

**Ambient Community Air Monitoring Weekly Report  
For the Hawaii Department of Health – Clean Air Branch**

**Lahaina, Maui**

**5/23/2024 – 5/29/2024**

Due to ongoing debris removal operations in response to the Maui Wildfires, a Community Air Monitoring and Sampling Plan (CAMSP) has been drafted and sampling is being performed at four community locations across Lahaina listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

This approach includes ambient community air monitoring and sampling to monitor conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly impact air quality in Lahaina. Data collected is made available to HDOH via online shared site and this weekly report. This approach to air monitoring and sampling will continue until debris removal activities are complete or until HDOH CAB advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the draft CAMSP. Additionally, daily air samples were collected at all community locations, as depicted in **Figure 1**. Summary analytical data is presented in **Tables 1 and 2**. **Appendix 1** provides detailed analytical results for all community locations where air sampling was performed. Analytical results were compared to site-specific screening levels for particulate matter, asbestos, and heavy metals as described in the draft CAMSP. A summary of meteorological data is presented in **Table 3**. Overall wind conditions show approximately 1.1 mph in a generally SSE direction.

***Results for Community Locations:***

Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers ( $\mu\text{m}$ ), as this 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 May 23- May 29 at each of the following locations: Leialii Hawaiian Homelands, WW Pump Station #4, Lahaina Intermediate School, and Lahaina Boys & Girls Club.

The PM<sub>10</sub> monitoring results were not found to have exceeded the screening level during this reporting period, as shown in **Table 2**.

Please note that ambient air monitoring for fine particulate matter, with a particle size diameter of 2.5 micrometers or less (PM<sub>2.5</sub>) is not included in this report. This monitoring is being performed by the Department of Health/EPA at six locations in Lahaina and can be viewed at: <https://fire.airnow.gov/>.

There were 28 samples collected for asbestos fibers at community monitoring locations throughout this reporting period. All asbestos results were below the Site Screening Action Level (SSAL) of 0.003 fibers per cubic centimeter (fibers/cc) and less than the laboratory's analytical sensitivity (see Table 1). Notably, the laboratory commented "Numerous gypsum fibers present" on samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on May 23, 24, and 29
- WW Pump Station #4 on May 23-26, and 29
- Lahaina Intermediate School on May 24, 28, and 29

- Lahaina Boys & Girls Club on May 23-25, and 27-29

Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers found in the samples were not sufficient to obscure asbestos analysis; nor are they indicative of a health and safety concern. Occupational health exposure thresholds (National Institute for Occupational Safety and Health [NIOSH] and OSHA) for gypsum are 5 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ) for respirable dust, and  $10 \text{ mg}/\text{m}^3$  and  $15 \text{ mg}/\text{m}^3$  respectively for total dust as time-weighted averages. While total dust sampling has not been conducted, the size-discriminated particulate sampling ( $\text{PM}_{10}$ ) at these locations indicates these thresholds are not being approached and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of heavy metals were detected in ambient air samples at all of the other community sampling locations. Although heavy metals were detected, all concentrations were below the SSALs (see Table 1). The laboratory data sheets for the metals and asbestos samples collected from the community locations are found in **Appendix 1**.

### **Quality Control:**

This section briefly discusses the quality control efforts made by Tetra Tech throughout the air monitoring and sampling process. All references and SOPs can be found provided with the CAMSP.

Tetra Tech is utilizing Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the National Ambient Air Quality Standards (NAAQS) for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed prior to monitoring according to the manufacturer's procedures.

For asbestos sampling, Tetra Tech uses a Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Tetra Tech is using Tisch Environmental High Volume Air Samplers, or equivalent, collocated with the real-time particulate monitors and asbestos samplers described above. Air samples for elemental metals at community locations are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and  $\text{PM}_{10}$  Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a 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 the off-site analytical laboratories, analytical data is maintained in an electronic database and compared to the SSALs. Level 1 data verification is completed on all analytical data and results are reviewed by an industrial hygienist.

## **Attachments**



■ Air Sampling Locations  
 Lahaina Fire Perimeter

N  
  
  
 0 0.3 0.6  
 Miles

Figure 1  
 Air Sampling Locations

Hawaii DOH  
 2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

**Table 1**  
**HDOH CAB Ambient Community Monitoring and Sampling**  
**Analytical Sampling Results by Date**  
**Maui Wildfire, Lahaina**  
**5/23/2024-5/29/2024**

Analyte Units		Asbestos s/cc	Antimony µg/m <sup>3</sup>	Arsenic µg/m <sup>3</sup>	Barium µg/m <sup>3</sup>	Beryllium µg/m <sup>3</sup>	Cadmium µg/m <sup>3</sup>	Chromium µg/m <sup>3</sup>	Cobalt µg/m <sup>3</sup>	Copper µg/m <sup>3</sup>	Lead µg/m <sup>3</sup>	Manganese µg/m <sup>3</sup>	Molybdenum µg/m <sup>3</sup>	Nickel µg/m <sup>3</sup>	Selenium µg/m <sup>3</sup>	Thallium µg/m <sup>3</sup>	Vanadium µg/m <sup>3</sup>	Zinc µg/m <sup>3</sup>
Screening 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
5/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000581	0.000295	0.00294	0.00000717	ND	0.00220	0.000258	0.188	0.000303	0.00760	0.00870	0.00120	0.000153	0.00000173	0.00119	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000841	0.000508	0.00404	0.0000112	ND	0.00227	0.000382	0.0290	0.000606	0.0118	0.00150	0.00156	0.000231	0.00000205	0.00182	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000774	0.000266	0.00448	0.0000499	ND	0.00322	0.000658	0.0229	0.000508	0.0145	0.00128	0.00187	0.000216	0.00000181	0.00172	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000136	0.000951	0.00441	0.0000116	ND	0.00235	0.000370	0.0193	0.00106	0.0117	0.000834	0.00138	0.000212	0.00000191	0.00161	ND
5/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000779	0.000340	0.00384	0.00000898	ND	0.00247	0.000360	0.186	0.000370	0.0100	0.00909	0.00142	0.000196	0.00000280	0.00137	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000674	0.000226	0.00266	0.00000749	ND	ND	0.000197	0.0351	0.000533	0.00672	0.00181	0.000989	0.000212	0.00000260	0.00100	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000893	0.000548	0.00735	0.0000963	ND	0.00523	0.00129	0.0353	0.000935	0.0270	0.00188	0.00298	0.000355	0.00000361	0.00301	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000149	0.000896	0.00472	0.0000132	ND	0.00278	0.000449	0.0243	0.00112	0.0151	0.00108	0.00155	0.000204	0.00000269	0.00152	ND
5/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000768	0.00117	0.00432	0.0000127	ND	0.00341	0.000555	0.203	0.000580	0.0145	0.0101	0.00178	0.000173	0.00000162	0.00174	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000113	0.000262	0.00403	0.00000818	ND	0.00183	0.000247	0.0419	0.000543	0.00773	0.00237	0.00110	0.000163	0.00000124	0.00100	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000743	0.000336	0.00538	0.0000696	ND	0.00422	0.000957	0.0436	0.000573	0.0202	0.00175	0.00239	0.000259	0.00000190	0.00216	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000164	0.000879	0.00477	0.0000149	ND	0.00298	0.000496	0.0325	0.00157	0.0163	0.00124	0.00165	0.000184	0.00000148	0.00157	ND
5/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000627	0.000313	0.00282	0.00000615	ND	0.00205	0.000233	0.150	0.000440	0.00690	0.00803	0.00431	0.000150	0.000000973	0.00104	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000952	0.000238	0.00301	0.00000568	ND	ND	0.000169	0.0399	0.000535	0.00532	0.00201	0.000910	0.000147	0.000000782	0.000827	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000592	0.000216	0.00278	0.0000130	ND	0.00190	0.000242	0.0534	0.000563	0.00698	0.00219	0.00107	0.000150	0.000000895	0.000968	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000110	0.000421	0.00350	0.00000894	ND	0.00216	0.000285	0.0404	0.00120	0.00965	0.00159	0.00120	0.000152	0.000000902	0.00104	ND
5/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000683	0.000406	0.00298	0.00000734	ND	0.00246	0.000352	0.170	0.000349	0.00934	0.00883	0.00145	0.000157	0.00000112	0.00130	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000106	0.000233	0.00350	0.00000743	ND	0.00207	0.000201	0.0436	0.000558	0.00670	0.00195	0.00102	0.000151	0.000000919	0.000933	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000141	0.000198	0.00340	0.0000240	ND	0.00274	0.000510	0.0426	0.000392	0.0121	0.00172	0.00166	0.000173	0.00000115	0.00148	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000867	0.000215	0.00296	0.00000807	ND	0.00203	0.000250	0.0316	0.000382	0.00822	0.00149	0.00123	0.000142	0.000000843	0.000895	ND
5/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000533	0.000609	0.00477	0.0000178	ND	0.00379	0.000944	0.178	0.000389	0.0214	0.00852	0.00370	0.000225	0.00000177	0.00246	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000999	0.000352	0.00494	0.0000162	ND	0.00298	0.000692	0.0550	0.000510	0.0161	0.00211	0.00278	0.000215	0.00000157	0.00217	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000559	0.000259	0.00375	0.0000482	ND	0.00295	0.000653	0.0418	0.000445	0.0153	0.00187	0.00186	0.000242	0.00000173	0.00180	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000106	0.000418	0.00430	0.0000112	ND	0.00248	0.000368	0.0355	0.00152	0.0116	0.00136	0.00145	0.000179	0.00000138	0.00135	ND
5/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000885	0.00189	0.00364	0.00000909	ND	0.00291	0.000394	0.191	0.000639	0.0115	0.0104	0.00160	0.000170	0.00000127	0.00141	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000904	0.000330	0.00371	0.00000991	ND	0.00188	0.000322	0.0625	0.000847	0.00955	0.00247	0.00117	0.000222	0.00000133	0.00151	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000103	0.000512	0.00603	0.0000847	ND	0.00497	0.00127	0.0355	0.00100	0.0291	0.00190	0.00301	0.000358	0.00000204	0.00322	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	ND	0.00163	0.0102	0.0000426	ND	0.00724	0.00161	0.0300	0.00161	0.0598	ND	0.00434	0.000438	0.00000258	0.00435	ND
95% Upper Confidence Limit <sup>2</sup>		NA	0.000100	0.000670	0.00471	0.0000310	NA	0.00337	0.000660	0.0980	0.000850	0.0172	0.00498	0.00219	0.000230	0.00000190	0.00191	NA

**Notes:**

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

<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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

**Table 2**  
**HDOH CAB Ambient Community Monitoring and Sampling**  
**Particulate Monitoring Results for PM<sub>10</sub>**  
**Maui Wildfire, Lahaina**  
**5/23/2024 - 5/29/2024**

Screening Level		150 µg/m <sup>3</sup>
5/23/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	8.9
5/24/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	8.1
5/25/2024	Leialii Hawaiian Homelands (AM-01)	8.7
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	8.4
	Lahaina Boys & Girls Club (AM-04)	6.5
5/26/2024	Leialii Hawaiian Homelands (AM-01)	8.8
	WW Pump Station #4 (AM-02)	8.5
	Lahaina Intermediate School (AM-03)	8.2
	Lahaina Boys & Girls Club (AM-04)	7.2
5/27/2024	Leialii Hawaiian Homelands (AM-01)	9.7
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	8.1
	Lahaina Boys & Girls Club (AM-04)	5.6
5/28/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	8.5
5/29/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	11

**Notes:**

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

24 hour TWA calculation results are shown in two significant figures

**Table 3**  
**Maui Wildfire - Lahaina**  
**Meteorological Data**  
**5/23/2024-5/29/2024**

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
5/23/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	83	60	761.9
5/23/2024	AM-02	WW Pump Station #4	0.9	S	82	66	764.1
5/23/2024	AM-03	Lahaina Intermediate School	1.3	SE	80	64	754.5
5/23/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	66	763.7
5/24/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	83	57	762.0
5/24/2024	AM-02	WW Pump Station #4	1.1	S	81	64	764.2
5/24/2024	AM-03	Lahaina Intermediate School	1.2	SSE	79	61	754.6
5/24/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	78	65	763.8
5/25/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	81	61	761.5
5/25/2024	AM-02	WW Pump Station #4	1.2	SSE	80	67	763.6
5/25/2024	AM-03	Lahaina Intermediate School	1.1	SE	77	66	754.1
5/25/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	76	69	763.3
5/26/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	81	62	760.6
5/26/2024	AM-02	WW Pump Station #4	1.0	SSE	81	67	762.8
5/26/2024	AM-03	Lahaina Intermediate School	1.1	SE	78	65	753.2
5/26/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	76	69	762.4
5/27/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	81	62	760.7
5/27/2024	AM-02	WW Pump Station #4	1.2	SSE	80	69	762.9
5/27/2024	AM-03	Lahaina Intermediate School	1.2	ESE	78	67	753.3
5/27/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	77	70	762.5
5/28/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	81	63	760.8
5/28/2024	AM-02	WW Pump Station #4	0.9	S	81	68	763.0
5/28/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	65	753.4
5/28/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	78	68	762.6
5/29/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	82	61	761.5
5/29/2024	AM-02	WW Pump Station #4	1.2	SSE	81	68	763.7
5/29/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	65	754.1
5/29/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	67	763.3

**Notes:**

°F - Fahrenheit

mBar - millibar

mph - miles per hour

# Appendix 1

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



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

**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM01-052324-AB</b>	<b>Sample Description:</b>	<b>DK797384</b>
EMSL Sample Number:	042410791-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7144.5
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> ):	0.0128
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	7		
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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

**EMSL Order ID: 042410791**  
**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: 042410791-0001			Customer Sample: MFL-AM01-052324-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	C7	None Detected									
B1	F6	None Detected									
B1	I9	None Detected									
B2	A2	None Detected									
B2	D5	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> / [cinnasblab@EMSL.com](mailto:cinnasblab@EMSL.com)

**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM02-052324-AB      **Sample Description:** DK797409

EMSL Sample Number: 042410791-0002      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L) : 7143.0  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 7  
 Target Analytical Sensitivity (Structures/cc): 0.001

**Analytical Sensitivity (Structures/cc): 0.0008      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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

**EMSL Order ID: 042410791**  
**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: 042410791-0002</b>			<b>Customer Sample: MFL-AM02-052324-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	J6	None Detected									
B5	F3	None Detected									
B5	B4	None Detected									
B6	C5	None Detected									
B6	H5	None Detected									

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



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

**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM03-052324-AB      **Sample Description:** DK797404

EMSL Sample Number: 042410791-0003      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L) : 7084.0  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 6  
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077

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

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

EMSL Order ID: 042410791

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: 042410791-0003			Customer Sample: MFL-AM03-052324-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	E4	None Detected									
C1	B7	None Detected									
C2	D2	None Detected									
C2	G6	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> / [cinnasblab@EMSL.com](mailto:cinnasblab@EMSL.com)

**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM04-052324-AB      **Sample Description:** DK797387

EMSL Sample Number: 042410791-0004      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L) : 7125.8  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **042410791**  
 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>042410791-0004</b>			Customer Sample: <b>MFL-AM04-052324-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					
C6	I8	None Detected									
C6	F4	None Detected									
C6	A3	None Detected									
C7	B7	None Detected									
C7	G4	None Detected									

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



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

**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-FB01-052324-AB      **Sample Description:** DK797403

EMSL Sample Number: 042410791-0005      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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 23.36			
<b>Total Amphibole</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	-	0	0	< 23.36			

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	< 23.36			
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.36			

**Comment**

Approved Signatory

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

EMSL Order ID: **042410791**  
 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:		042410791-0005					Customer Sample:		MFL-FB01-052324-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	H2	None Detected									
D1	H5	None Detected									
D1	C8	None Detected									
D1	A6	None Detected									
D2	A8	None Detected									
D2	D9	None Detected									
D2	I5	None Detected									
D3	J7	None Detected									
D3	F6	None Detected									
D3	B4	None Detected									

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



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

**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM01-052424-AB      **Sample Description:** DK797417

EMSL Sample Number: 042410791-0006      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7206.0  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 7  
 Target Analytical Sensitivity (Structures/cc): 0.001

**Analytical Sensitivity (Structures/cc): 0.0008      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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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**EMSL Order ID: 042410791**  
**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: 042410791-0006</b>			<b>Customer Sample: MFL-AM01-052424-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					
D6	I4	None Detected									
D6	E3	None Detected									
D6	B6	None Detected									
D7	H7	None Detected									
D7	C3	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:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM02-052424-AB      **Sample Description:** DK797416

EMSL Sample Number: 042410791-0007      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L) : 7087.0  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 6  
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **042410791**  
 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>042410791-0007</b>			Customer Sample: <b>MFL-AM02-052424-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	I5	None Detected									
E1	E4	None Detected									
E1	A9	None Detected									
E2	H6	None Detected									
E2	D3	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:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-052424-AB</b>	<b>Sample Description:</b>	<b>DK797392</b>
EMSL Sample Number:	042410791-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7084.4
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> ):	0.0128
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**  
 Numerous gypsum fibers.

