440-50-8	62.5		2.01
Lead	7439-92-1	3.97		0.163
Manganese	7439-96-5	53.6		1.44
Molybdenum	7439-98-7	2.05		0.274
Nickel	7440-02-0	4.36		0.497
Selenium	7782-49-2	0.339		0.00683
Thallium	7440-28-0	0.00269	QB-04	4.49E-4
Vanadium	7440-62-2	5.61		0.0403
Zinc	7440-66-6	53.5	LJ, QX, U	58.6



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-112724-HM      **Lab ID:** 4120531-31      **Sampled:** 11/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 1945.036 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 12:28  
**Comments:** Q9552337 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0495	SL	0.0323	
Arsenic	7440-38-2	0.253		0.00784	
Barium	7440-39-3	4.43	QB-01	0.895	
Beryllium	7440-41-7	0.0500		0.00268	
Cadmium	7440-43-9	0.0155	U	0.0620	
Chromium	7440-47-3	5.81		1.85	
Cobalt	7440-48-4	1.20		0.0365	
Copper	7440-50-8	48.5		2.20	
Lead	7439-92-1	0.389		0.179	
Manganese	7439-96-5	28.2		1.58	
Molybdenum	7439-98-7	2.20		0.300	
Nickel	7440-02-0	3.25		0.545	
Selenium	7782-49-2	0.257		0.00749	
Thallium	7440-28-0	0.00187	QB-04	4.93E-4	
Vanadium	7440-62-2	2.66		0.0443	
Zinc	7440-66-6	10.6	LJ, QX, U	64.2	



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 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
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**Description:** MFL-AM07-112724-HM      **Lab ID:** 4120531-32      **Sampled:** 11/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 1874.411 m<sup>3</sup>      **Received:** 12/05/24 11:40  
**Filter ID:**      **Analysis Date:** 12/07/24 13:01  
**Comments:** Q9552333 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>	
Antimony	7440-36-0	0.0789	SL	0.0335	
Arsenic	7440-38-2	0.749		0.00813	
Barium	7440-39-3	6.49	QB-01	0.929	
Beryllium	7440-41-7	0.0383		0.00278	
Cadmium	7440-43-9	0.0665		0.0643	
Chromium	7440-47-3	6.04		1.92	
Cobalt	7440-48-4	1.26		0.0378	
Copper	7440-50-8	18.3		2.28	
Lead	7439-92-1	0.888		0.186	
Manganese	7439-96-5	42.2		1.64	
Molybdenum	7439-98-7	1.05		0.312	
Nickel	7440-02-0	2.93		0.566	
Selenium	7782-49-2	0.277		0.00778	
Thallium	7440-28-0	0.00232	QB-04	5.11E-4	
Vanadium	7440-62-2	3.41		0.0459	
Zinc	7440-66-6	15.4	LJ, QX, U	66.7	



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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

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

Batch 2412020 - B4L0602

### Calibration Blank (2412020-CCB1)

Prepared & Analyzed: 12/06/24

Antimony	0.378		ng/l							
Arsenic	3.34		ng/l							
Barium	0.850		ng/l							
Beryllium	-0.309		ng/l							U
Cadmium	0.0826		ng/l							
Chromium	0.622		ng/l							
Cobalt	0.249		ng/l							
Copper	9.69		ng/l							
Lead	1.94		ng/l							
Manganese	3.02		ng/l							
Molybdenum	21.3		ng/l							
Nickel	-1.73		ng/l							U
Selenium	4.36		ng/l							
Thallium	1.32		ng/l							
Vanadium	-68.1		ng/l							U
Zinc	-47.4		ng/l							U

### Calibration Blank (2412020-CCB2)

Prepared & Analyzed: 12/06/24

Antimony	0.405		ng/l							
Arsenic	-1.01		ng/l							U
Barium	1.45		ng/l							
Beryllium	-0.672		ng/l							U
Cadmium	0.192		ng/l							
Chromium	1.49		ng/l							
Cobalt	0.242		ng/l							
Copper	12.2		ng/l							
Lead	1.38		ng/l							
Manganese	3.55		ng/l							
Molybdenum	1.04		ng/l							
Nickel	0.474		ng/l							
Selenium	8.74		ng/l							
Thallium	1.01		ng/l							
Vanadium	-77.7		ng/l							U
Zinc	-67.1		ng/l							U

### Calibration Blank (2412020-CCB3)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	0.613		ng/l							
Arsenic	2.90		ng/l							
Barium	1.89		ng/l							
Beryllium	-1.01		ng/l							U

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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

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

Batch 2412020 - B4L0602

### Calibration Blank (2412020-CCB3) Contin

Prepared: 12/06/24 Analyzed: 12/07/24

Cadmium	0.123		ng/l							
Chromium	3.28		ng/l							
Cobalt	0.371		ng/l							
Copper	28.9		ng/l							
Lead	2.13		ng/l							
Manganese	5.61		ng/l							
Molybdenum	2.08		ng/l							
Nickel	-0.582		ng/l							U
Selenium	7.86		ng/l							
Thallium	1.19		ng/l							
Vanadium	-85.0		ng/l							U
Zinc	-54.7		ng/l							U