Approved Signatory

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**EMSL Order ID: 042410791**  
**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: 042410791-0008</b>			<b>Customer Sample: MFL-AM03-052424-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	I8	None Detected									
E5	E3	None Detected									
E5	A7	None Detected									
E6	C6	None Detected									
E6	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:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM04-052424-AB      **Sample Description:** DK797385

EMSL Sample Number: 042410791-0009      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7227.1  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 7  
 Target Analytical Sensitivity (Structures/cc): 0.001

**Analytical Sensitivity (Structures/cc): 0.0008      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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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**EMSL Order ID: 042410791**  
**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: 042410791-0009			Customer Sample: MFL-AM04-052424-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	J9	None Detected									
F1	G3	None Detected									
F1	B6	None Detected									
F2	G7	None Detected									
F2	A4	None Detected									

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



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

**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-FB01-052424-AB      **Sample Description:** DK797429

EMSL Sample Number: 042410791-0010      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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 23.36			
<b>Total Amphibole</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	-	0	0	< 23.36			

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	< 23.36			
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.36			

**Comment**

Approved Signatory

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**EMSL Order ID: 042410791**  
**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: 042410791-0010		Customer Sample: MFL-FB01-052424-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	B4	None Detected									
F5	D7	None Detected									
F6	H9	None Detected									
F5	I5	None Detected									
F6	A8	None Detected									
F6	E7	None Detected									
F6	J7	None Detected									
F7	J5	None Detected									
F7	G2	None Detected									
F7	C6	None Detected									

*Abbreviations used:*  
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled  
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**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/05/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM01-052524-AB      **Sample Description:** DK797426

EMSL Sample Number: 042410791-0011      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7234.2  
 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>): 0.0128  
 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: A. Burke  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 7  
 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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

**EMSL Order ID: 042410791**  
**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: 042410791-0011			Customer Sample: MFL-AM01-052524-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B5	None Detected									
G2	E2	None Detected									
G2	I5	None Detected									
G3	C4	None Detected									
G3	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:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/05/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM02-052524-AB      **Sample Description:** DK797422

EMSL Sample Number: 042410791-0012      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7297.6  
 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>): 0.0128  
 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: A. Burke  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 7  
 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

**EMSL Order ID: 042410791**  
**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: 042410791-0012			Customer Sample: MFL-AM02-052524-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					
G3	A5	None Detected									
G3	C6	None Detected									
G4	J5	None Detected									
G4	G6	None Detected									
G4	A5	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:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/05/2024  
**Report Date:** 06/06/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-052524-AB</b>	<b>Sample Description:</b>	<b>DK797393</b>
EMSL Sample Number:	042410791-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7254.5
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> ):	0.0128
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:	A. Burke
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	7		
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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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**EMSL Order ID: 042410791**  
**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: 042410791-0013			Customer Sample: MFL-AM03-052524-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	B5	None Detected									
H1	E3	None Detected									
H1	H5	None Detected									
H3	B4	None Detected									
H3	F4	None Detected									

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



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**EMSL Order:** 042410791  
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**Customer PO:** 1207085  
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 Tetra Tech  
 1560 Broadway, Suite 1400  
 Denver, CO, 80202

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**Analysis Date:** 06/05/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM04-052524-AB      **Sample Description:** DK797394

EMSL Sample Number: 042410791-0014      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7291.6  
 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>): 0.0128  
 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: A. Burke  
 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **042410791**  
 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>042410791-0014</b>			Customer Sample: <b>MFL-AM04-052524-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					
H7	I8	None Detected									
H7	E7	None Detected									
H7	B9	None Detected									
H8	A5	None Detected									
H8	D3	None Detected									

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



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

**EMSL Order:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/05/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

<b>Customer Sample Number:</b>	MFL-FB01-052524-AB	<b>Sample Description:</b> DK797400
EMSL Sample Number:	042410791-0015	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> ): 0.0128
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: A. Burke
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> 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	< 23.36			
<b>Total Amphibole</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	-	0	0	< 23.36			

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	< 23.36			
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.36			

**Comment**

Approved Signatory

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

EMSL Order ID: **042410791**  
 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>042410791-0015</b>			Customer Sample: <b>MFL-FB01-052524-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					
I1	B3	None Detected									
I1	C5	None Detected									
I1	E7	None Detected									
I1	G5	None Detected									
I1	I3	None Detected									
I2	B3	None Detected									
I2	D4	None Detected									
I2	F7	None Detected									
I2	G8	None Detected									
I2	J5	None Detected									

Abbreviations used:  
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 XCGBLD - Crosses Countable Grid Bar Length Doubled



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

**EMSL Order:** 042410791  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
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**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM01-052624-AB      **Sample Description:** DK797406

EMSL Sample Number: 042410791-0016      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7257.6  
 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>): 0.0128  
 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: A. Burke  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 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: **042410791**  
 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>042410791-0016</b>			Customer Sample: <b>MFL-AM01-052624-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	D6	None Detected									
I5	G3	None Detected									
I6	C5	None Detected									
I6	E1	None Detected									
I6	J4	None Detected									

Abbreviations used:  
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 XCGBLD - Crosses Countable Grid Bar Length Doubled



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

**EMSL Order:** 042410791  
**Customer ID:** TTDC42  
**Customer PO:** 1207085  
**Project ID:** N/A

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

**Phone:** (703) 489-2674  
**Fax:** N/A  
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**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM02-052624-AB      **Sample Description:** DK797408

EMSL Sample Number: 042410791-0017      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L) : 7176.3  
 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>): 0.0128  
 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: A. Burke  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 6  
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **042410791**  
 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>042410791-0017</b>			Customer Sample: <b>MFL-AM02-052624-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					
J2	J7	None Detected									
J2	H6	None Detected									
J2	C8	None Detected									
J3	A4	None Detected									
J3	F6	None Detected									

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



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

**Project: Maui Fires - Lahaina**

**Phone:** (703) 489-2674  
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**Analysis Date:** 06/05/2024  
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**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

<b>Customer Sample Number:</b>	<b>MFL-AM03-052624-AB</b>	<b>Sample Description:</b>	<b>DK797431</b>
EMSL Sample Number:	042410791-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7079.6
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> ):	0.0128
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:	A. Burke
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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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

**EMSL Order ID: 042410791**  
**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: 042410791-0018			Customer Sample: MFL-AM03-052624-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
15	J4	None Detected									
15	G6	None Detected									
17	I4	None Detected									
17	E4	None Detected									
17	B6	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:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/05/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM04-052624-AB      **Sample Description:** DK797407

EMSL Sample Number: 042410791-0019      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7054.7  
 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>): 0.0128  
 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: A. Burke  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <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; 46.72</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; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	

**Comment**

Approved Signatory

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

EMSL Order ID: 042410791

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: 042410791-0019			Customer Sample: MFL-AM04-052624-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	A4	None Detected									
K1	D2	None Detected									
K4	C5	None Detected									
K4	G8	None Detected									
K4	J6	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:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/05/2024  
**Report Date:** 06/06/2024

**Project: Maui Fires - Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-FB01-052624-AB</b>	<b>Sample Description:</b>	<b>DK797382</b>
EMSL Sample Number:	042410791-0020	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> ):	0.0128
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:	A. Burke
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; 23.36</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</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; 23.36</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			

**Comment**

Approved Signatory

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

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

EMSL Order ID: 042410791

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: 042410791-0020		Customer Sample: MFL-FB01-052624-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					
K7	A4	None Detected									
K7	C3	None Detected									
K7	F4	None Detected									
K7	H5	None Detected									
K7	J6	None Detected									
K8	I5	None Detected									
K8	H7	None Detected									
K8	F8	None Detected									
K8	D4	None Detected									
K8	A7	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:** 042410791  
**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:** 05/30/2024 10:12 AM  
**Analysis Date:** 06/04/2024  
**Report Date:** 06/06/2024

**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:	042410791-0021	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> ): 0.0128
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: G.Barry
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; 23.36</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</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; 23.36</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			

**Comment**

Approved Signatory

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

EMSL Order ID: **042410791**  
 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:		042410791-0021		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					
A2	A4	None Detected									
A2	D7	None Detected									
A2	F9	None Detected									
A2	J6	None Detected									
A3	A6	None Detected									
A3	F6	None Detected									
A3	I3	None Detected									
A4	J8	None Detected									
A4	I5	None Detected									
A4	B5	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

**#042410791**

RECEIVED  
 EMSL Analytical, Inc.  
 206 Route 130 North  
 Cinnaminson, NJ 08077  
 (800) 220-3675  
 24 MAY 30 PM 11:12

EMSL ANALYTICAL, INC.  
 TESTING LABS • PRODUCTS • TRAINING

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	TETRA TECH	Company Name:	
Contact Name:	CHELSEA SABER	Billing Contact:	
Street Address:	1560 BROADWAY STE 1400	Street Address:	
City, State, Zip:	DENVER, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

**Project Information**

Project Name/No: MAUI FIRES - LAHA'IA Purchase Order: 1207085

EMSL LIMS Project ID: (If applicable, EMSL will provide)

US State where samples collected: HI  Commercial (Taxable)  Residential (Non-Taxable)

State of Connecticut (CT) must select project location:

Sampled By Name: E. KARLYSA SALDAÑA Sampled By Signature: [Signature] No. of Samples in Shipment: 20

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

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

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

**Test Selection**

**PCM Air**

NIOSH 7400  
 NIOSH 7400 w/ 8hr. TWA

**PLM - Bulk (reporting limit)**

PLM EPA 600/R-93/116 (<1%)  
 PLM EPA NOB (<1%)

**POINT COUNT**

400 (<0.25%)  1,000 (<0.1%)  
 POINT COUNT w/ GRAVIMETRIC  
 400 (<0.25%)  1,000 (<0.1%)

NIOSH 9002 (<1%)  
 NYS 198.1 (Friable - NY)  
 NYS 198.6 NOB (Non-Friable - NY)  
 NYS 198.8 (Vermiculite SM-V)

**TEM - Air**

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

**TEM - Bulk**

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

**TEM - Settled Dust**

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

**Soil - Rock - Vermiculite (reporting limit)\***

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

**Other Test (please specify)**

\*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-052324-AB	DK797384	7,144.489	05/23/24 1055
MFL-AM02-052324-AB	DK797409	7,142.999	05/23/24 1116
MFL-AM03-052324-AB	DK797404	7,083.960	05/23/24 1257
MFL-AM04-052324-AB	DK797387	7,125.793	05/23/24 1321
MFL-FB01-052324-AB	DK797403	0	05/23/24 1200
MFL-AM01-052424-AB	DK797417	7,206.048	05/24/24 1100
MFL-AM02-052424-AB	DK797416	7,086.960	05/24/24 1120
MFL-AM03-052424-AB	DK797392	7,084.368	05/24/24 1301

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

All samples received acceptable for analysis.

Method of Shipment: FED EX Sample Condition Upon Receipt:

Relinquished by: [Signature] Date/Time: 05/27/24 1400 Received by: [Signature] FedEX Date/Time: 5/30/24 10:12A

Relinquished by: Date/Time: Received by: Date/Time:

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

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

(20) y



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

Reviewed by:

Kierra Johnson 06/12/2024 and Shanna Vasser 06/13/2024

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

Collection date(s): 05/23/2024 – 05/26/2024

Report No: 42410791

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

Discrepancies: None.

Notes: None.



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

**EMSL Order:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM01-052724-AB      **Sample Description:** DK797413

EMSL Sample Number: 042411082-0001      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7184.5  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 6  
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 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: 042411082**  
**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: 042411082-0001			Customer Sample: MFL-AM01-052724-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J4	None Detected									
A5	G7	None Detected									
A5	D3	None Detected									
A7	H5	None Detected									
A7	C4	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:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM02-052724-AB      **Sample Description:** DK797386

EMSL Sample Number: 042411082-0002      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L) : 7193.1  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**

Approved Signatory

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**EMSL Order ID: 042411082**  
**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: 042411082-0002</b>			<b>Customer Sample: MFL-AM02-052724-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					
B2	A7	None Detected									
B2	H7	None Detected									
B3	J4	None Detected									
B3	F6	None Detected									
B3	B3	None Detected									

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



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

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

**Project: Maui Fires - Lahaina**

**Phone:** (703) 489-2674  
**Fax:** N/A  
**Received Date:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
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**ISO 10312 Determination of Asbestos Fibers  
 Direct Transfer Transmission Electron Microscopy**

<b>Customer Sample Number:</b>	<b>MFL-AM03-052724-AB</b>	<b>Sample Description:</b>	<b>DK797371</b>
EMSL Sample Number:	042411082-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7174.7
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> ):	0.0128
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		

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

**Analytical Sensitivity (Structures/cc): 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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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**EMSL Order ID: 042411082**  
**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: 042411082-0003			Customer Sample: MFL-AM03-052724-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	F3	None Detected									
B5	I7	None Detected									
B6	B4	None Detected									
B6	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:** 042411082  
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**Phone:** (703) 489-2674  
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**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM04-052724-AB</b>	<b>Sample Description:</b>	<b>DK797370</b>
EMSL Sample Number:	042411082-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7069.8
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> ):	0.0128
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
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; 46.72</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; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0027</b>	<b>Not Applicable - 0.0027</b>	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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**EMSL Order ID: 042411082**  
**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: 042411082-0004</b>			<b>Customer Sample: MFL-AM04-052724-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	J6	None Detected									
C1	F3	None Detected									
C1	B5	None Detected									
C2	H9	None Detected									
C2	E5	None Detected									

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



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

**EMSL Order:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

<b>Customer Sample Number:</b>	MFL-FB01-052724-AB	<b>Sample Description:</b> DK797427
EMSL Sample Number:	042411082-0005	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> ): 0.0128
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: G.Barry
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> 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	< 23.36			
<b>Total Amphibole</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	-	0	0	< 23.36			

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	< 23.36			
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.36			

**Comment**

Approved Signatory

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

EMSL Order ID: **042411082**  
 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:		042411082-0005		Customer Sample:		MFL-FB01-052724-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	A8	None Detected									
C5	A4	None Detected									
C5	E5	None Detected									
C5	I3	None Detected									
C6	B6	None Detected									
C6	F8	None Detected									
C6	H5	None Detected									
C7	J4	None Detected									
C7	G6	None Detected									
C7	B7	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:** 042411082  
**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:** 06/03/2024 09:00 AM  
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**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM01-052824-AB      **Sample Description:** DK797414