### Calibration Blank (2412020-CCB4)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	0.488		ng/l							
Arsenic	2.45		ng/l							
Barium	1.30		ng/l							
Beryllium	-1.09		ng/l							U
Cadmium	0.115		ng/l							
Chromium	1.07		ng/l							
Cobalt	0.253		ng/l							
Copper	17.0		ng/l							
Lead	1.48		ng/l							
Manganese	3.41		ng/l							
Molybdenum	4.09		ng/l							
Nickel	1.04		ng/l							
Selenium	5.15		ng/l							
Thallium	1.32		ng/l							
Vanadium	-91.6		ng/l							U
Zinc	-59.8		ng/l							U

### Calibration Blank (2412020-CCB5)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	0.878		ng/l							
Arsenic	3.57		ng/l							
Barium	1.65		ng/l							
Beryllium	-1.46		ng/l							U
Cadmium	0.0298		ng/l							
Chromium	2.72		ng/l							
Cobalt	0.292		ng/l							
Copper	18.4		ng/l							

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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

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

Batch 2412020 - B4L0602

### Calibration Blank (2412020-CCB5) Contin

Prepared: 12/06/24 Analyzed: 12/07/24

Lead	1.43		ng/l							
Manganese	3.44		ng/l							
Molybdenum	3.47		ng/l							
Nickel	3.22		ng/l							
Selenium	5.75		ng/l							
Thallium	1.46		ng/l							QB-04
Vanadium	-98.8		ng/l							U
Zinc	-53.9		ng/l							U

### Calibration Blank (2412020-CCB6)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	0.903		ng/l							
Arsenic	2.72		ng/l							
Barium	2.26		ng/l							
Beryllium	-1.49		ng/l							U
Cadmium	0.101		ng/l							
Chromium	1.85		ng/l							
Cobalt	0.413		ng/l							
Copper	19.2		ng/l							
Lead	2.76		ng/l							
Manganese	4.35		ng/l							
Molybdenum	2.80		ng/l							
Nickel	5.69		ng/l							
Selenium	0.653		ng/l							
Thallium	1.37		ng/l							QB-04
Vanadium	-101		ng/l							U
Zinc	-48.5		ng/l							U

### Calibration Blank (2412020-CCB7)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	1.05		ng/l							
Arsenic	2.32		ng/l							
Barium	2.14		ng/l							
Beryllium	-1.24		ng/l							U
Cadmium	0.0664		ng/l							
Chromium	1.74		ng/l							
Cobalt	0.360		ng/l							
Copper	18.4		ng/l							
Lead	2.39		ng/l							
Manganese	3.86		ng/l							
Molybdenum	3.04		ng/l							
Nickel	5.62		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: 12/12/24 08:42  
SUBMITTED: 12/05/24  
AQS SITE CODE:  
SITE CODE: Lahaina fires

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

Batch 2412020 - B4L0602

### Calibration Blank (2412020-CCB7) Contin

Prepared: 12/06/24 Analyzed: 12/07/24

Selenium	17.3		ng/l							
Thallium	1.64		ng/l							QB-04
Vanadium	-98.3		ng/l							U
Zinc	-37.3		ng/l							U

### Calibration Check (2412020-CCV1)

Prepared & Analyzed: 12/06/24

Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4860		ng/l	5000.0		97.3	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	527000		ng/l	500000		105	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	508		ng/l	500.00		102	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	543000		ng/l	500000		109	90-110			

### Calibration Check (2412020-CCV2)

Prepared & Analyzed: 12/06/24

Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5260		ng/l	5000.0		105	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.11E6		ng/l	2.0000E6		106	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	525000		ng/l	500000		105	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	545000		ng/l	500000		109	90-110			

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

Batch 2412020 - B4L0602

### Calibration Check (2412020-CCV3)

Prepared & Analyzed: 12/06/24

Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	51800		ng/l	50000		104	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	540000		ng/l	500000		108	90-110			

### Calibration Check (2412020-CCV4)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	20900		ng/l	20000		105	90-110			
Arsenic	21000		ng/l	20000		105	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	209000		ng/l	200000		104	90-110			
Manganese	531000		ng/l	500000		106	90-110			
Molybdenum	52700		ng/l	50000		105	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20900		ng/l	20000		105	90-110			
Thallium	508		ng/l	500.00		102	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	549000		ng/l	500000		110	90-110			

### Calibration Check (2412020-CCV5)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20900		ng/l	20000		105	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			

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

Batch 2412020 - B4L0602

### Calibration Check (2412020-CCV5) Contin

Prepared: 12/06/24 Analyzed: 12/07/24

Cadmium	21100		ng/l	20000		105	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	534000		ng/l	500000		107	90-110			
Molybdenum	52500		ng/l	50000		105	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	546000		ng/l	500000		109	90-110			

### Calibration Check (2412020-CCV6)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	21200		ng/l	20000		106	90-110			
Arsenic	21200		ng/l	20000		106	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	4900		ng/l	5000.0		98.0	90-110			
Cadmium	21500		ng/l	20000		107	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	53200		ng/l	50000		106	90-110			
Copper	2.17E6		ng/l	2.0000E6		108	90-110			
Lead	212000		ng/l	200000		106	90-110			
Manganese	541000		ng/l	500000		108	90-110			
Molybdenum	52800		ng/l	50000		106	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	21100		ng/l	20000		106	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	21100		ng/l	20000		106	90-110			
Zinc	558000		ng/l	500000		112	90-110			LJ, QX

### Calibration Check (2412020-CCV7)

Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	20800		ng/l	20000		104	90-110			
Arsenic	21000		ng/l	20000		105	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			