EMSL Sample Number: 042411082-0006      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7418.2  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 7  
 Target Analytical Sensitivity (Structures/cc): 0.001

**Analytical Sensitivity (Structures/cc): 0.0008      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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 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: 042411082**  
**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: 042411082-0006			Customer Sample: MFL-AM01-052824-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	J8	None Detected									
D1	F4	None Detected									
D1	I5	None Detected									
D2	H4	None Detected									
D2	D5	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> / [cjnnasblab@EMSL.com](mailto:cjnnasblab@EMSL.com)

**EMSL Order:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

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

<b>Customer Sample Number:</b>	<b>MFL-AM02-052824-AB</b>	<b>Sample Description:</b>	<b>DK797401</b>
EMSL Sample Number:	042411082-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7148.3
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> ):	0.0128
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**

Approved Signatory

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**EMSL Order ID: 042411082**  
**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: 042411082-0007			Customer Sample: MFL-AM02-052824-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A6	None Detected									
D5	E3	None Detected									
D6	B2	None Detected									
D6	F7	None Detected									
D6	J3	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:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM03-052824-AB      **Sample Description:** DK797367

EMSL Sample Number: 042411082-0008      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7052.5  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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**EMSL Order ID: 042411082**  
**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: 042411082-0008			Customer Sample: MFL-AM03-052824-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	J9	None Detected									
E1	G4	None Detected									
E1	B5	None Detected									
E2	C3	None Detected									
E2	F6	None Detected									

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



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**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM04-052824-AB      **Sample Description:** DK797380

EMSL Sample Number: 042411082-0009      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7230.1  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 7  
 Target Analytical Sensitivity (Structures/cc): 0.001

**Analytical Sensitivity (Structures/cc): 0.0008      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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

**EMSL Order ID: 042411082**  
**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: 042411082-0009			Customer Sample: MFL-AM04-052824-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	I3	None Detected									
E5	E7	None Detected									
E5	A4	None Detected									
E7	C8	None Detected									
E7	H4	None Detected									

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



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

**EMSL Order:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/10/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

<b>Customer Sample Number:</b>	MFL-FB01-052824-AB	<b>Sample Description:</b> DK797430
EMSL Sample Number:	042411082-0010	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> ): 0.0128
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 %:	2	
Target Analytical Sensitivity (Structures/cc):	0.001	
<b>Analytical Sensitivity (Structures/cc):</b>	<b>N/A</b>	<b>Limit of Detection (Structures/cc):</b> 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	< 23.36			
<b>Total Amphibole</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	-	0	0	< 23.36			

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	< 23.36			
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 23.36			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 23.36			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	-	0	0	< 23.36			

**Comment**

Approved Signatory

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

EMSL Order ID: 042411082  
 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: 042411082-0010			Customer Sample: MFL-FB01-052824-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	B5	None Detected									
F1	D7	None Detected									
F1	F8	None Detected									
F1	H7	None Detected									
F1	J5	None Detected									
F3	A7	None Detected									
F3	C4	None Detected									
F3	E2	None Detected									
F3	G4	None Detected									
F3	I7	None Detected									

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



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

**EMSL Order:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

**Customer Sample Number:** MFL-AM01-052924-AB      **Sample Description:** DK797433

EMSL Sample Number: 042411082-0011      Sample Matrix: Air  
 Magnification used for fiber counting: 20,000      Volume (L): 7047.2  
 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>): 0.0128  
 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: G.Barry  
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 6  
 Target Analytical Sensitivity (Structures/cc): 0.001

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0027	Not Applicable - 0.0027	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

**EMSL Order ID: 042411082**  
**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: 042411082-0011</b>			<b>Customer Sample: MFL-AM01-052924-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					
F6	B7	None Detected									
F6	E9	None Detected									
F6	H5	None Detected									
F8	I4	None Detected									
F8	D7	None Detected									

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



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

**EMSL Order:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

<b>Customer Sample Number:</b>	MFL-AM02-052924-AB	<b>Sample Description:</b>	DK797412
EMSL Sample Number:	042411082-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7242.8
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> ):	0.0128
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		

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

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

TOTAL STRUCTURES (All Sizes)							
	Minimum ID Level	Structures Detected		Density (S/mm <sup>2</sup> )	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
<b>Total Chrysotile</b>	CD	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	-	0	0	< 46.72	< 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	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Amphibole (PCMe)</b>	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	CD/ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **042411082**  
 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>042411082-0012</b>			Customer Sample: <b>MFL-AM02-052924-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	J5	None Detected									
G1	E3	None Detected									
G1	A5	None Detected									
G2	C6	None Detected									
G2	G7	None Detected									

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



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

**EMSL Order:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM03-052924-AB</b>	<b>Sample Description:</b>	<b>DK797362</b>
EMSL Sample Number:	042411082-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7234.8
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> ):	0.0128
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

**EMSL Order ID: 042411082**  
**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: 042411082-0013</b>			<b>Customer Sample: MFL-AM03-052924-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	A7	None Detected									
G5	E4	None Detected									
G5	I5	None Detected									
G6	D5	None Detected									
G6	H7	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:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/08/2024  
**Report Date:** 06/10/2024

**Project: Maui Fires - Lahaina**

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

<b>Customer Sample Number:</b>	<b>MFL-AM04-052924-AB</b>	<b>Sample Description:</b>	<b>DK797383</b>
EMSL Sample Number:	042411082-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7114.5
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> ):	0.0128
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	9		
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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</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; 46.72</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; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable - 0.0024	
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 46.72</b>	<b>&lt; 0.0024</b>	<b>Not Applicable - 0.0024</b>	

**Comment**  
 Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: **042411082**  
 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>042411082-0014</b>			Customer Sample: <b>MFL-AM04-052924-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					
H1	I4	None Detected									
H1	E7	None Detected									
H1	A4	None Detected									
H2	B2	None Detected									
H2	G6	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:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/08/2024  
**Report Date:** 06/10/2024

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

<b>Customer Sample Number:</b>	<b>MFL-FB01-052924-AB</b>	<b>Sample Description:</b>	<b>DK797399</b>
EMSL Sample Number:	042411082-0015	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> ):	0.0128
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:	G.Barry
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; 23.36</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</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; 23.36</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			

**Comment**

Approved Signatory

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**EMSL Order ID: 042411082**  
**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: 042411082-0015		Customer Sample: MFL-FB01-052924-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	D8	None Detected									
H5	E5	None Detected									
H5	H7	None Detected									
H5	J3	None Detected									
H6	I9	None Detected									
H6	G7	None Detected									
H6	B7	None Detected									
H7	J6	None Detected									
H7	G4	None Detected									
H7	A3	None Detected									

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



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**EMSL Order:** 042411082  
**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:** 06/03/2024 09:00 AM  
**Analysis Date:** 06/07/2024  
**Report Date:** 06/10/2024

**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:	042411082-0016	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> ): 0.0128
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: G.Barry
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; 23.36</b>			
<b>Total Amphibole</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</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; 23.36</b>			
<b>Total Amphibole (PCMe)</b>	<b>ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
<b>Total Asbestos Structures (PCMe)</b>	<b>CD/ADX</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			
Other Minerals	-	0	0	< 23.36			
<b>Total All Structures (PCMe)</b>	<b>-</b>	<b>0</b>	<b>0</b>	<b>&lt; 23.36</b>			

**Comment**

Approved Signatory

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

EMSL Order ID: **042411082**  
 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:		042411082-0016		Customer Sample:		Lab Blank					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	C3	None Detected									
A1	E7	None Detected									
A1	G8	None Detected									
A1	J5	None Detected									
A2	B7	None Detected									
A2	E5	None Detected									
A2	I4	None Detected									
A4	J8	None Detected									
A4	G6	None Detected									
A4	C4	None Detected									

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



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

EMSL Order Number / Lab Use Only

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

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

EMSL ANALYTICAL, INC.  
TESTING LABS • PRODUCTS • TRAINING

04 24 11082

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

<b>Customer Information</b> Customer ID: Company Name: <b>TETRA TECH</b> Contact Name: <b>CHELSEA SABER</b> Street Address: <b>1560 BROADWAY STE 1400</b> City, State, Zip: <b>DENVER, CO 80202</b> Country: <b>USA</b> Phone: <b>703-489-2674</b> Email(s) for Report: <b>chelsea.saber@tetratech.com</b>	<b>Billing Information</b> Billing ID: Company Name: Billing Contact: Street Address: City, State, Zip: Country: Phone: Email(s) for Invoice:
---	--

<b>Project Information</b>		Purchase Order:
Project Name/No: <b>MAUI FIRES - LAHAINA</b>		
EMSL LIMS Project ID: <small>(if applicable, EMSL will provide)</small>	US State where samples collected: <b>HI</b>	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: <b>E. KARYSA SALDAÑA</b>	Sampled By Signature: <i>[Signature]</i>	No. of Samples in Shipment: <b>15</b>

**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.

<b>PCM Air</b> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA <b>PLM - Bulk (reporting limit)</b> <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)	<b>TEM - Air</b> <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* <b>TEM - Bulk</b> <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%) <b>Other Test (please specify)</b>	<b>TEM - Settled Dust</b> <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 <b>Soil - Rock - Vermiculite (reporting limit)*</b> <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-AMD1-052724-AB	DK797413	7,184.495	05/27/24 1102
MFL-AMD2-052724-AB	DL797386	7,193.088	05/27/24 1119
MFL-AMD3-052724-AB	DL797371	7,174.654	05/27/24 1259
MFL-AMD4-052724-AB	DL797370	7,069.815	05/27/24 1323
MFL-FB01-052724-AB	DL797427	0	05/27/24 1200
MFL-AMD1-052824-AB	DK797414	7,418.211	05/28/24 1104
MFL-AMD2-052824-AB	DK797401	7,148.304	05/28/24 1122
MFL-AMD3-052824-AB	DK797367	7,052.544	05/28/24 1303

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

All samples received acceptable for analysis.

1589

Method of Shipment: <b>FEDEX</b>		Sample Condition Upon Receipt:	
Relinquished by: <i>[Signature]</i>	Date/Time: <b>05/30/24 1100</b>	Received by: <i>[Signature]</i> <b>FX</b>	Date/Time: <b>6/3/24</b>
Relinquished by:	Date/Time:	Received by:	Date/Time:

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

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

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



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

Reviewed by:

Kierra Johnson 06/11/2024 and Shanna Vasser 6/11/2024

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

Collection date(s): 05/27/2024 – 05/29/2024

Report No: 42411082

- √ 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

June 11, 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 06/03/24 14:11.

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:** 06/11/24 15:56

**SUBMITTED:** 06/03/24

**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-AM01-052324-HM	4060348-01	Air	05/23/24 23:59	06/03/24 14:11
MFL-AM02-052324-HM	4060348-02	Air	05/23/24 23:59	06/03/24 14:11
MFL-AM03-052324-HM	4060348-03	Air	05/23/24 23:59	06/03/24 14:11
MFL-AM04-052324-HM	4060348-04	Air	05/23/24 23:59	06/03/24 14:11
MFL-FB01-052324-HM	4060348-05	Air	05/23/24 00:00	06/03/24 14:11
MFL-AM01-052424-HM	4060348-06	Air	05/24/24 23:59	06/03/24 14:11
MFL-AM02-052424-HM	4060348-07	Air	05/24/24 23:59	06/03/24 14:11
MFL-AM03-052424-HM	4060348-08	Air	05/24/24 23:59	06/03/24 14:11
MFL-AM04-052424-HM	4060348-09	Air	05/24/24 23:59	06/03/24 14:11
MFL-AM01-052524-HM	4060348-10	Air	05/25/24 23:59	06/03/24 14:11
MFL-AM02-052524-HM	4060348-11	Air	05/25/24 23:59	06/03/24 14:11
MFL-AM03-052524-HM	4060348-12	Air	05/25/24 23:59	06/03/24 14:11
MFL-AM04-052524-HM	4060348-13	Air	05/25/24 23:59	06/03/24 14:11
MFL-FB01-052524-HM	4060348-14	Air	05/25/24 00:00	06/03/24 14:11
MFL-AM01-052624-HM	4060348-15	Air	05/26/24 23:59	06/03/24 14:11
MFL-AM02-052624-HM	4060348-16	Air	05/26/24 23:59	06/03/24 14:11
MFL-AM03-052624-HM	4060348-17	Air	05/26/24 23:59	06/03/24 14:11
MFL-AM04-052624-HM	4060348-18	Air	05/26/24 23:59	06/03/24 14:11
MFL-AM01-052724-HM	4060348-19	Air	05/27/24 23:59	06/03/24 14:11
MFL-AM02-052724-HM	4060348-20	Air	05/27/24 23:59	06/03/24 14:11
MFL-AM03-052724-HM	4060348-21	Air	05/27/24 23:59	06/03/24 14:11



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Blue Bell, PA 19422

**ATTN:** Ms. Chelsea Saber

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

MFL-AM04-052724-HM	4060348-22	Air	05/27/24 23:59	06/03/24 14:11
MFL-FB01-052724-HM	4060348-23	Air	05/27/24 00:00	06/03/24 14:11
MFL-AM01-052824-HM	4060348-24	Air	05/28/24 23:59	06/03/24 14:11
MFL-AM02-052824-HM	4060348-25	Air	05/28/24 23:59	06/03/24 14:11
MFL-AM03-052824-HM	4060348-26	Air	05/28/24 23:59	06/03/24 14:11
MFL-AM04-052824-HM	4060348-27	Air	05/28/24 23:59	06/03/24 14:11
MFL-AM01-052924-HM	4060348-28	Air	05/29/24 23:59	06/03/24 14:11
MFL-AM02-052924-HM	4060348-29	Air	05/29/24 23:59	06/03/24 14:11
MFL-AM03-052924-HM	4060348-30	Air	05/29/24 23:59	06/03/24 14:11
MFL-AM04-052924-HM	4060348-31	Air	05/29/24 23:59	06/03/24 14:11
MFL-FB01-052924-HM	4060348-32	Air	05/29/24 00:00	06/03/24 14:11
MFL-LB01-052924-HM	4060348-33	Air	05/29/24 00:00	06/03/24 14:11

**FILE #:** 4205.00.003.001

**REPORTED:** 06/11/24 15:56

**SUBMITTED:** 06/03/24

**AQS SITE CODE:**

**SITE CODE:** Lahaina fires



# 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: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM01-052324-HM      **Lab ID:** 4060348-01      **Sampled:** 05/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 1874.629 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 21:26  
**Comments:** Q8504004 - 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	0.0581	SL	0.0335
Arsenic	7440-38-2	0.295		0.00813
Barium	7440-39-3	2.94		0.929
Beryllium	7440-41-7	0.00717		0.00278
Cadmium	7440-43-9	0.0110	U	0.0643
Chromium	7440-47-3	2.20		1.92
Cobalt	7440-48-4	0.258		0.0378
Copper	7440-50-8	188		2.28
Lead	7439-92-1	0.303		0.186
Manganese	7439-96-5	7.60		1.64
Molybdenum	7439-98-7	8.70		0.312
Nickel	7440-02-0	1.20		0.566
Selenium	7782-49-2	0.153		0.00778
Thallium	7440-28-0	0.00173		5.11E-4
Vanadium	7440-62-2	1.19		0.0459
Zinc	7440-66-6	32.4	U	66.7