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

Batch 2412020 - B4L0602

### Calibration Check (2412020-CCV7) Contin

Prepared: 12/06/24 Analyzed: 12/07/24

Lead	210000		ng/l	200000		105	90-110			
Manganese	534000		ng/l	500000		107	90-110			
Molybdenum	52200		ng/l	50000		104	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20900		ng/l	20000		104	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	547000		ng/l	500000		109	90-110			

### High Cal Check (2412020-HCV1)

Prepared & Analyzed: 12/06/24

Antimony	40500		ng/l	40000		101	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	402000		ng/l	400000		100	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	40100		ng/l	40000		100	95-105			
Chromium	481000		ng/l	480000		100	95-105			
Cobalt	100000		ng/l	100000		100	95-105			
Copper	3.99E6		ng/l	4.0000E6		99.8	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Selenium	40500		ng/l	40000		101	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40400		ng/l	40000		101	95-105			
Zinc	995000		ng/l	1.0000E6		99.5	95-105			

### Initial Cal Blank (2412020-ICB1)

Prepared & Analyzed: 12/06/24

Antimony	0.774		ng/l							
Arsenic	0.235		ng/l							
Barium	3.34		ng/l							
Beryllium	-0.469		ng/l							U
Cadmium	0.321		ng/l							
Chromium	4.34		ng/l							
Cobalt	0.581		ng/l							
Copper	35.8		ng/l							
Lead	4.26		ng/l							
Manganese	11.7		ng/l							
Molybdenum	8.81		ng/l							
Nickel	-0.923		ng/l							U

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

Batch 2412020 - B4L0602

### Initial Cal Blank (2412020-ICB1) Continuu

Prepared & Analyzed: 12/06/24

Selenium	2.65		ng/l							
Thallium	1.06		ng/l							
Vanadium	-64.7		ng/l							U
Zinc	-52.3		ng/l							U

### Initial Cal Check (2412020-ICV1)

Prepared & Analyzed: 12/06/24

Antimony	19600		ng/l	20000		97.8	90-110			
Arsenic	19600		ng/l	20000		98.0	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	48500		ng/l	50000		96.9	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	489000		ng/l	500000		97.9	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	531000		ng/l	500000		106	90-110			

### Interference Check A (2412020-IFA1)

Prepared & Analyzed: 12/06/24

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	322000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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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 2412020 - B4L0602

### Interference Check B (2412020-IFB1)

Prepared & Analyzed: 12/06/24

Antimony	21100		ng/l	20000		105	80-120			
Arsenic	21100		ng/l	20000		106	80-120			
Barium	210000		ng/l	200000		105	80-120			
Beryllium	4700		ng/l	5000.0		94.0	80-120			
Cadmium	20400		ng/l	20000		102	80-120			
Chromium	240000		ng/l	240000		99.9	80-120			
Cobalt	51400		ng/l	50000		103	80-120			
Copper	1.98E6		ng/l	2.0000E6		98.8	80-120			
Lead	212000		ng/l	200000		106	80-120			
Manganese	535000		ng/l	500000		107	80-120			
Molybdenum	385000		ng/l	350000		110	80-120			
Nickel	120000		ng/l	120000		100	80-120			
Selenium	19900		ng/l	20000		99.4	80-120			
Thallium	536		ng/l	500.00		107	80-120			
Vanadium	20200		ng/l	20000		101	80-120			
Zinc	502000		ng/l	500000		100	80-120			

Batch B4L0602 - ICP-MS Extraction

### Blank (B4L0602-BLK1)

Prepared & Analyzed: 12/06/24

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

### LCS (B4L0602-BS1)

Prepared & Analyzed: 12/06/24

Antimony	0.604	0.0386	ng/m <sup>3</sup> Air	1.3829		43.7	80-120			SL
Arsenic	2.78	0.00937	ng/m <sup>3</sup> Air	2.7658		101	80-120			
Barium	28.6	1.07	ng/m <sup>3</sup> Air	27.658		103	80-120			QB-01

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

Batch B4L0602 - ICP-MS Extraction

### LCS (B4L0602-BS1) Continued

Prepared & Analyzed: 12/06/24

Beryllium	1.33	0.00320	ng/m <sup>3</sup> Air	1.3829		96.4	80-120			
Cadmium	1.43	0.0741	ng/m <sup>3</sup> Air	1.3829		103	80-120			
Chromium	16.0	2.21	ng/m <sup>3</sup> Air	13.829		116	80-120			
Cobalt	1.41	0.0436	ng/m <sup>3</sup> Air	1.3829		102	80-120			
Copper	30.4	2.63	ng/m <sup>3</sup> Air	27.658		110	80-120			
Lead	14.0	0.214	ng/m <sup>3</sup> Air	13.829		101	80-120			
Manganese	9.12	1.89	ng/m <sup>3</sup> Air	8.2975		110	80-120			
Molybdenum	1.59	0.359	ng/m <sup>3</sup> Air	1.3829		115	80-120			
Nickel	3.14	0.652	ng/m <sup>3</sup> Air	2.7658		113	80-120			
Selenium	2.80	0.00896	ng/m <sup>3</sup> Air	2.7658		101	80-120			
Thallium	0.140	5.89E-4	ng/m <sup>3</sup> Air	0.13829		101	80-120			
Vanadium	2.80	0.0529	ng/m <sup>3</sup> Air	2.7658		101	80-120			
Zinc	94.5	76.8	ng/m <sup>3</sup> Air	82.975		114	80-120			

### LCS (B4L0602-BS2)

Prepared & Analyzed: 12/06/24

Antimony	0.653	0.0386	ng/m <sup>3</sup> Air	1.3829		47.2	80-120			SL
Arsenic	2.77	0.00937	ng/m <sup>3</sup> Air	2.7658		100	80-120			
Barium	28.9	1.07	ng/m <sup>3</sup> Air	27.658		105	80-120			QB-01
Beryllium	1.32	0.00320	ng/m <sup>3</sup> Air	1.3829		95.6	80-120			
Cadmium	1.44	0.0741	ng/m <sup>3</sup> Air	1.3829		104	80-120			
Chromium	15.8	2.21	ng/m <sup>3</sup> Air	13.829		114	80-120			
Cobalt	1.41	0.0436	ng/m <sup>3</sup> Air	1.3829		102	80-120			
Copper	30.1	2.63	ng/m <sup>3</sup> Air	27.658		109	80-120			
Lead	14.0	0.214	ng/m <sup>3</sup> Air	13.829		102	80-120			
Manganese	9.05	1.89	ng/m <sup>3</sup> Air	8.2975		109	80-120			
Molybdenum	1.65	0.359	ng/m <sup>3</sup> Air	1.3829		119	80-120			
Nickel	3.10	0.652	ng/m <sup>3</sup> Air	2.7658		112	80-120			
Selenium	2.76	0.00896	ng/m <sup>3</sup> Air	2.7658		99.9	80-120			
Thallium	0.141	5.89E-4	ng/m <sup>3</sup> Air	0.13829		102	80-120			
Vanadium	2.80	0.0529	ng/m <sup>3</sup> Air	2.7658		101	80-120			
Zinc	94.3	76.8	ng/m <sup>3</sup> Air	82.975		114	80-120			

### Duplicate (B4L0602-DUP1)

Source: 4120531-13

Prepared & Analyzed: 12/06/24

Antimony	0.0889	0.0334	ng/m <sup>3</sup> Air		0.102		13.8	10		SL
Arsenic	0.307	0.00812	ng/m <sup>3</sup> Air		0.311		1.31	10		
Barium	5.63	0.927	ng/m <sup>3</sup> Air		5.68		0.862	10		QB-01
Beryllium	0.0278	0.00277	ng/m <sup>3</sup> Air		0.0283		1.82	10		
Cadmium	ND	0.0642	ng/m <sup>3</sup> Air		ND			10		U
Chromium	3.21	1.91	ng/m <sup>3</sup> Air		3.17		1.04	10		
Cobalt	0.725	0.0378	ng/m <sup>3</sup> Air		0.720		0.681	10		

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 Blue Bell, PA 19422  
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 PHONE: (703) 885-5495 FAX:

FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
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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 B4L0602 - ICP-MS Extraction

**Duplicate (B4L0602-DUP1) Continued** Source: 4120531-13 Prepared & Analyzed: 12/06/24

Copper	29.5	2.28	ng/m <sup>3</sup> Air		28.3			4.07	10	
Lead	0.974	0.185	ng/m <sup>3</sup> Air		0.969			0.614	10	
Manganese	24.3	1.64	ng/m <sup>3</sup> Air		24.2			0.224	10	
Molybdenum	1.33	0.311	ng/m <sup>3</sup> Air		1.32			0.815	10	
Nickel	1.87	0.565	ng/m <sup>3</sup> Air		1.93			2.84	10	
Selenium	0.199	0.00776	ng/m <sup>3</sup> Air		0.206			3.26	10	
Thallium	0.00201	5.10E-4	ng/m <sup>3</sup> Air		0.00188			6.66	10	
Vanadium	1.91	0.0458	ng/m <sup>3</sup> Air		1.90			0.514	10	
Zinc	ND	66.5	ng/m <sup>3</sup> Air		ND				10	U

**Duplicate (B4L0602-DUP2)** Source: 4120531-05 Prepared & Analyzed: 12/06/24

Antimony	0.109	0.0328	ng/m <sup>3</sup> Air		0.104			4.76	10	SL
Arsenic	0.210	0.00797	ng/m <sup>3</sup> Air		0.212			1.12	10	
Barium	4.58	0.910	ng/m <sup>3</sup> Air		4.57			0.218	10	QB-01
Beryllium	0.0122	0.00272	ng/m <sup>3</sup> Air		0.0125			2.22	10	
Cadmium	ND	0.0630	ng/m <sup>3</sup> Air		ND				10	U
Chromium	2.59	1.88	ng/m <sup>3</sup> Air		2.71			4.34	10	
Cobalt	0.464	0.0371	ng/m <sup>3</sup> Air		0.474			2.16	10	
Copper	52.0	2.24	ng/m <sup>3</sup> Air		50.2			3.35	10	
Lead	0.795	0.182	ng/m <sup>3</sup> Air		0.671			17.0	10	
Manganese	12.6	1.61	ng/m <sup>3</sup> Air		12.8			1.47	10	
Molybdenum	2.68	0.305	ng/m <sup>3</sup> Air		2.57			4.31	10	
Nickel	1.47	0.554	ng/m <sup>3</sup> Air		1.68			13.2	10	
Selenium	0.159	0.00762	ng/m <sup>3</sup> Air		0.157			1.13	10	
Thallium	0.00138	5.01E-4	ng/m <sup>3</sup> Air		0.00144			4.40	10	
Vanadium	1.50	0.0450	ng/m <sup>3</sup> Air		1.53			2.12	10	
Zinc	ND	65.3	ng/m <sup>3</sup> Air		ND				10	U