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

FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-052324-HM      **Lab ID:** 4060348-02      **Sampled:** 05/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 2062.87 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 21:37  
**Comments:** Q8504002 - 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	0.0841	SL	0.0304
Arsenic	7440-38-2	0.508		0.00739
Barium	7440-39-3	4.04		0.844
Beryllium	7440-41-7	0.0112		0.00252
Cadmium	7440-43-9	0.0138	U	0.0584
Chromium	7440-47-3	2.27		1.74
Cobalt	7440-48-4	0.382		0.0344
Copper	7440-50-8	29.0		2.07
Lead	7439-92-1	0.606		0.169
Manganese	7439-96-5	11.8		1.49
Molybdenum	7439-98-7	1.50		0.283
Nickel	7440-02-0	1.56		0.514
Selenium	7782-49-2	0.231		0.00707
Thallium	7440-28-0	0.00205		4.65E-4
Vanadium	7440-62-2	1.82		0.0417
Zinc	7440-66-6	31.1	U	60.6



# 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: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052324-HM      **Lab ID:** 4060348-03      **Sampled:** 05/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 1680.502 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 17:59  
**Comments:** Q8504001 - 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	0.0774	SL	0.0374	
Barium	7440-39-3	4.48		1.04	
Beryllium	7440-41-7	0.0499		0.00310	
Chromium	7440-47-3	3.22		2.14	
Cobalt	7440-48-4	0.658		0.0422	
Copper	7440-50-8	22.9		2.55	
Lead	7439-92-1	0.508		0.207	
Manganese	7439-96-5	14.5		1.83	
Nickel	7440-02-0	1.87		0.631	
Thallium	7440-28-0	0.00181		5.70E-4	
Vanadium	7440-62-2	1.72		0.0512	
Zinc	7440-66-6	31.5	U	74.4	



# 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: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052324-HM      **Lab ID:** 4060348-03RE1      **Sampled:** 05/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 1680.502 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 13:27  
**Comments:** Q8504001 - 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>	
Arsenic	7440-38-2	0.266	D	0.0181	
Cadmium	7440-43-9	0.0106	D, U	0.143	
Molybdenum	7439-98-7	1.28	D	0.695	
Selenium	7782-49-2	0.216	D	0.0173	



# CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM04-052324-HM      **Lab ID:** 4060348-04      **Sampled:** 05/23/24 23:59  
**Matrix:** Air      **Sample Volume:** 1877.907 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 21:47  
**Comments:** Q8504000 - 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	0.136	SL	0.0334	
Arsenic	7440-38-2	0.951		0.00812	
Barium	7440-39-3	4.41		0.927	
Beryllium	7440-41-7	0.0116		0.00277	
Cadmium	7440-43-9	0.0201	U	0.0642	
Chromium	7440-47-3	2.35		1.91	
Cobalt	7440-48-4	0.370		0.0378	
Copper	7440-50-8	19.3		2.28	
Lead	7439-92-1	1.06		0.185	
Manganese	7439-96-5	11.7		1.64	
Molybdenum	7439-98-7	0.834		0.311	
Nickel	7440-02-0	1.38		0.565	
Selenium	7782-49-2	0.212		0.00776	
Thallium	7440-28-0	0.00191		5.10E-4	
Vanadium	7440-62-2	1.61		0.0458	
Zinc	7440-66-6	33.8	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: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-FB01-052324-HM      **Lab ID:** 4060348-05      **Sampled:** 05/23/24 00:00  
**Matrix:** Air      **Sample Volume:** 1874.629 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 21:57  
**Comments:** Q8503996 - 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	0.0168	U, SL	0.0335	
Arsenic	7440-38-2	0.00482	U	0.00813	
<b>Barium</b>	<b>7440-39-3</b>	<b>1.08</b>	FB-01	<b>0.929</b>	
Beryllium	7440-41-7	6.60E-4	U	0.00278	
Cadmium	7440-43-9	8.08E-4	U	0.0643	
Chromium	7440-47-3	1.07	U	1.92	
Cobalt	7440-48-4	0.0115	U	0.0378	
Copper	7440-50-8	0.588	U	2.28	
Lead	7439-92-1	0.0339	U	0.186	
Manganese	7439-96-5	0.187	U	1.64	
Molybdenum	7439-98-7	0.169	U	0.312	
Nickel	7440-02-0	0.427	U	0.566	
Selenium	7782-49-2	0.00183	U	0.00778	
Thallium	7440-28-0	1.54E-4	U	5.11E-4	
Vanadium	7440-62-2	0.0127	U	0.0459	
Zinc	7440-66-6	21.8	U	66.7	



# CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.  
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 Blue Bell, PA 19422  
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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM01-052424-HM      **Lab ID:** 4060348-06      **Sampled:** 05/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 1927.551 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 22:08  
**Comments:** Q8503998 - 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	0.0326	
Arsenic	7440-38-2	0.340		0.00791	
Barium	7440-39-3	3.84		0.903	
Beryllium	7440-41-7	0.00898		0.00270	
Cadmium	7440-43-9	0.0171	U	0.0625	
Chromium	7440-47-3	2.47		1.87	
Cobalt	7440-48-4	0.360		0.0368	
Copper	7440-50-8	186		2.22	
Lead	7439-92-1	0.370		0.181	
Manganese	7439-96-5	10.0		1.60	
Molybdenum	7439-98-7	9.09		0.303	
Nickel	7440-02-0	1.42		0.550	
Selenium	7782-49-2	0.196		0.00756	
Thallium	7440-28-0	0.00280		4.97E-4	
Vanadium	7440-62-2	1.37		0.0447	
Zinc	7440-66-6	28.3	U	64.8	



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**Description:** MFL-AM02-052424-HM      **Lab ID:** 4060348-07      **Sampled:** 05/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 2089.728 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 22:18  
**Comments:** Q8503994 - 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	0.0674	SL	0.0301	
Arsenic	7440-38-2	0.226		0.00730	
Barium	7440-39-3	2.66		0.833	
Beryllium	7440-41-7	0.00749		0.00249	
Cadmium	7440-43-9	0.0142	U	0.0577	
Chromium	7440-47-3	1.63	U	1.72	
Cobalt	7440-48-4	0.197		0.0339	
Copper	7440-50-8	35.1		2.05	
Lead	7439-92-1	0.533		0.167	
Manganese	7439-96-5	6.72		1.47	
Molybdenum	7439-98-7	1.81		0.280	
Nickel	7440-02-0	0.989		0.508	
Selenium	7782-49-2	0.212		0.00698	
Thallium	7440-28-0	0.00260		4.59E-4	
Vanadium	7440-62-2	1.00		0.0412	
Zinc	7440-66-6	23.6	U	59.8	



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 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
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**Description:** MFL-AM03-052424-HM      **Lab ID:** 4060348-08      **Sampled:** 05/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 1886.058 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 22:28  
**Comments:** Q8503992 - 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	0.0893	SL	0.0333
Barium	7440-39-3	7.35		0.923
Beryllium	7440-41-7	0.0963		0.00276
Chromium	7440-47-3	5.23		1.91
Cobalt	7440-48-4	1.29		0.0376
Copper	7440-50-8	35.3		2.27
Lead	7439-92-1	0.935		0.185
Manganese	7439-96-5	27.0		1.63
Nickel	7440-02-0	2.98		0.562
Thallium	7440-28-0	0.00361		5.08E-4
Vanadium	7440-62-2	3.01		0.0456
Zinc	7440-66-6	30.1	U	66.3



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052424-HM      **Lab ID:** 4060348-08RE1      **Sampled:** 05/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 1886.058 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 15:42  
**Comments:** Q8503992 - Received in good condition

### Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>	<u>Flag</u>	<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>		<u>ng/m<sup>3</sup> Air</u>
Arsenic	7440-38-2	0.548	D	0.0404
Cadmium	7440-43-9	0.0209	D, U	0.320
Molybdenum	7439-98-7	1.88	D	1.55
Selenium	7782-49-2	0.355	D	0.0386



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 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
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**Description:** MFL-AM04-052424-HM      **Lab ID:** 4060348-09      **Sampled:** 05/24/24 23:59  
**Matrix:** Air      **Sample Volume:** 1890.532 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 22:39  
**Comments:** Q8503991 - 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	0.149	SL	0.0332
Arsenic	7440-38-2	0.896		0.00806
Barium	7440-39-3	4.72		0.921
Beryllium	7440-41-7	0.0132		0.00275
Cadmium	7440-43-9	0.0226	U	0.0638
Chromium	7440-47-3	2.78		1.90
Cobalt	7440-48-4	0.449		0.0375
Copper	7440-50-8	24.3		2.26
Lead	7439-92-1	1.12		0.184
Manganese	7439-96-5	15.1		1.63
Molybdenum	7439-98-7	1.08		0.309
Nickel	7440-02-0	1.55		0.561
Selenium	7782-49-2	0.204		0.00771
Thallium	7440-28-0	0.00269		5.07E-4
Vanadium	7440-62-2	1.52		0.0455
Zinc	7440-66-6	29.2	U	66.1



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**Description:** MFL-AM01-052524-HM      **Lab ID:** 4060348-10      **Sampled:** 05/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 1858.123 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 22:49  
**Comments:** Q8503990 - 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	0.0768	SL	0.0338	
Arsenic	7440-38-2	1.17		0.00820	
Barium	7440-39-3	4.32		0.937	
Beryllium	7440-41-7	0.0127		0.00280	
Cadmium	7440-43-9	0.0167	U	0.0649	
Chromium	7440-47-3	3.41		1.94	
Cobalt	7440-48-4	0.555		0.0382	
Copper	7440-50-8	203		2.30	
Lead	7439-92-1	0.580		0.187	
Manganese	7439-96-5	14.5		1.65	
Molybdenum	7439-98-7	10.1		0.314	
Nickel	7440-02-0	1.78		0.571	
Selenium	7782-49-2	0.173		0.00785	
Thallium	7440-28-0	0.00162		5.16E-4	
Vanadium	7440-62-2	1.74		0.0463	
Zinc	7440-66-6	22.3	U	67.2	



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FILE #: 4205.00.003.001  
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 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-052524-HM      **Lab ID:** 4060348-11      **Sampled:** 05/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 2040.344 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 23:00  
**Comments:** Q8503988 - 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	0.113	SL	0.0308	
Arsenic	7440-38-2	0.262		0.00747	
Barium	7440-39-3	4.03		0.853	
Beryllium	7440-41-7	0.00818		0.00255	
Cadmium	7440-43-9	0.00876	U	0.0591	
Chromium	7440-47-3	1.83		1.76	
Cobalt	7440-48-4	0.247		0.0348	
Copper	7440-50-8	41.9		2.10	
Lead	7439-92-1	0.543		0.171	
Manganese	7439-96-5	7.73		1.51	
Molybdenum	7439-98-7	2.37		0.286	
Nickel	7440-02-0	1.10		0.520	
Selenium	7782-49-2	0.163		0.00714	
Thallium	7440-28-0	0.00124		4.70E-4	
Vanadium	7440-62-2	1.00		0.0422	
Zinc	7440-66-6	27.0	U	61.2	



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
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**Description:** MFL-AM03-052524-HM      **Lab ID:** 4060348-12      **Sampled:** 05/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 1828.94 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 23:31  
**Comments:** Q8503989 - 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	0.0743	SL	0.0343
Barium	7440-39-3	5.38		0.952
Beryllium	7440-41-7	0.0696		0.00285
Chromium	7440-47-3	4.22		1.97
Cobalt	7440-48-4	0.957		0.0388
Copper	7440-50-8	43.6		2.34
Lead	7439-92-1	0.573		0.190
Manganese	7439-96-5	20.2		1.68
Nickel	7440-02-0	2.39		0.580
Thallium	7440-28-0	0.00190		5.24E-4
Vanadium	7440-62-2	2.16		0.0471
Zinc	7440-66-6	36.2	U	68.3



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052524-HM      **Lab ID:** 4060348-12RE1      **Sampled:** 05/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 1828.94 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 15:52  
**Comments:** Q8503989 - 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>	
Arsenic	7440-38-2	0.336	D	0.0167	
Cadmium	7440-43-9	0.0129	U, D	0.132	
Molybdenum	7439-98-7	1.75	D	0.639	
Selenium	7782-49-2	0.259	D	0.0159	



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 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM04-052524-HM      **Lab ID:** 4060348-13      **Sampled:** 05/25/24 23:59  
**Matrix:** Air      **Sample Volume:** 1884.219 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 23:41  
**Comments:** Q8503987 - 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	0.164	SL	0.0333	
Arsenic	7440-38-2	0.879		0.00809	
Barium	7440-39-3	4.77		0.924	
Beryllium	7440-41-7	0.0149		0.00276	
Cadmium	7440-43-9	0.0252	U	0.0640	
Chromium	7440-47-3	2.98		1.91	
Cobalt	7440-48-4	0.496		0.0376	
Copper	7440-50-8	32.5		2.27	
Lead	7439-92-1	1.57		0.185	
Manganese	7439-96-5	16.3		1.63	
Molybdenum	7439-98-7	1.24		0.310	
Nickel	7440-02-0	1.65		0.563	
Selenium	7782-49-2	0.184		0.00774	
Thallium	7440-28-0	0.00148		5.09E-4	
Vanadium	7440-62-2	1.57		0.0457	
Zinc	7440-66-6	39.4	U	66.3	



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**Description:** MFL-FB01-052524-HM      **Lab ID:** 4060348-14      **Sampled:** 05/25/24 00:00  
**Matrix:** Air      **Sample Volume:** 1858.123 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 23:52  
**Comments:** Q8503980 - 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	0.0170	U, SL	0.0338	
Arsenic	7440-38-2	0.00591	U	0.00820	
<b>Barium</b>	<b>7440-39-3</b>	<b>1.24</b>	FB-01	<b>0.937</b>	
Beryllium	7440-41-7	9.42E-4	U	0.00280	
Cadmium	7440-43-9	0.00112	U	0.0649	
Chromium	7440-47-3	1.14	U	1.94	
Cobalt	7440-48-4	0.0186	U	0.0382	
Copper	7440-50-8	0.643	U	2.30	
Lead	7439-92-1	0.0414	U	0.187	
Manganese	7439-96-5	0.277	U	1.65	
Molybdenum	7439-98-7	0.161	U	0.314	
Nickel	7440-02-0	0.469	U	0.571	
Selenium	7782-49-2	0.00202	U	0.00785	
Thallium	7440-28-0	1.48E-4	U	5.16E-4	
Vanadium	7440-62-2	0.0152	U	0.0463	
Zinc	7440-66-6	19.3	U	67.2	



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 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
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**Description:** MFL-AM01-052624-HM      **Lab ID:** 4060348-15      **Sampled:** 05/26/24 23:59  
**Matrix:** Air      **Sample Volume:** 1897.055 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 00:02  
**Comments:** Q8503986 - 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	0.0627	SL	0.0331	
Arsenic	7440-38-2	0.313		0.00804	
Barium	7440-39-3	2.82		0.918	
Beryllium	7440-41-7	0.00615		0.00274	
Cadmium	7440-43-9	0.0235	U	0.0636	
Chromium	7440-47-3	2.05		1.90	
Cobalt	7440-48-4	0.233		0.0374	
Copper	7440-50-8	150		2.26	
Lead	7439-92-1	0.440		0.184	
Manganese	7439-96-5	6.90		1.62	
Molybdenum	7439-98-7	8.03		0.308	
Nickel	7440-02-0	4.31		0.559	
Selenium	7782-49-2	0.150		0.00768	
Thallium	7440-28-0	9.73E-4		5.05E-4	
Vanadium	7440-62-2	1.04		0.0454	
Zinc	7440-66-6	26.9	U	65.9	



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 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
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**Description:** MFL-AM02-052624-HM      **Lab ID:** 4060348-16      **Sampled:** 05/26/24 23:59  
**Matrix:** Air      **Sample Volume:** 2103.257 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 00:12  
**Comments:** Q8503983 - 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>0.0952</b>	SL	<b>0.0299</b>	
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.238</b>		<b>0.00725</b>	
<b>Barium</b>	<b>7440-39-3</b>	<b>3.01</b>		<b>0.828</b>	
<b>Beryllium</b>	<b>7440-41-7</b>	<b>0.00568</b>		<b>0.00248</b>	
Cadmium	7440-43-9	0.00917	U	0.0573	
Chromium	7440-47-3	1.60	U	1.71	
<b>Cobalt</b>	<b>7440-48-4</b>	<b>0.169</b>		<b>0.0337</b>	
<b>Copper</b>	<b>7440-50-8</b>	<b>39.9</b>		<b>2.03</b>	
<b>Lead</b>	<b>7439-92-1</b>	<b>0.535</b>		<b>0.166</b>	
<b>Manganese</b>	<b>7439-96-5</b>	<b>5.32</b>		<b>1.46</b>	
<b>Molybdenum</b>	<b>7439-98-7</b>	<b>2.01</b>		<b>0.278</b>	
<b>Nickel</b>	<b>7440-02-0</b>	<b>0.910</b>		<b>0.504</b>	
<b>Selenium</b>	<b>7782-49-2</b>	<b>0.147</b>		<b>0.00693</b>	
<b>Thallium</b>	<b>7440-28-0</b>	<b>7.82E-4</b>		<b>4.56E-4</b>	
<b>Vanadium</b>	<b>7440-62-2</b>	<b>0.827</b>		<b>0.0409</b>	
Zinc	7440-66-6	27.7	U	59.4	



# 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: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052624-HM      **Lab ID:** 4060348-17      **Sampled:** 05/26/24 23:59  
**Matrix:** Air      **Sample Volume:** 1917.858 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 00:33  
**Comments:** Q8503981 - 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	0.0592	SL	0.0327	
Arsenic	7440-38-2	0.216		0.00795	
Barium	7440-39-3	2.78		0.908	
Beryllium	7440-41-7	0.0130		0.00271	
Cadmium	7440-43-9	0.0124	U	0.0629	
Chromium	7440-47-3	1.90		1.87	
Cobalt	7440-48-4	0.242		0.0370	
Copper	7440-50-8	53.4		2.23	
Lead	7439-92-1	0.563		0.182	
Manganese	7439-96-5	6.98		1.60	
Molybdenum	7439-98-7	2.19		0.305	
Nickel	7440-02-0	1.07		0.553	
Selenium	7782-49-2	0.150		0.00760	
Thallium	7440-28-0	8.95E-4		5.00E-4	
Vanadium	7440-62-2	0.968		0.0449	
Zinc	7440-66-6	26.6	U	65.2	



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 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM04-052624-HM      **Lab ID:** 4060348-18      **Sampled:** 05/26/24 23:59  
**Matrix:** Air      **Sample Volume:** 1767.131 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 00:43  
**Comments:** Q8505787 - 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	0.110	SL	0.0355	
Arsenic	7440-38-2	0.421		0.00863	
Barium	7440-39-3	3.50		0.985	
Beryllium	7440-41-7	0.00894		0.00295	
Cadmium	7440-43-9	0.0115	U	0.0682	
Chromium	7440-47-3	2.16		2.03	
Cobalt	7440-48-4	0.285		0.0401	
Copper	7440-50-8	40.4		2.42	
Lead	7439-92-1	1.20		0.197	
Manganese	7439-96-5	9.65		1.74	
Molybdenum	7439-98-7	1.59		0.331	
Nickel	7440-02-0	1.20		0.600	
Selenium	7782-49-2	0.152		0.00825	
Thallium	7440-28-0	9.02E-4		5.42E-4	
Vanadium	7440-62-2	1.04		0.0487	
Zinc	7440-66-6	34.1	U	70.7	



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 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM01-052724-HM      **Lab ID:** 4060348-19      **Sampled:** 05/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 1836.799 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 00:54  
**Comments:** Q8505789 - 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	0.0683	SL	0.0342	
Arsenic	7440-38-2	0.406		0.00830	
Barium	7440-39-3	2.98		0.948	
Beryllium	7440-41-7	0.00734		0.00283	
Cadmium	7440-43-9	0.00973	U	0.0656	
Chromium	7440-47-3	2.46		1.96	
Cobalt	7440-48-4	0.352		0.0386	
Copper	7440-50-8	170		2.33	
Lead	7439-92-1	0.349		0.190	
Manganese	7439-96-5	9.34		1.67	
Molybdenum	7439-98-7	8.83		0.318	
Nickel	7440-02-0	1.45		0.578	
Selenium	7782-49-2	0.157		0.00794	
Thallium	7440-28-0	0.00112		5.22E-4	
Vanadium	7440-62-2	1.30		0.0469	
Zinc	7440-66-6	27.9	U	68.0	



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-052724-HM      **Lab ID:** 4060348-20      **Sampled:** 05/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 2011.671 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 01:04  
**Comments:** Q8505790 - 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	0.106	SL	0.0312
Arsenic	7440-38-2	0.233		0.00758
Barium	7440-39-3	3.50		0.865
Beryllium	7440-41-7	0.00743		0.00259
Cadmium	7440-43-9	0.00880	U	0.0599
Chromium	7440-47-3	2.07		1.79
Cobalt	7440-48-4	0.201		0.0353
Copper	7440-50-8	43.6		2.13
Lead	7439-92-1	0.558		0.173
Manganese	7439-96-5	6.70		1.53
Molybdenum	7439-98-7	1.95		0.290
Nickel	7440-02-0	1.02		0.527
Selenium	7782-49-2	0.151		0.00725
Thallium	7440-28-0	9.19E-4		4.76E-4
Vanadium	7440-62-2	0.933		0.0428
Zinc	7440-66-6	24.1	U	62.1



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052724-HM      **Lab ID:** 4060348-21      **Sampled:** 05/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 2020.695 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 01:35  
**Comments:** Q8505792 - 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	0.0311	
Arsenic	7440-38-2	0.198		0.00754	
Barium	7440-39-3	3.40		0.862	
Beryllium	7440-41-7	0.0240		0.00258	
Cadmium	7440-43-9	0.00737	U	0.0597	
Chromium	7440-47-3	2.74		1.78	
Cobalt	7440-48-4	0.510		0.0351	
Copper	7440-50-8	42.6		2.12	
Lead	7439-92-1	0.392		0.172	
Manganese	7439-96-5	12.1		1.52	
Molybdenum	7439-98-7	1.72		0.289	
Nickel	7440-02-0	1.66		0.525	
Selenium	7782-49-2	0.173		0.00721	
Thallium	7440-28-0	0.00115		4.74E-4	
Vanadium	7440-62-2	1.48		0.0426	
Zinc	7440-66-6	25.8	U	61.8	



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM04-052724-HM      **Lab ID:** 4060348-22      **Sampled:** 05/27/24 23:59  
**Matrix:** Air      **Sample Volume:** 1769.355 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 01:46  
**Comments:** Q8505795 - 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	0.0867	SL	0.0355
Arsenic	7440-38-2	0.215		0.00862
Barium	7440-39-3	2.96		0.984
Beryllium	7440-41-7	0.00807		0.00294
Cadmium	7440-43-9	0.00876	U	0.0681
Chromium	7440-47-3	2.03		2.03
Cobalt	7440-48-4	0.250		0.0401
Copper	7440-50-8	31.6		2.42
Lead	7439-92-1	0.382		0.197
Manganese	7439-96-5	8.22		1.74
Molybdenum	7439-98-7	1.49		0.330
Nickel	7440-02-0	1.23		0.600
Selenium	7782-49-2	0.142		0.00824
Thallium	7440-28-0	8.43E-4		5.42E-4
Vanadium	7440-62-2	0.895		0.0486
Zinc	7440-66-6	25.7	U	70.6



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 PHONE: (703) 885-5495 FAX:

FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-FB01-052724-HM      **Lab ID:** 4060348-23      **Sampled:** 05/27/24 00:00  
**Matrix:** Air      **Sample Volume:** 1836.799 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 01:56  
**Comments:** Q8505802 - 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	0.0211	U, SL	0.0342	
Arsenic	7440-38-2	0.00510	U	0.00830	
<b>Barium</b>	<b>7440-39-3</b>	<b>1.00</b>	FB-01	<b>0.948</b>	
Beryllium	7440-41-7	7.72E-4	U	0.00283	
Cadmium	7440-43-9	0.0172	U	0.0656	
Chromium	7440-47-3	0.970	U	1.96	
Cobalt	7440-48-4	0.0138	U	0.0386	
<b>Copper</b>	<b>7440-50-8</b>	<b>2.60</b>	FB-01	<b>2.33</b>	
Lead	7439-92-1	0.127	U	0.190	
Manganese	7439-96-5	0.232	U	1.67	
Molybdenum	7439-98-7	0.163	U	0.318	
Nickel	7440-02-0	0.439	U	0.578	
Selenium	7782-49-2	5.90E-4	U	0.00794	
Thallium	7440-28-0	1.01E-4	U	5.22E-4	
Vanadium	7440-62-2	0.0153	U	0.0469	
Zinc	7440-66-6	22.8	U	68.0	



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 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM01-052824-HM      **Lab ID:** 4060348-24      **Sampled:** 05/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 1840.643 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/06/24 20:03  
**Comments:** Q8505796 - 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	0.0533	SL	0.0341	
Barium	7440-39-3	4.77		0.946	
Beryllium	7440-41-7	0.0178		0.00283	
Chromium	7440-47-3	3.79		1.95	
Cobalt	7440-48-4	0.944		0.0385	
Copper	7440-50-8	178	A-01, QM-4X	2.32	
Lead	7439-92-1	0.389		0.189	
Manganese	7439-96-5	21.4		1.67	
Nickel	7440-02-0	3.70		0.576	
Thallium	7440-28-0	0.00177		5.21E-4	
Vanadium	7440-62-2	2.46		0.0468	
Zinc	7440-66-6	22.4	U	67.9	



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM01-052824-HM      **Lab ID:** 4060348-24RE1      **Sampled:** 05/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 1840.643 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 14:29  
**Comments:** Q8505796 - 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>	
Arsenic	7440-38-2	0.609	D	0.0166	
Cadmium	7440-43-9	0.0245	D, U	0.131	
Molybdenum	7439-98-7	8.52	D	0.635	
Selenium	7782-49-2	0.225	D	0.0158	



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 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-052824-HM      **Lab ID:** 4060348-25      **Sampled:** 05/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 2047.518 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 02:06  
**Comments:** Q8505798 - 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	0.0999	SL	0.0307
Arsenic	7440-38-2	0.352		0.00745
Barium	7440-39-3	4.94		0.850
Beryllium	7440-41-7	0.0162		0.00254
Cadmium	7440-43-9	0.0115	U	0.0589
Chromium	7440-47-3	2.98		1.76
Cobalt	7440-48-4	0.692		0.0346
Copper	7440-50-8	55.0		2.09
Lead	7439-92-1	0.510		0.170
Manganese	7439-96-5	16.1		1.50
Molybdenum	7439-98-7	2.11		0.285
Nickel	7440-02-0	2.78		0.518
Selenium	7782-49-2	0.215		0.00712
Thallium	7440-28-0	0.00157		4.68E-4
Vanadium	7440-62-2	2.17		0.0420
Zinc	7440-66-6	23.2	U	61.0



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 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
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**Description:** MFL-AM03-052824-HM      **Lab ID:** 4060348-26      **Sampled:** 05/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 2005.572 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 02:17  
**Comments:** Q8505799 - 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	0.0559	SL	0.0313
Barium	7440-39-3	3.75		0.868
Beryllium	7440-41-7	0.0482		0.00260
Chromium	7440-47-3	2.95		1.79
Cobalt	7440-48-4	0.653		0.0354
Copper	7440-50-8	41.8		2.13
Lead	7439-92-1	0.445		0.174
Manganese	7439-96-5	15.3		1.53
Nickel	7440-02-0	1.86		0.529
Thallium	7440-28-0	0.00173		4.78E-4
Vanadium	7440-62-2	1.80		0.0429
Zinc	7440-66-6	19.1	U	62.3



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052824-HM      **Lab ID:** 4060348-26RE1      **Sampled:** 05/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 2005.572 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 16:02  
**Comments:** Q8505799 - Received in good condition

### Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>	<u>Flag</u>	<u>MDL</u>
		<u>ng/m<sup>3</sup> Air</u>		<u>ng/m<sup>3</sup> Air</u>
Arsenic	7440-38-2	0.259	D	0.0152
Cadmium	7440-43-9	0.0104	U, D	0.120
Molybdenum	7439-98-7	1.87	D	0.582
Selenium	7782-49-2	0.242	D	0.0145



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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: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM04-052824-HM      **Lab ID:** 4060348-27      **Sampled:** 05/28/24 23:59  
**Matrix:** Air      **Sample Volume:** 1799.937 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 02:27  
**Comments:** Q8505800 - 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>	
Antimony	7440-36-0	0.106	SL	0.0349
Arsenic	7440-38-2	0.418		0.00847
Barium	7440-39-3	4.30		0.967
Beryllium	7440-41-7	0.0112		0.00289
Cadmium	7440-43-9	0.0167	U	0.0670
Chromium	7440-47-3	2.48		2.00
Cobalt	7440-48-4	0.368		0.0394
Copper	7440-50-8	35.5		2.38
Lead	7439-92-1	1.52		0.193
Manganese	7439-96-5	11.6		1.71
Molybdenum	7439-98-7	1.36		0.325
Nickel	7440-02-0	1.45		0.589
Selenium	7782-49-2	0.179		0.00810
Thallium	7440-28-0	0.00138		5.32E-4
Vanadium	7440-62-2	1.35		0.0478
Zinc	7440-66-6	32.9	U	69.4



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 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM01-052924-HM      **Lab ID:** 4060348-28      **Sampled:** 05/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 1913.088 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 02:38  
**Comments:** Q8505804 - 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	0.0885	SL	0.0328
Arsenic	7440-38-2	1.89		0.00797
Barium	7440-39-3	3.64		0.910
Beryllium	7440-41-7	0.00909		0.00272
Cadmium	7440-43-9	0.0155	U	0.0630
Chromium	7440-47-3	2.91		1.88
Cobalt	7440-48-4	0.394		0.0371
Copper	7440-50-8	191		2.24
Lead	7439-92-1	0.639		0.182
Manganese	7439-96-5	11.5		1.61
Molybdenum	7439-98-7	10.4		0.305
Nickel	7440-02-0	1.60		0.554
Selenium	7782-49-2	0.170		0.00762
Thallium	7440-28-0	0.00127		5.01E-4
Vanadium	7440-62-2	1.41		0.0450
Zinc	7440-66-6	22.2	U	65.3



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM02-052924-HM      **Lab ID:** 4060348-29      **Sampled:** 05/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 2030.448 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 02:48  
**Comments:** Q8505805 - 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	0.0904	SL	0.0309
Arsenic	7440-38-2	0.330		0.00751
Barium	7440-39-3	3.71		0.857
Beryllium	7440-41-7	0.00991		0.00256
Cadmium	7440-43-9	0.0138	U	0.0594
Chromium	7440-47-3	1.88		1.77
Cobalt	7440-48-4	0.322		0.0349
Copper	7440-50-8	62.5		2.11
Lead	7439-92-1	0.847		0.171
Manganese	7439-96-5	9.55		1.51
Molybdenum	7439-98-7	2.47		0.288
Nickel	7440-02-0	1.17		0.522
Selenium	7782-49-2	0.222		0.00718
Thallium	7440-28-0	0.00133		4.72E-4
Vanadium	7440-62-2	1.51		0.0424
Zinc	7440-66-6	23.4	U	61.5