**Duplicate (B4L0602-DUP3)** Source: 4120531-20 Prepared: 12/06/24 Analyzed: 12/07/24

Antimony	0.220	0.0300	ng/m <sup>3</sup> Air		0.218			0.860	10	SL
Arsenic	0.376	0.00727	ng/m <sup>3</sup> Air		0.365			2.80	10	
Barium	9.50	0.831	ng/m <sup>3</sup> Air		9.26			2.59	10	QB-01
Beryllium	0.0240	0.00248	ng/m <sup>3</sup> Air		0.0263			9.11	10	
Cadmium	ND	0.0575	ng/m <sup>3</sup> Air		ND				10	U
Chromium	4.33	1.72	ng/m <sup>3</sup> Air		4.20			3.07	10	
Cobalt	0.995	0.0339	ng/m <sup>3</sup> Air		0.968			2.80	10	
Copper	57.5	2.04	ng/m <sup>3</sup> Air		56.1			2.54	10	
Lead	1.33	0.166	ng/m <sup>3</sup> Air		1.30			2.45	10	
Manganese	27.0	1.47	ng/m <sup>3</sup> Air		26.2			2.83	10	
Molybdenum	2.56	0.279	ng/m <sup>3</sup> Air		2.51			2.22	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 B4L0602 - ICP-MS Extraction*

<b>Duplicate (B4L0602-DUP3) Continued</b>			<b>Source: 4120531-20</b>		Prepared: 12/06/24		Analyzed: 12/07/24	
Nickel	2.98	0.506	ng/m <sup>3</sup> Air	2.91		2.36	10	
Selenium	0.207	0.00696	ng/m <sup>3</sup> Air	0.189		8.93	10	
Thallium	0.00179	4.57E-4	ng/m <sup>3</sup> Air	0.00185		3.56	10	QB-04
Vanadium	3.00	0.0411	ng/m <sup>3</sup> Air	2.94		2.15	10	
Zinc	ND	59.6	ng/m <sup>3</sup> Air	ND			10	U

<b>Duplicate (B4L0602-DUP4)</b>			<b>Source: 4120531-31</b>		Prepared: 12/06/24		Analyzed: 12/07/24	
Antimony	0.0489	0.0323	ng/m <sup>3</sup> Air	0.0495		1.30	10	SL
Arsenic	0.256	0.00784	ng/m <sup>3</sup> Air	0.253		1.02	10	
Barium	4.42	0.895	ng/m <sup>3</sup> Air	4.43		0.277	10	QB-01
Beryllium	0.0532	0.00268	ng/m <sup>3</sup> Air	0.0500		6.18	10	
Cadmium	ND	0.0620	ng/m <sup>3</sup> Air	ND			10	U
Chromium	5.81	1.85	ng/m <sup>3</sup> Air	5.81		0.0328	10	
Cobalt	1.22	0.0365	ng/m <sup>3</sup> Air	1.20		1.28	10	
Copper	48.9	2.20	ng/m <sup>3</sup> Air	48.5		0.756	10	
Lead	0.388	0.179	ng/m <sup>3</sup> Air	0.389		0.0254	10	
Manganese	28.4	1.58	ng/m <sup>3</sup> Air	28.2		0.741	10	
Molybdenum	2.20	0.300	ng/m <sup>3</sup> Air	2.20		0.0202	10	
Nickel	3.28	0.545	ng/m <sup>3</sup> Air	3.25		0.805	10	
Selenium	0.245	0.00749	ng/m <sup>3</sup> Air	0.257		4.65	10	
Thallium	0.00188	4.93E-4	ng/m <sup>3</sup> Air	0.00187		0.637	10	QB-04
Vanadium	2.68	0.0443	ng/m <sup>3</sup> Air	2.66		0.576	10	
Zinc	ND	64.2	ng/m <sup>3</sup> Air	ND			10	LJ, QX, U

<b>Matrix Spike (B4L0602-MS1)</b>			<b>Source: 4120531-13</b>		Prepared & Analyzed: 12/06/24					
Antimony	0.744	0.0334	ng/m <sup>3</sup> Air	1.1977	0.102	53.6	80-120			SL
Arsenic	2.63	0.00812	ng/m <sup>3</sup> Air	2.3954	0.311	96.8	80-120			
Barium	30.3	0.927	ng/m <sup>3</sup> Air	23.954	5.68	103	80-120			QB-01
Beryllium	1.18	0.00277	ng/m <sup>3</sup> Air	1.1977	0.0283	96.4	80-120			
Cadmium	1.23	0.0642	ng/m <sup>3</sup> Air	1.1977	ND	103	80-120			
Chromium	15.7	1.91	ng/m <sup>3</sup> Air	11.977	3.17	104	80-120			
Cobalt	1.93	0.0378	ng/m <sup>3</sup> Air	1.1977	0.720	101	80-120			
Copper	53.8	2.28	ng/m <sup>3</sup> Air	23.954	28.3	107	80-120			
Lead	13.4	0.185	ng/m <sup>3</sup> Air	11.977	0.969	104	80-120			
Manganese	31.9	1.64	ng/m <sup>3</sup> Air	7.1862	24.2	107	80-120			
Molybdenum	2.47	0.311	ng/m <sup>3</sup> Air	1.1977	1.32	95.7	80-120			
Nickel	4.34	0.565	ng/m <sup>3</sup> Air	2.3954	1.93	101	80-120			
Selenium	2.57	0.00776	ng/m <sup>3</sup> Air	2.3954	0.206	98.6	80-120			
Thallium	0.124	5.10E-4	ng/m <sup>3</sup> Air	0.11977	0.00188	102	80-120			
Vanadium	4.30	0.0458	ng/m <sup>3</sup> Air	2.3954	1.90	100	80-120			