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052924-HM      **Lab ID:** 4060348-30      **Sampled:** 05/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 2024.081 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 02:58  
**Comments:** Q8505807 - 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	0.103	SL	0.0310
Barium	7440-39-3	6.03		0.860
Beryllium	7440-41-7	0.0847		0.00257
Chromium	7440-47-3	4.97		1.78
Cobalt	7440-48-4	1.27		0.0350
Copper	7440-50-8	35.5		2.11
Lead	7439-92-1	1.00		0.172
Manganese	7439-96-5	29.1		1.52
Nickel	7440-02-0	3.01		0.524
Thallium	7440-28-0	0.00204		4.73E-4
Vanadium	7440-62-2	3.22		0.0425
Zinc	7440-66-6	22.6	U	61.7



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM03-052924-HM      **Lab ID:** 4060348-30RE1      **Sampled:** 05/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 2024.081 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 16:13  
**Comments:** Q8505807 - 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>	
Arsenic	7440-38-2	0.512	D	0.0377	
Cadmium	7440-43-9	0.0166	U, D	0.298	
Molybdenum	7439-98-7	1.90	D	1.44	
Selenium	7782-49-2	0.358	D	0.0360	



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM04-052924-HM      **Lab ID:** 4060348-31      **Sampled:** 05/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 1858.206 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 03:30  
**Comments:** Q8505809 - 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>
Beryllium	7440-41-7	0.0426		0.00280
Chromium	7440-47-3	7.24		1.94
Cobalt	7440-48-4	1.61		0.0382
Copper	7440-50-8	30.0		2.30
Lead	7439-92-1	1.61		0.187
Manganese	7439-96-5	59.8		1.65
Nickel	7440-02-0	4.34		0.571
Thallium	7440-28-0	0.00258		5.16E-4
Vanadium	7440-62-2	4.35		0.0463
Zinc	7440-66-6	36.9	U	67.2



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-AM04-052924-HM      **Lab ID:** 4060348-31RE1      **Sampled:** 05/29/24 23:59  
**Matrix:** Air      **Sample Volume:** 1858.206 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 16:23  
**Comments:** Q8505809 - 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	0.131	U, D	0.169	
<b>Arsenic</b>	<b>7440-38-2</b>	<b>1.63</b>	D	<b>0.0410</b>	
<b>Barium</b>	<b>7440-39-3</b>	<b>10.2</b>	D	<b>4.68</b>	
Cadmium	7440-43-9	0.107	U, D	0.324	
Molybdenum	7439-98-7	1.16	U, D	1.57	
<b>Selenium</b>	<b>7782-49-2</b>	<b>0.438</b>	D	<b>0.0392</b>	



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-FB01-052924-HM      **Lab ID:** 4060348-32      **Sampled:** 05/29/24 00:00  
**Matrix:** Air      **Sample Volume:** 1913.088 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 03:50  
**Comments:** Q8505812 - 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	0.0169	U, SL	0.0328	
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.00845</b>	FB-01	<b>0.00797</b>	
<b>Barium</b>	<b>7440-39-3</b>	<b>0.929</b>	FB-01	<b>0.910</b>	
Beryllium	7440-41-7	8.92E-4	U	0.00272	
Cadmium	7440-43-9	6.16E-4	U	0.0630	
Chromium	7440-47-3	0.961	U	1.88	
Cobalt	7440-48-4	0.0178	U	0.0371	
Copper	7440-50-8	0.321	U	2.24	
Lead	7439-92-1	0.0314	U	0.182	
Manganese	7439-96-5	0.409	U	1.61	
Molybdenum	7439-98-7	0.134	U	0.305	
Nickel	7440-02-0	0.427	U	0.554	
Selenium	7782-49-2	0.00228	U	0.00762	
Thallium	7440-28-0	9.93E-5	U	5.01E-4	
Vanadium	7440-62-2	0.0319	U	0.0450	
Zinc	7440-66-6	12.0	U	65.3	



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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 AQS SITE CODE:  
 SITE CODE: Lahaina fires

**Description:** MFL-LB01-052924-HM      **Lab ID:** 4060348-33      **Sampled:** 05/29/24 00:00  
**Matrix:** Air      **Sample Volume:** 1913.088 m<sup>3</sup>      **Received:** 06/03/24 14:11  
**Filter ID:**      **Analysis Date:** 06/07/24 04:01  
**Comments:** Q8505849 - Received in good condition - Box #90, Box range Q8505786-Q850584

## Inorganics by Compendium Method IO-3.5

### Results      MDL

<u>Analyte</u>	<u>CAS Number</u>	<u>ng/m<sup>3</sup> Air</u>	<u>Flag</u>	<u>ng/m<sup>3</sup> Air</u>
Antimony	7440-36-0	0.0195	U, SL	0.0328
<b>Arsenic</b>	<b>7440-38-2</b>	<b>0.00854</b>	FB-01	<b>0.00797</b>
<b>Barium</b>	<b>7440-39-3</b>	<b>0.934</b>	FB-01	<b>0.910</b>
Beryllium	7440-41-7	6.71E-4	U	0.00272
Cadmium	7440-43-9	0.00107	U	0.0630
Chromium	7440-47-3	1.03	U	1.88
<b>Cobalt</b>	<b>7440-48-4</b>	<b>0.0373</b>	FB-01	<b>0.0371</b>
Copper	7440-50-8	0.358	U	2.24
Lead	7439-92-1	0.0362	U	0.182
Manganese	7439-96-5	0.368	U	1.61
Molybdenum	7439-98-7	0.132	U	0.305
Nickel	7440-02-0	0.478	U	0.554
Selenium	7782-49-2	0.00342	U	0.00762
Thallium	7440-28-0	1.16E-4	U	5.01E-4
Vanadium	7440-62-2	0.0272	U	0.0450
Zinc	7440-66-6	12.8	U	65.3



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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 2406012 - B4F0406

### Calibration Blank (2406012-CCB1)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.416		ng/l							
Arsenic	1.01		ng/l							
Barium	0.922		ng/l							
Beryllium	0.204		ng/l							
Cadmium	0.233		ng/l							
Chromium	1.91		ng/l							
Cobalt	0.266		ng/l							
Copper	17.9		ng/l							
Lead	6.88		ng/l							
Manganese	4.07		ng/l							
Molybdenum	6.49		ng/l							
Nickel	2.10		ng/l							
Selenium	-5.72		ng/l							U
Thallium	0.885		ng/l							
Vanadium	-36.6		ng/l							U
Zinc	38.9		ng/l							

### Calibration Blank (2406012-CCB2)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.194		ng/l							
Arsenic	0.995		ng/l							
Barium	0.366		ng/l							
Beryllium	0.128		ng/l							
Cadmium	0.0903		ng/l							
Chromium	0.905		ng/l							
Cobalt	0.215		ng/l							
Copper	12.9		ng/l							
Lead	8.18		ng/l							
Manganese	2.52		ng/l							
Molybdenum	1.50		ng/l							
Nickel	1.41		ng/l							
Selenium	-8.08		ng/l							U
Thallium	0.880		ng/l							
Vanadium	-31.8		ng/l							U
Zinc	54.8		ng/l							

### Calibration Blank (2406012-CCB3)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.301		ng/l							
Arsenic	0.809		ng/l							
Barium	0.337		ng/l							
Beryllium	0.0626		ng/l							

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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
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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 2406012 - B4F0406

### Calibration Blank (2406012-CCB3) Contin

Prepared: 06/04/24 Analyzed: 06/06/24

Cadmium	0.0103		ng/l							
Chromium	0.676		ng/l							
Cobalt	0.00963		ng/l							
Copper	8.95		ng/l							
Lead	6.79		ng/l							
Manganese	1.54		ng/l							
Molybdenum	1.39		ng/l							
Nickel	1.65		ng/l							
Selenium	5.79		ng/l							
Thallium	1.10		ng/l							
Vanadium	-34.6		ng/l							U
Zinc	57.2		ng/l							

### Calibration Blank (2406012-CCB4)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.149		ng/l							
Arsenic	0.720		ng/l							
Barium	0.245		ng/l							
Beryllium	-0.171		ng/l							U
Cadmium	0.0547		ng/l							
Chromium	1.18		ng/l							
Cobalt	0.101		ng/l							
Copper	10.0		ng/l							
Lead	4.42		ng/l							
Manganese	1.26		ng/l							
Molybdenum	0.853		ng/l							
Nickel	0.313		ng/l							
Selenium	0.0201		ng/l							
Thallium	0.970		ng/l							
Vanadium	-36.3		ng/l							U
Zinc	50.6		ng/l							

### Calibration Blank (2406012-CCB5)

Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	0.480		ng/l							
Arsenic	1.28		ng/l							
Barium	1.21		ng/l							
Beryllium	-0.148		ng/l							U
Cadmium	0.291		ng/l							
Chromium	4.26		ng/l							
Cobalt	0.514		ng/l							
Copper	27.2		ng/l							

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FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 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 2406012 - B4F0406

### Calibration Blank (2406012-CCB5) Contin

Prepared: 06/04/24 Analyzed: 06/07/24

Lead	6.18		ng/l							
Manganese	5.76		ng/l							
Molybdenum	1.96		ng/l							
Nickel	0.806		ng/l							
Selenium	3.61		ng/l							
Thallium	0.964		ng/l							
Vanadium	-38.6		ng/l							U
Zinc	57.4		ng/l							

### Calibration Blank (2406012-CCB6)

Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	0.484		ng/l							
Arsenic	0.713		ng/l							
Barium	0.335		ng/l							
Beryllium	-0.0871		ng/l							U
Cadmium	0.0191		ng/l							
Chromium	2.74		ng/l							
Cobalt	0.258		ng/l							
Copper	17.4		ng/l							
Lead	4.09		ng/l							
Manganese	3.91		ng/l							
Molybdenum	1.41		ng/l							
Nickel	0.341		ng/l							
Selenium	-0.412		ng/l							U
Thallium	0.777		ng/l							
Vanadium	-39.5		ng/l							U
Zinc	57.2		ng/l							

### Calibration Blank (2406012-CCB7)

Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	0.374		ng/l							
Arsenic	0.903		ng/l							
Barium	0.641		ng/l							
Beryllium	-0.0604		ng/l							U
Cadmium	0.0967		ng/l							
Chromium	2.48		ng/l							
Cobalt	0.223		ng/l							
Copper	12.8		ng/l							
Lead	5.28		ng/l							
Manganese	2.90		ng/l							
Molybdenum	1.19		ng/l							
Nickel	1.37		ng/l							

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Blue Bell, PA 19422

ATTN: Ms. Chelsea Saber  
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FILE #: 4205.00.003.001  
REPORTED: 06/11/24 15:56  
SUBMITTED: 06/03/24  
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 2406012 - B4F0406

### Calibration Blank (2406012-CCB7) Contin

Prepared: 06/04/24 Analyzed: 06/07/24

Selenium	3.17		ng/l							
Thallium	0.765		ng/l							
Vanadium	-37.7		ng/l							U
Zinc	65.9		ng/l							

### Calibration Check (2406012-CCV1)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	19600		ng/l	20000		98.1	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	19800		ng/l	20000		99.0	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	502000		ng/l	500000		100	90-110			

### Calibration Check (2406012-CCV2)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	19700		ng/l	20000		98.7	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	4850		ng/l	5000.0		97.0	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	49800		ng/l	50000		99.7	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	506000		ng/l	500000		101	90-110			

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

Batch 2406012 - B4F0406

### Calibration Check (2406012-CCV3)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	19700		ng/l	20000		98.5	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	4740		ng/l	5000.0		94.8	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	49300		ng/l	50000		98.5	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19500		ng/l	20000		97.5	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	503000		ng/l	500000		101	90-110			

### Calibration Check (2406012-CCV4)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	4680		ng/l	5000.0		93.6	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	195000		ng/l	200000		97.4	90-110			
Manganese	499000		ng/l	500000		99.9	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	19300		ng/l	20000		96.3	90-110			
Thallium	480		ng/l	500.00		95.9	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	505000		ng/l	500000		101	90-110			

### Calibration Check (2406012-CCV5)

Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	19600		ng/l	20000		98.0	90-110			
Arsenic	19700		ng/l	20000		98.6	90-110			
Barium	195000		ng/l	200000		97.6	90-110			
Beryllium	4650		ng/l	5000.0		92.9	90-110			

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

Batch 2406012 - B4F0406

### Calibration Check (2406012-CCV5) Contin

Prepared: 06/04/24 Analyzed: 06/07/24

Cadmium	20100		ng/l	20000		101	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	19500		ng/l	20000		97.4	90-110			
Thallium	482		ng/l	500.00		96.4	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	508000		ng/l	500000		102	90-110			

### Calibration Check (2406012-CCV6)

Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	20000		ng/l	20000		99.9	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	4690		ng/l	5000.0		93.8	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	50700		ng/l	50000		101	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19400		ng/l	20000		96.9	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	513000		ng/l	500000		103	90-110			

### Calibration Check (2406012-CCV7)

Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	4690		ng/l	5000.0		93.8	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			

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

Batch 2406012 - B4F0406

### Calibration Check (2406012-CCV7) Contin

Prepared: 06/04/24 Analyzed: 06/07/24

Lead	198000		ng/l	200000		99.2	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	19400		ng/l	20000		96.8	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	516000		ng/l	500000		103	90-110			

### High Cal Check (2406012-HCV1)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	39800		ng/l	40000		99.6	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	400000		ng/l	400000		100	95-105			
Beryllium	9970		ng/l	10000		99.7	95-105			
Cadmium	39800		ng/l	40000		99.4	95-105			
Chromium	480000		ng/l	480000		100	95-105			
Cobalt	100000		ng/l	100000		100	95-105			
Copper	3.96E6		ng/l	4.0000E6		99.0	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	992000		ng/l	1.0000E6		99.2	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	241000		ng/l	240000		101	95-105			
Selenium	39800		ng/l	40000		99.5	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40300		ng/l	40000		101	95-105			
Zinc	985000		ng/l	1.0000E6		98.5	95-105			

### Initial Cal Blank (2406012-ICB1)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.105		ng/l							
Arsenic	0.0149		ng/l							
Barium	0.307		ng/l							
Beryllium	-0.0737		ng/l							U
Cadmium	0.154		ng/l							
Chromium	1.47		ng/l							
Cobalt	0.0332		ng/l							
Copper	15.8		ng/l							
Lead	11.8		ng/l							
Manganese	2.98		ng/l							
Molybdenum	1.16		ng/l							
Nickel	-0.411		ng/l							U

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

Batch 2406012 - B4F0406

### Initial Cal Blank (2406012-ICB1) Continuum

Prepared: 06/04/24 Analyzed: 06/06/24

Selenium	-2.12		ng/l							U
Thallium	0.713		ng/l							U
Vanadium	-35.1		ng/l							U
Zinc	38.9		ng/l							

### Initial Cal Check (2406012-ICV1)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	19700		ng/l	20000		98.3	90-110			
Arsenic	19300		ng/l	20000		96.6	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	237000		ng/l	240000		98.8	90-110			
Cobalt	49800		ng/l	50000		99.6	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	48800		ng/l	50000		97.6	90-110			
Nickel	118000		ng/l	120000		98.2	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	498		ng/l	500.00		99.6	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	508000		ng/l	500000		102	90-110			

### Interference Check A (2406012-IFA1)

Prepared: 06/04/24 Analyzed: 06/06/24

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	304000		ng/l	300000		101	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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