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

Batch B4L0602 - ICP-MS Extraction

### Matrix Spike (B4L0602-MS1) Continued Source: 4120531-13 Prepared & Analyzed: 12/06/24

Zinc	89.1	66.5	ng/m <sup>3</sup> Air	71.862	ND	124	80-120			
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### Matrix Spike (B4L0602-MS2) Source: 4120531-05 Prepared & Analyzed: 12/06/24

Antimony	0.775	0.0328	ng/m <sup>3</sup> Air	1.1761	0.104	57.0	80-120			SL
Arsenic	2.49	0.00797	ng/m <sup>3</sup> Air	2.3522	0.212	97.0	80-120			
Barium	28.6	0.910	ng/m <sup>3</sup> Air	23.522	4.57	102	80-120			QB-01
Beryllium	1.15	0.00272	ng/m <sup>3</sup> Air	1.1761	0.0125	96.6	80-120			
Cadmium	1.21	0.0630	ng/m <sup>3</sup> Air	1.1761	ND	103	80-120			
Chromium	14.9	1.88	ng/m <sup>3</sup> Air	11.761	2.71	103	80-120			
Cobalt	1.63	0.0371	ng/m <sup>3</sup> Air	1.1761	0.474	98.2	80-120			
Copper	75.0	2.24	ng/m <sup>3</sup> Air	23.522	50.2	105	80-120			
Lead	12.7	0.182	ng/m <sup>3</sup> Air	11.761	0.671	102	80-120			
Manganese	19.9	1.61	ng/m <sup>3</sup> Air	7.0566	12.8	101	80-120			
Molybdenum	3.80	0.305	ng/m <sup>3</sup> Air	1.1761	2.57	105	80-120			
Nickel	3.93	0.554	ng/m <sup>3</sup> Air	2.3522	1.68	95.6	80-120			
Selenium	2.47	0.00762	ng/m <sup>3</sup> Air	2.3522	0.157	98.3	80-120			
Thallium	0.118	5.01E-4	ng/m <sup>3</sup> Air	0.11761	0.00144	99.4	80-120			
Vanadium	3.78	0.0450	ng/m <sup>3</sup> Air	2.3522	1.53	95.6	80-120			
Zinc	88.1	65.3	ng/m <sup>3</sup> Air	70.566	ND	125	80-120			

### Matrix Spike Dup (B4L0602-MSD1) Source: 4120531-13 Prepared & Analyzed: 12/06/24

Antimony	0.711	0.0334	ng/m <sup>3</sup> Air	1.1977	0.102	50.8	80-120	4.55	20	SL
Arsenic	2.65	0.00812	ng/m <sup>3</sup> Air	2.3954	0.311	97.7	80-120	0.847	20	
Barium	29.9	0.927	ng/m <sup>3</sup> Air	23.954	5.68	101	80-120	1.27	20	QB-01
Beryllium	1.17	0.00277	ng/m <sup>3</sup> Air	1.1977	0.0283	95.1	80-120	1.34	20	
Cadmium	1.22	0.0642	ng/m <sup>3</sup> Air	1.1977	ND	102	80-120	1.29	20	
Chromium	15.4	1.91	ng/m <sup>3</sup> Air	11.977	3.17	102	80-120	1.64	20	
Cobalt	1.90	0.0378	ng/m <sup>3</sup> Air	1.1977	0.720	98.7	80-120	1.30	20	
Copper	56.2	2.28	ng/m <sup>3</sup> Air	23.954	28.3	117	80-120	4.45	20	
Lead	13.3	0.185	ng/m <sup>3</sup> Air	11.977	0.969	103	80-120	0.677	20	
Manganese	31.4	1.64	ng/m <sup>3</sup> Air	7.1862	24.2	99.9	80-120	1.67	20	
Molybdenum	2.52	0.311	ng/m <sup>3</sup> Air	1.1977	1.32	100	80-120	2.16	20	
Nickel	4.26	0.565	ng/m <sup>3</sup> Air	2.3954	1.93	97.5	80-120	1.88	20	
Selenium	2.56	0.00776	ng/m <sup>3</sup> Air	2.3954	0.206	98.3	80-120	0.290	20	
Thallium	0.122	5.10E-4	ng/m <sup>3</sup> Air	0.11977	0.00188	100	80-120	1.58	20	
Vanadium	4.24	0.0458	ng/m <sup>3</sup> Air	2.3954	1.90	97.8	80-120	1.45	20	
Zinc	88.3	66.5	ng/m <sup>3</sup> Air	71.862	ND	123	80-120	0.871	20	

### Matrix Spike Dup (B4L0602-MSD2) Source: 4120531-05 Prepared & Analyzed: 12/06/24

Antimony	0.803	0.0328	ng/m <sup>3</sup> Air	1.1761	0.104	59.4	80-120	3.52	20	SL
Arsenic	2.55	0.00797	ng/m <sup>3</sup> Air	2.3522	0.212	99.3	80-120	2.13	20	

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

Batch B4L0602 - ICP-MS Extraction

**Matrix Spike Dup (B4L0602-MSD2) ContirSource: 4120531-05** Prepared & Analyzed: 12/06/24

Barium	28.9	0.910	ng/m <sup>3</sup> Air	23.522	4.57	103	80-120	0.918	20	QB-01
Beryllium	1.18	0.00272	ng/m <sup>3</sup> Air	1.1761	0.0125	99.2	80-120	2.65	20	
Cadmium	1.23	0.0630	ng/m <sup>3</sup> Air	1.1761	ND	104	80-120	1.50	20	
Chromium	15.0	1.88	ng/m <sup>3</sup> Air	11.761	2.71	104	80-120	0.575	20	
Cobalt	1.64	0.0371	ng/m <sup>3</sup> Air	1.1761	0.474	98.9	80-120	0.523	20	
Copper	75.4	2.24	ng/m <sup>3</sup> Air	23.522	50.2	107	80-120	0.599	20	
Lead	12.8	0.182	ng/m <sup>3</sup> Air	11.761	0.671	103	80-120	0.806	20	
Manganese	20.4	1.61	ng/m <sup>3</sup> Air	7.0566	12.8	107	80-120	2.06	20	
Molybdenum	3.83	0.305	ng/m <sup>3</sup> Air	1.1761	2.57	108	80-120	0.905	20	
Nickel	3.94	0.554	ng/m <sup>3</sup> Air	2.3522	1.68	96.1	80-120	0.345	20	
Selenium	2.56	0.00762	ng/m <sup>3</sup> Air	2.3522	0.157	102	80-120	3.79	20	
Thallium	0.120	5.01E-4	ng/m <sup>3</sup> Air	0.11761	0.00144	101	80-120	1.77	20	
Vanadium	3.90	0.0450	ng/m <sup>3</sup> Air	2.3522	1.53	101	80-120	3.05	20	
Zinc	88.4	65.3	ng/m <sup>3</sup> Air	70.566	ND	125	80-120	0.335	20	

**Post Spike (B4L0602-PS1) Source: 4120531-13** Prepared & Analyzed: 12/06/24

Antimony	0.334	0.0334	ng/m <sup>3</sup> Air	0.23954	0.102	96.8	75-125			SL
Arsenic	1.46	0.00812	ng/m <sup>3</sup> Air	1.1977	0.311	95.7	75-125			
Barium	8.01	0.927	ng/m <sup>3</sup> Air	2.3954	5.68	97.3	75-125			QB-01
Beryllium	0.261	0.00277	ng/m <sup>3</sup> Air	0.23954	0.0283	97.3	75-125			
Cadmium	0.135	0.0642	ng/m <sup>3</sup> Air	0.11977	ND	113	75-125			
Chromium	4.40	1.91	ng/m <sup>3</sup> Air	1.1977	3.17	102	75-125			
Cobalt	0.959	0.0378	ng/m <sup>3</sup> Air	0.23954	0.720	99.7	75-125			
Copper	40.4	2.28	ng/m <sup>3</sup> Air	11.977	28.3	101	75-125			
Lead	24.8	0.185	ng/m <sup>3</sup> Air	23.954	0.969	99.6	75-125			
Manganese	26.9	1.64	ng/m <sup>3</sup> Air	2.3954	24.2	111	75-125			
Molybdenum	2.44	0.311	ng/m <sup>3</sup> Air	1.1977	1.32	93.9	75-125			
Nickel	4.30	0.565	ng/m <sup>3</sup> Air	2.3954	1.93	99.1	75-125			
Selenium	1.35	0.00776	ng/m <sup>3</sup> Air	1.1977	0.206	95.8	75-125			
Thallium	0.0611	5.10E-4	ng/m <sup>3</sup> Air	5.9885E-2	0.00188	98.9	75-125			
Vanadium	3.07	0.0458	ng/m <sup>3</sup> Air	1.1977	1.90	97.9	75-125			
Zinc	ND	66.5	ng/m <sup>3</sup> Air	23.954	ND		75-125			U

**Post Spike (B4L0602-PS2) Source: 4120531-05** Prepared & Analyzed: 12/06/24

Antimony	0.335	0.0328	ng/m <sup>3</sup> Air	0.23522	0.104	98.0	75-125			SL
Arsenic	1.33	0.00797	ng/m <sup>3</sup> Air	1.1761	0.212	95.1	75-125			
Barium	6.88	0.910	ng/m <sup>3</sup> Air	2.3522	4.57	98.2	75-125			QB-01
Beryllium	0.268	0.00272	ng/m <sup>3</sup> Air	0.23522	0.0125	109	75-125			
Cadmium	0.130	0.0630	ng/m <sup>3</sup> Air	0.11761	ND	110	75-125			
Chromium	3.83	1.88	ng/m <sup>3</sup> Air	1.1761	2.71	95.1	75-125			

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

FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
 SUBMITTED: 12/05/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

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

Batch B4L0602 - ICP-MS Extraction

### Post Spike (B4L0602-PS2) Continued Source: 4120531-05 Prepared & Analyzed: 12/06/24

Cobalt	0.702	0.0371	ng/m <sup>3</sup> Air	0.23522	0.474	96.9	75-125			
Copper	62.5	2.24	ng/m <sup>3</sup> Air	11.761	50.2	104	75-125			
Lead	24.1	0.182	ng/m <sup>3</sup> Air	23.522	0.671	99.8	75-125			
Manganese	15.2	1.61	ng/m <sup>3</sup> Air	2.3522	12.8	101	75-125			
Molybdenum	3.65	0.305	ng/m <sup>3</sup> Air	1.1761	2.57	92.1	75-125			
Nickel	4.02	0.554	ng/m <sup>3</sup> Air	2.3522	1.68	99.2	75-125			
Selenium	1.30	0.00762	ng/m <sup>3</sup> Air	1.1761	0.157	97.5	75-125			
Thallium	0.0594	5.01E-4	ng/m <sup>3</sup> Air	5.8805E-2	0.00144	98.5	75-125			
Vanadium	2.65	0.0450	ng/m <sup>3</sup> Air	1.1761	1.53	94.9	75-125			
Zinc	ND	65.3	ng/m <sup>3</sup> Air	23.522	ND		75-125			U