Batch 2406012 - B4F0406

### Interference Check B (2406012-IFB1)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	19800		ng/l	20000		99.0	80-120			
Arsenic	20500		ng/l	20000		103	80-120			
Barium	208000		ng/l	200000		104	80-120			
Beryllium	4640		ng/l	5000.0		92.8	80-120			
Cadmium	19100		ng/l	20000		95.4	80-120			
Chromium	258000		ng/l	240000		107	80-120			
Cobalt	50400		ng/l	50000		101	80-120			
Copper	1.89E6		ng/l	2.0000E6		94.7	80-120			
Lead	205000		ng/l	200000		103	80-120			
Manganese	526000		ng/l	500000		105	80-120			
Molybdenum	352000		ng/l	350000		100	80-120			
Nickel	116000		ng/l	120000		96.3	80-120			
Selenium	18800		ng/l	20000		93.8	80-120			
Thallium	533		ng/l	500.00		107	80-120			
Vanadium	22300		ng/l	20000		111	80-120			
Zinc	441000		ng/l	500000		88.2	80-120			

Batch 2406020 - B4F0406

### Calibration Blank (2406020-CCB1)

Prepared & Analyzed: 06/07/24

Antimony	0.768		ng/l							
Arsenic	-0.988		ng/l							U
Barium	2.57		ng/l							
Beryllium	0.257		ng/l							
Cadmium	0.584		ng/l							
Chromium	3.63		ng/l							
Cobalt	0.433		ng/l							
Copper	37.2		ng/l							
Lead	14.2		ng/l							
Manganese	6.51		ng/l							
Molybdenum	6.37		ng/l							
Nickel	0.215		ng/l							
Selenium	0.469		ng/l							
Thallium	1.17		ng/l							
Vanadium	-23.1		ng/l							U
Zinc	33.5		ng/l							

### Calibration Blank (2406020-CCB2)

Prepared & Analyzed: 06/07/24

Antimony	0.464		ng/l							
Arsenic	0.223		ng/l							
Barium	0.943		ng/l							

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

Batch 2406020 - B4F0406

### Calibration Blank (2406020-CCB2) Contin

Prepared & Analyzed: 06/07/24

Beryllium	-0.274		ng/l							U
Cadmium	0.0802		ng/l							
Chromium	1.16		ng/l							
Cobalt	-0.00123		ng/l							U
Copper	9.99		ng/l							
Lead	5.95		ng/l							
Manganese	1.12		ng/l							
Molybdenum	1.65		ng/l							
Nickel	-0.621		ng/l							U
Selenium	1.29		ng/l							
Thallium	0.970		ng/l							
Vanadium	-23.7		ng/l							U
Zinc	62.5		ng/l							

### Calibration Blank (2406020-CCB3)

Prepared & Analyzed: 06/07/24

Antimony	0.646		ng/l							
Arsenic	-1.14		ng/l							U
Barium	1.80		ng/l							
Beryllium	-0.535		ng/l							U
Cadmium	0.232		ng/l							
Chromium	1.89		ng/l							
Cobalt	0.324		ng/l							
Copper	19.0		ng/l							
Lead	6.23		ng/l							
Manganese	3.30		ng/l							
Molybdenum	2.47		ng/l							
Nickel	0.432		ng/l							
Selenium	1.77		ng/l							
Thallium	0.979		ng/l							
Vanadium	-24.6		ng/l							U
Zinc	67.5		ng/l							

### Calibration Check (2406020-CCV1)

Prepared & Analyzed: 06/07/24

Antimony	18800		ng/l	20000		94.1	90-110			
Arsenic	18700		ng/l	20000		93.7	90-110			
Barium	187000		ng/l	200000		93.3	90-110			
Beryllium	4810		ng/l	5000.0		96.2	90-110			
Cadmium	19300		ng/l	20000		96.4	90-110			
Chromium	230000		ng/l	240000		96.0	90-110			
Cobalt	48200		ng/l	50000		96.4	90-110			

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

FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 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 2406020 - B4F0406

### Calibration Check (2406020-CCV1) Contin

Prepared & Analyzed: 06/07/24

Copper	1.96E6		ng/l	2.0000E6		97.8	90-110			
Lead	187000		ng/l	200000		93.4	90-110			
Manganese	475000		ng/l	500000		95.0	90-110			
Molybdenum	47000		ng/l	50000		93.9	90-110			
Nickel	117000		ng/l	120000		97.4	90-110			
Selenium	19200		ng/l	20000		96.0	90-110			
Thallium	470		ng/l	500.00		94.0	90-110			
Vanadium	18900		ng/l	20000		94.5	90-110			
Zinc	485000		ng/l	500000		97.0	90-110			

### Calibration Check (2406020-CCV2)

Prepared & Analyzed: 06/07/24

Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	238000		ng/l	240000		99.3	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	49700		ng/l	50000		99.4	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	511000		ng/l	500000		102	90-110			

### Calibration Check (2406020-CCV3)

Prepared & Analyzed: 06/07/24

Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	19600		ng/l	20000		98.1	90-110			
Barium	195000		ng/l	200000		97.5	90-110			
Beryllium	4980		ng/l	5000.0		99.5	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			

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

Batch 2406020 - B4F0406

### Calibration Check (2406020-CCV3) Contin

Prepared & Analyzed: 06/07/24

Nickel	121000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19500		ng/l	20000		97.7	90-110			
Zinc	512000		ng/l	500000		102	90-110			

### High Cal Check (2406020-HCV1)

Prepared & Analyzed: 06/07/24

Antimony	40800		ng/l	40000		102	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	406000		ng/l	400000		101	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	40500		ng/l	40000		101	95-105			
Chromium	479000		ng/l	480000		99.7	95-105			
Cobalt	99200		ng/l	100000		99.2	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.9	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	235000		ng/l	240000		98.1	95-105			
Selenium	40700		ng/l	40000		102	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39900		ng/l	40000		99.8	95-105			
Zinc	994000		ng/l	1.0000E6		99.4	95-105			

### Initial Cal Blank (2406020-ICB1)

Prepared & Analyzed: 06/07/24

Antimony	0.595		ng/l							
Arsenic	-1.74		ng/l							U
Barium	2.27		ng/l							
Beryllium	0.0415		ng/l							
Cadmium	0.364		ng/l							
Chromium	2.28		ng/l							
Cobalt	0.359		ng/l							
Copper	36.3		ng/l							
Lead	14.9		ng/l							
Manganese	6.74		ng/l							
Molybdenum	2.89		ng/l							
Nickel	-0.380		ng/l							U
Selenium	-1.02		ng/l							U
Thallium	1.04		ng/l							
Vanadium	-21.5		ng/l							U



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

Batch 2406020 - B4F0406

### Initial Cal Blank (2406020-ICB1) Continuum

Prepared & Analyzed: 06/07/24

Zinc	44.5		ng/l							
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### Initial Cal Check (2406020-ICV1)

Prepared & Analyzed: 06/07/24

Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	19600		ng/l	20000		98.1	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5140		ng/l	5000.0		103	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	49700		ng/l	50000		99.3	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.6	90-110			
Manganese	500000		ng/l	500000		99.9	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	515		ng/l	500.00		103	90-110			
Vanadium	19800		ng/l	20000		98.8	90-110			
Zinc	518000		ng/l	500000		104	90-110			

### Interference Check A (2406020-IFA1)

Prepared & Analyzed: 06/07/24

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	303000		ng/l	300000		101	80-120			U
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

### Interference Check B (2406020-IFB1)

Prepared & Analyzed: 06/07/24

Antimony	20300		ng/l	20000		101	80-120			
Arsenic	20500		ng/l	20000		103	80-120			

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

Batch 2406020 - B4F0406

### Interference Check B (2406020-IFB1) Coi

Prepared & Analyzed: 06/07/24

Barium	205000		ng/l	200000		102	80-120			
Beryllium	4580		ng/l	5000.0		91.6	80-120			
Cadmium	19500		ng/l	20000		97.6	80-120			
Chromium	248000		ng/l	240000		103	80-120			
Cobalt	49100		ng/l	50000		98.1	80-120			
Copper	1.88E6		ng/l	2.0000E6		94.1	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	513000		ng/l	500000		103	80-120			
Molybdenum	359000		ng/l	350000		103	80-120			
Nickel	114000		ng/l	120000		95.0	80-120			
Selenium	19100		ng/l	20000		95.6	80-120			
Thallium	528		ng/l	500.00		106	80-120			
Vanadium	21400		ng/l	20000		107	80-120			
Zinc	448000		ng/l	500000		89.7	80-120			

Batch B4F0406 - ICP-MS Extraction

### Blank (B4F0406-BLK1)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	ND	0.0386	ng/m <sup>3</sup> Air							U, SL
Arsenic	ND	0.00937	ng/m <sup>3</sup> Air							U
Barium	ND	1.07	ng/m <sup>3</sup> Air							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 (B4F0406-BS1)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.737	0.0386	ng/m <sup>3</sup> Air	1.3829		53.3	80-120			SL
Arsenic	2.73	0.00937	ng/m <sup>3</sup> Air	2.7658		98.7	80-120			
Barium	28.2	1.07	ng/m <sup>3</sup> Air	27.658		102	80-120			
Beryllium	1.33	0.00320	ng/m <sup>3</sup> Air	1.3829		95.9	80-120			
Cadmium	1.34	0.0741	ng/m <sup>3</sup> Air	1.3829		97.0	80-120			

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

Batch B4F0406 - ICP-MS Extraction

### LCS (B4F0406-BS1) Continued

Prepared: 06/04/24 Analyzed: 06/06/24

Chromium	15.3	2.21	ng/m <sup>3</sup> Air	13.829		110	80-120			
Cobalt	1.47	0.0436	ng/m <sup>3</sup> Air	1.3829		106	80-120			
Copper	30.1	2.63	ng/m <sup>3</sup> Air	27.658		109	80-120			
Lead	13.2	0.214	ng/m <sup>3</sup> Air	13.829		95.5	80-120			
Manganese	8.58	1.89	ng/m <sup>3</sup> Air	8.2975		103	80-120			
Molybdenum	1.43	0.359	ng/m <sup>3</sup> Air	1.3829		103	80-120			
Nickel	3.29	0.652	ng/m <sup>3</sup> Air	2.7658		119	80-120			
Selenium	2.74	0.00896	ng/m <sup>3</sup> Air	2.7658		99.0	80-120			
Thallium	0.135	5.89E-4	ng/m <sup>3</sup> Air	0.13829		97.6	80-120			
Vanadium	2.78	0.0529	ng/m <sup>3</sup> Air	2.7658		101	80-120			
Zinc	135	76.8	ng/m <sup>3</sup> Air	82.975		163	80-120			

### LCS (B4F0406-BS2)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.744	0.0386	ng/m <sup>3</sup> Air	1.3829		53.8	80-120			SL
Arsenic	2.70	0.00937	ng/m <sup>3</sup> Air	2.7658		97.6	80-120			
Barium	27.7	1.07	ng/m <sup>3</sup> Air	27.658		100	80-120			
Beryllium	1.29	0.00320	ng/m <sup>3</sup> Air	1.3829		93.6	80-120			
Cadmium	1.33	0.0741	ng/m <sup>3</sup> Air	1.3829		96.2	80-120			
Chromium	15.1	2.21	ng/m <sup>3</sup> Air	13.829		109	80-120			
Cobalt	1.44	0.0436	ng/m <sup>3</sup> Air	1.3829		104	80-120			
Copper	29.9	2.63	ng/m <sup>3</sup> Air	27.658		108	80-120			
Lead	13.4	0.214	ng/m <sup>3</sup> Air	13.829		97.0	80-120			
Manganese	8.41	1.89	ng/m <sup>3</sup> Air	8.2975		101	80-120			
Molybdenum	1.42	0.359	ng/m <sup>3</sup> Air	1.3829		103	80-120			
Nickel	3.28	0.652	ng/m <sup>3</sup> Air	2.7658		119	80-120			
Selenium	2.71	0.00896	ng/m <sup>3</sup> Air	2.7658		97.9	80-120			
Thallium	0.133	5.89E-4	ng/m <sup>3</sup> Air	0.13829		96.4	80-120			
Vanadium	2.72	0.0529	ng/m <sup>3</sup> Air	2.7658		98.5	80-120			
Zinc	124	76.8	ng/m <sup>3</sup> Air	82.975		149	80-120			

### LCS (B4F0406-BS3)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	1.33	0.0386	ng/m <sup>3</sup> Air	1.3829		96.3	80-120			SL
Arsenic	2.70	0.00937	ng/m <sup>3</sup> Air	2.7658		97.6	80-120			
Barium	26.8	1.07	ng/m <sup>3</sup> Air	27.658		97.0	80-120			
Beryllium	1.30	0.00320	ng/m <sup>3</sup> Air	1.3829		93.8	80-120			
Cadmium	1.32	0.0741	ng/m <sup>3</sup> Air	1.3829		95.8	80-120			
Chromium	14.2	2.21	ng/m <sup>3</sup> Air	13.829		103	80-120			
Cobalt	1.43	0.0436	ng/m <sup>3</sup> Air	1.3829		104	80-120			
Copper	29.4	2.63	ng/m <sup>3</sup> Air	27.658		106	80-120			
Lead	13.1	0.214	ng/m <sup>3</sup> Air	13.829		94.8	80-120			

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

Batch B4F0406 - ICP-MS Extraction

### LCS (B4F0406-BS3) Continued

Prepared: 06/04/24 Analyzed: 06/06/24

Manganese	8.39	1.89	ng/m <sup>3</sup> Air	8.2975		101	80-120			
Molybdenum	1.27	0.359	ng/m <sup>3</sup> Air	1.3829		91.6	80-120			
Nickel	2.86	0.652	ng/m <sup>3</sup> Air	2.7658		103	80-120			
Selenium	2.72	0.00896	ng/m <sup>3</sup> Air	2.7658		98.3	80-120			
Thallium	0.133	5.89E-4	ng/m <sup>3</sup> Air	0.13829		96.1	80-120			
Vanadium	2.71	0.0529	ng/m <sup>3</sup> Air	2.7658		97.8	80-120			
Zinc	86.8	76.8	ng/m <sup>3</sup> Air	82.975		105	80-120			

### LCS (B4F0406-BS4)

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	1.27	0.0386	ng/m <sup>3</sup> Air	1.3829		91.7	80-120			SL
Arsenic	2.59	0.00937	ng/m <sup>3</sup> Air	2.7658		93.7	80-120			
Barium	25.7	1.07	ng/m <sup>3</sup> Air	27.658		93.0	80-120			
Beryllium	1.23	0.00320	ng/m <sup>3</sup> Air	1.3829		89.1	80-120			
Cadmium	1.27	0.0741	ng/m <sup>3</sup> Air	1.3829		91.5	80-120			
Chromium	13.5	2.21	ng/m <sup>3</sup> Air	13.829		97.4	80-120			
Cobalt	1.38	0.0436	ng/m <sup>3</sup> Air	1.3829		99.7	80-120			
Copper	28.1	2.63	ng/m <sup>3</sup> Air	27.658		102	80-120			
Lead	12.8	0.214	ng/m <sup>3</sup> Air	13.829		92.6	80-120			
Manganese	7.97	1.89	ng/m <sup>3</sup> Air	8.2975		96.0	80-120			
Molybdenum	1.21	0.359	ng/m <sup>3</sup> Air	1.3829		87.8	80-120			
Nickel	2.73	0.652	ng/m <sup>3</sup> Air	2.7658		98.8	80-120			
Selenium	2.61	0.00896	ng/m <sup>3</sup> Air	2.7658		94.5	80-120			
Thallium	0.127	5.89E-4	ng/m <sup>3</sup> Air	0.13829		91.9	80-120			
Vanadium	2.60	0.0529	ng/m <sup>3</sup> Air	2.7658		93.8	80-120			
Zinc	84.9	76.8	ng/m <sup>3</sup> Air	82.975		102	80-120			