### Dilution Check (B4L0602-SRL1) Source: 4120531-13 Prepared & Analyzed: 12/06/24

Antimony	ND	0.167	ng/m <sup>3</sup> Air		ND			10		SL, U
Arsenic	0.315	0.0406	ng/m <sup>3</sup> Air		0.311			1.39	10	
Barium	5.46	4.63	ng/m <sup>3</sup> Air		5.68			4.06	10	QB-01
Beryllium	0.0276	0.0139	ng/m <sup>3</sup> Air		0.0283			2.68	10	
Cadmium	ND	0.321	ng/m <sup>3</sup> Air		ND				10	U
Chromium	ND	9.57	ng/m <sup>3</sup> Air		ND				10	U
Cobalt	0.718	0.189	ng/m <sup>3</sup> Air		0.720			0.217	10	
Copper	28.1	11.4	ng/m <sup>3</sup> Air		28.3			0.657	10	
Lead	ND	0.927	ng/m <sup>3</sup> Air		0.969				10	U
Manganese	24.0	8.18	ng/m <sup>3</sup> Air		24.2			0.741	10	
Molybdenum	ND	1.55	ng/m <sup>3</sup> Air		ND				10	U
Nickel	ND	2.82	ng/m <sup>3</sup> Air		ND				10	U
Selenium	0.202	0.0388	ng/m <sup>3</sup> Air		0.206			1.88	10	
Thallium	0.00375	0.00255	ng/m <sup>3</sup> Air		ND			66.2	10	
Vanadium	1.80	0.229	ng/m <sup>3</sup> Air		1.90			5.01	10	
Zinc	ND	333	ng/m <sup>3</sup> Air		ND				10	U

### Dilution Check (B4L0602-SRL2) Source: 4120531-05 Prepared & Analyzed: 12/06/24

Antimony	ND	0.164	ng/m <sup>3</sup> Air		ND				10	SL, U
Arsenic	0.217	0.0398	ng/m <sup>3</sup> Air		0.212			2.25	10	
Barium	4.58	4.55	ng/m <sup>3</sup> Air		4.57			0.0671	10	QB-01
Beryllium	ND	0.0136	ng/m <sup>3</sup> Air		ND				10	U
Cadmium	ND	0.315	ng/m <sup>3</sup> Air		ND				10	U
Chromium	ND	9.40	ng/m <sup>3</sup> Air		ND				10	U
Cobalt	0.486	0.185	ng/m <sup>3</sup> Air		0.474			2.33	10	
Copper	52.6	11.2	ng/m <sup>3</sup> Air		50.2			4.62	10	
Lead	ND	0.910	ng/m <sup>3</sup> Air		ND				10	U
Manganese	13.2	8.04	ng/m <sup>3</sup> Air		12.8			2.87	10	

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FILE #: 4205.00.003.001  
 REPORTED: 12/12/24 08:42  
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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 B4L0602 - ICP-MS Extraction

**Dilution Check (B4L0602-SRL2) Continue** Source: 4120531-05 Prepared & Analyzed: 12/06/24

Molybdenum	2.60	1.53	ng/m <sup>3</sup> Air		2.57			1.40	10	
Nickel	ND	2.77	ng/m <sup>3</sup> Air		ND				10	U
Selenium	0.165	0.0381	ng/m <sup>3</sup> Air		0.157			5.12	10	
Thallium	0.00325	0.00250	ng/m <sup>3</sup> Air		ND			77.4	10	
Vanadium	1.51	0.225	ng/m <sup>3</sup> Air		1.53			1.15	10	
Zinc	ND	327	ng/m <sup>3</sup> Air		ND				10	U



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**FILE #:** 4205.00.003.001  
**REPORTED:** 12/12/24 08:42  
**SUBMITTED:** 12/05/24  
**AQS SITE CODE:**  
**SITE CODE:** Lahaina fires

## Notes and Definitions

- U Under Detection Limit
- SL The spike recovery was outside acceptance limits. Reported value may be biased low.
- QX Compound does not meet QC criteria. Results should be considered an estimate.
- QB-04 Analyte exceeds continuing calibration blank criteria
- QB-01 Analyte exceeds method blank criteria
- LJ Identification of analyte is acceptable; reported value is an estimate.
- FB-01 Analyte exceeds Field Blank criteria.
- E The concentration for this analyte is an estimated value above the calibration range of the instrument.
- 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 12/19/2024 and Shanna Vasser 12/19/2024

Laboratory: Eastern Research Group – Morrisville, NC

Collection date(s): 11/21/24 – 11/27/24

Report No: 4120531

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

Discrepancies:

- 13. Field blank detections above the method detection limit were reported for arsenic and barium in MFL-FB01-112224-HM, for antimony, arsenic, and barium in MFL-FB01-112424-HM, and for arsenic in MFL-FB01-112624-HM.

Notes: None.