### Duplicate (B4F0406-DUP1)

Source: 4060348-03

Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.0617	0.0374	ng/m <sup>3</sup> Air	0.0774		22.6	10			SL
Arsenic	0.266	0.00907	ng/m <sup>3</sup> Air	0.261		1.88	10			
Barium	4.48	1.04	ng/m <sup>3</sup> Air	4.48		0.0272	10			
Beryllium	0.0508	0.00310	ng/m <sup>3</sup> Air	0.0499		1.72	10			
Cadmium	ND	0.0717	ng/m <sup>3</sup> Air	ND			10			U
Chromium	3.18	2.14	ng/m <sup>3</sup> Air	3.22		1.36	10			
Cobalt	0.650	0.0422	ng/m <sup>3</sup> Air	0.658		1.28	10			
Copper	22.6	2.55	ng/m <sup>3</sup> Air	22.9		1.33	10			
Lead	0.584	0.207	ng/m <sup>3</sup> Air	0.508		14.0	10			
Manganese	14.6	1.83	ng/m <sup>3</sup> Air	14.5		0.497	10			
Molybdenum	1.15	0.348	ng/m <sup>3</sup> Air	1.14		1.16	10			
Nickel	1.91	0.631	ng/m <sup>3</sup> Air	1.87		2.00	10			
Selenium	0.197	0.00867	ng/m <sup>3</sup> Air	0.185		5.90	10			

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 Blue Bell, PA 19422  
 ATTN: Ms. Chelsea Saber  
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FILE #: 4205.00.003.001  
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 SUBMITTED: 06/03/24  
 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 B4F0406 - ICP-MS Extraction

**Duplicate (B4F0406-DUP1) Continued**      **Source: 4060348-03**      Prepared: 06/04/24 Analyzed: 06/06/24

Thallium	0.00175	5.70E-4	ng/m <sup>3</sup> Air		0.00181			3.58	10	
Vanadium	1.75	0.0512	ng/m <sup>3</sup> Air		1.72			1.81	10	
Zinc	ND	74.4	ng/m <sup>3</sup> Air		ND				10	U

**Duplicate (B4F0406-DUP2)**      **Source: 4060348-24**      Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.0467	0.0341	ng/m <sup>3</sup> Air		0.0533			13.2	10	SL
Arsenic	0.577	0.00828	ng/m <sup>3</sup> Air		0.594			2.95	10	
Barium	4.86	0.946	ng/m <sup>3</sup> Air		4.77			1.80	10	
Beryllium	0.0172	0.00283	ng/m <sup>3</sup> Air		0.0178			3.75	10	
Cadmium	ND	0.0655	ng/m <sup>3</sup> Air		ND				10	U
Chromium	3.67	1.95	ng/m <sup>3</sup> Air		3.79			3.02	10	
Cobalt	0.925	0.0385	ng/m <sup>3</sup> Air		0.944			2.03	10	
Copper	183	2.32	ng/m <sup>3</sup> Air		178			2.55	10	
Lead	0.456	0.189	ng/m <sup>3</sup> Air		0.389			15.7	10	
Manganese	21.0	1.67	ng/m <sup>3</sup> Air		21.4			1.90	10	
Molybdenum	7.89	0.317	ng/m <sup>3</sup> Air		7.83			0.756	10	
Nickel	3.70	0.576	ng/m <sup>3</sup> Air		3.70			0.0745	10	
Selenium	0.214	0.00792	ng/m <sup>3</sup> Air		0.215			0.441	10	
Thallium	0.00164	5.21E-4	ng/m <sup>3</sup> Air		0.00177			7.32	10	
Vanadium	2.41	0.0468	ng/m <sup>3</sup> Air		2.46			2.14	10	
Zinc	ND	67.9	ng/m <sup>3</sup> Air		ND				10	U

**Duplicate (B4F0406-DUP3)**      **Source: 4060348-16**      Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	0.0938	0.0299	ng/m <sup>3</sup> Air		0.0952			1.54	10	SL
Arsenic	0.238	0.00725	ng/m <sup>3</sup> Air		0.238			0.389	10	
Barium	3.01	0.828	ng/m <sup>3</sup> Air		3.01			0.236	10	
Beryllium	0.00573	0.00248	ng/m <sup>3</sup> Air		0.00568			0.929	10	
Cadmium	ND	0.0573	ng/m <sup>3</sup> Air		ND				10	U
Chromium	ND	1.71	ng/m <sup>3</sup> Air		ND				10	U
Cobalt	0.169	0.0337	ng/m <sup>3</sup> Air		0.169			0.487	10	
Copper	40.0	2.03	ng/m <sup>3</sup> Air		39.9			0.363	10	
Lead	0.535	0.166	ng/m <sup>3</sup> Air		0.535			0.0694	10	
Manganese	5.31	1.46	ng/m <sup>3</sup> Air		5.32			0.142	10	
Molybdenum	2.01	0.278	ng/m <sup>3</sup> Air		2.01			0.217	10	
Nickel	0.918	0.504	ng/m <sup>3</sup> Air		0.910			0.956	10	
Selenium	0.155	0.00693	ng/m <sup>3</sup> Air		0.147			5.45	10	
Thallium	7.64E-4	4.56E-4	ng/m <sup>3</sup> Air		7.82E-4			2.35	10	
Vanadium	0.835	0.0409	ng/m <sup>3</sup> Air		0.827			0.976	10	
Zinc	ND	59.4	ng/m <sup>3</sup> Air		ND				10	U

**Duplicate (B4F0406-DUP4)**      **Source: 4060348-31**      Prepared: 06/04/24 Analyzed: 06/07/24

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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 B4F0406 - ICP-MS Extraction

**Duplicate (B4F0406-DUP4) Continued**      **Source: 4060348-31**      Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	0.130	0.0338	ng/m <sup>3</sup> Air		0.130			0.0630	10	SL
Arsenic	1.52	0.00820	ng/m <sup>3</sup> Air		1.52			0.370	10	
Barium	9.33	0.937	ng/m <sup>3</sup> Air		9.21			1.26	10	
Beryllium	0.0419	0.00280	ng/m <sup>3</sup> Air		0.0426			1.62	10	
Cadmium	0.0944	0.0649	ng/m <sup>3</sup> Air		0.0942			0.255	10	
Chromium	7.35	1.94	ng/m <sup>3</sup> Air		7.24			1.52	10	
Cobalt	1.62	0.0382	ng/m <sup>3</sup> Air		1.61			0.760	10	
Copper	30.5	2.30	ng/m <sup>3</sup> Air		30.0			1.64	10	
Lead	1.61	0.187	ng/m <sup>3</sup> Air		1.61			0.153	10	
Manganese	60.5	1.65	ng/m <sup>3</sup> Air		59.8			1.13	10	
Molybdenum	0.840	0.314	ng/m <sup>3</sup> Air		0.839			0.0535	10	
Nickel	4.42	0.571	ng/m <sup>3</sup> Air		4.34			1.96	10	
Selenium	0.341	0.00785	ng/m <sup>3</sup> Air		0.330			3.27	10	
Thallium	0.00264	5.16E-4	ng/m <sup>3</sup> Air		0.00258			2.23	10	
Vanadium	4.41	0.0463	ng/m <sup>3</sup> Air		4.35			1.45	10	
Zinc	ND	67.2	ng/m <sup>3</sup> Air		ND				10	U

**Duplicate (B4F0406-DUP5)**      **Source: 4060348-03R**      Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	ND	0.0747	ng/m <sup>3</sup> Air		0.0793				10	U, D
Arsenic	0.271	0.0181	ng/m <sup>3</sup> Air		0.266			1.95	10	D
Barium	4.72	2.07	ng/m <sup>3</sup> Air		4.69			0.636	10	D
Beryllium	0.0527	0.00620	ng/m <sup>3</sup> Air		0.0538			2.21	10	D
Cadmium	ND	0.143	ng/m <sup>3</sup> Air		ND				10	U, D
Chromium	ND	4.28	ng/m <sup>3</sup> Air		ND				10	U, D
Cobalt	0.656	0.0844	ng/m <sup>3</sup> Air		0.664			1.19	10	D
Copper	23.1	5.09	ng/m <sup>3</sup> Air		23.6			1.92	10	D
Lead	0.611	0.414	ng/m <sup>3</sup> Air		0.527			14.9	10	D
Manganese	14.7	3.66	ng/m <sup>3</sup> Air		14.8			0.714	10	D
Molybdenum	1.28	0.695	ng/m <sup>3</sup> Air		1.28			0.340	10	D
Nickel	1.92	1.26	ng/m <sup>3</sup> Air		1.90			0.713	10	D
Selenium	0.215	0.0173	ng/m <sup>3</sup> Air		0.216			0.614	10	D
Thallium	0.00202	0.00114	ng/m <sup>3</sup> Air		0.00211			4.26	10	D
Vanadium	1.69	0.102	ng/m <sup>3</sup> Air		1.65			2.01	10	D
Zinc	ND	149	ng/m <sup>3</sup> Air		ND				10	U, D

**Duplicate (B4F0406-DUP6)**      **Source: 4060348-24R**      Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	ND	0.0682	ng/m <sup>3</sup> Air		ND				10	U, D
Arsenic	0.598	0.0166	ng/m <sup>3</sup> Air		0.609			1.78	10	D
Barium	5.07	1.89	ng/m <sup>3</sup> Air		4.92			3.14	10	D
Beryllium	0.0180	0.00566	ng/m <sup>3</sup> Air		0.0197			9.38	10	D

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

Batch B4F0406 - ICP-MS Extraction

**Duplicate (B4F0406-DUP6) Continued** Source: 4060348-24R Prepared: 06/04/24 Analyzed: 06/07/24

Cadmium	ND	0.131	ng/m <sup>3</sup> Air		ND				10	U, D
Chromium	ND	3.91	ng/m <sup>3</sup> Air		ND				10	U, D
Cobalt	0.937	0.0771	ng/m <sup>3</sup> Air		0.958			2.18	10	D
Copper	185	4.65	ng/m <sup>3</sup> Air		181			2.20	10	D
Lead	0.480	0.378	ng/m <sup>3</sup> Air		0.410			15.7	10	D
Manganese	21.4	3.34	ng/m <sup>3</sup> Air		21.9			2.43	10	D
Molybdenum	8.72	0.635	ng/m <sup>3</sup> Air		8.52			2.37	10	D
Nickel	3.79	1.15	ng/m <sup>3</sup> Air		3.82			0.667	10	D
Selenium	0.229	0.0158	ng/m <sup>3</sup> Air		0.225			1.71	10	D
Thallium	0.00173	0.00104	ng/m <sup>3</sup> Air		0.00186			7.43	10	D
Vanadium	2.35	0.0935	ng/m <sup>3</sup> Air		2.43			3.37	10	D
Zinc	ND	136	ng/m <sup>3</sup> Air		ND				10	U, D

**Duplicate (B4F0406-DUP7)** Source: 4060348-31R Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	ND	0.193	ng/m <sup>3</sup> Air		ND				10	U, D
Arsenic	1.84	0.0468	ng/m <sup>3</sup> Air		1.63			12.6	10	D
Barium	11.6	5.35	ng/m <sup>3</sup> Air		10.2			13.1	10	D
Beryllium	0.0541	0.0160	ng/m <sup>3</sup> Air		0.0465			15.0	10	D
Cadmium	ND	0.370	ng/m <sup>3</sup> Air		ND				10	U, D
Chromium	ND	11.0	ng/m <sup>3</sup> Air		ND				10	U, D
Cobalt	1.85	0.218	ng/m <sup>3</sup> Air		1.63			12.9	10	D
Copper	35.2	13.2	ng/m <sup>3</sup> Air		31.0			12.6	10	D
Lead	2.14	1.07	ng/m <sup>3</sup> Air		1.88			13.3	10	D
Manganese	69.0	9.45	ng/m <sup>3</sup> Air		60.6			12.9	10	D
Molybdenum	ND	1.80	ng/m <sup>3</sup> Air		ND				10	U, D
Nickel	5.12	3.26	ng/m <sup>3</sup> Air		4.49			13.1	10	D
Selenium	0.504	0.0448	ng/m <sup>3</sup> Air		0.438			13.9	10	D
Thallium	0.00351	0.00294	ng/m <sup>3</sup> Air		0.00300			15.8	10	D
Vanadium	4.79	0.264	ng/m <sup>3</sup> Air		4.20			13.1	10	D
Zinc	ND	384	ng/m <sup>3</sup> Air		ND				10	U, D

**Matrix Spike (B4F0406-MS1)** Source: 4060348-03 Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.723	0.0374	ng/m <sup>3</sup> Air	1.3389	0.0774	48.2	80-120			SL
Arsenic	2.76	0.00907	ng/m <sup>3</sup> Air	2.6778	0.261	93.4	80-120			
Barium	29.5	1.04	ng/m <sup>3</sup> Air	26.778	4.48	93.6	80-120			
Beryllium	1.29	0.00310	ng/m <sup>3</sup> Air	1.3389	0.0499	92.7	80-120			
Cadmium	1.21	0.0717	ng/m <sup>3</sup> Air	1.3389	ND	90.7	80-120			
Chromium	16.5	2.14	ng/m <sup>3</sup> Air	13.389	3.22	98.9	80-120			
Cobalt	2.00	0.0422	ng/m <sup>3</sup> Air	1.3389	0.658	99.9	80-120			
Copper	50.9	2.55	ng/m <sup>3</sup> Air	26.778	22.9	105	80-120			

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

Batch B4F0406 - ICP-MS Extraction

**Matrix Spike (B4F0406-MS1) Continued Source: 4060348-03** Prepared: 06/04/24 Analyzed: 06/06/24

Lead	13.3	0.207	ng/m <sup>3</sup> Air	13.389	0.508	95.4	80-120			
Manganese	22.5	1.83	ng/m <sup>3</sup> Air	8.0333	14.5	98.9	80-120			
Molybdenum	2.18	0.348	ng/m <sup>3</sup> Air	1.3389	1.14	77.8	80-120			QM-07
Nickel	4.56	0.631	ng/m <sup>3</sup> Air	2.6778	1.87	100	80-120			
Selenium	2.57	0.00867	ng/m <sup>3</sup> Air	2.6778	0.185	89.0	80-120			
Thallium	0.125	5.70E-4	ng/m <sup>3</sup> Air	0.13389	0.00181	91.8	80-120			
Vanadium	4.37	0.0512	ng/m <sup>3</sup> Air	2.6778	1.72	98.8	80-120			
Zinc	108	74.4	ng/m <sup>3</sup> Air	80.333	ND	135	80-120			

**Matrix Spike (B4F0406-MS2) Source: 4060348-24** Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.627	0.0341	ng/m <sup>3</sup> Air	1.2224	0.0533	46.9	80-120			SL
Arsenic	2.77	0.00828	ng/m <sup>3</sup> Air	2.4448	0.594	89.1	80-120			
Barium	27.3	0.946	ng/m <sup>3</sup> Air	24.448	4.77	92.0	80-120			
Beryllium	1.12	0.00283	ng/m <sup>3</sup> Air	1.2224	0.0178	90.5	80-120			
Cadmium	1.13	0.0655	ng/m <sup>3</sup> Air	1.2224	ND	92.4	80-120			
Chromium	15.6	1.95	ng/m <sup>3</sup> Air	12.224	3.79	96.6	80-120			
Cobalt	2.12	0.0385	ng/m <sup>3</sup> Air	1.2224	0.944	96.2	80-120			
Copper	202	2.32	ng/m <sup>3</sup> Air	24.448	178	98.8	80-120			
Lead	11.8	0.189	ng/m <sup>3</sup> Air	12.224	0.389	93.2	80-120			
Manganese	28.2	1.67	ng/m <sup>3</sup> Air	7.3344	21.4	92.9	80-120			
Molybdenum	8.81	0.317	ng/m <sup>3</sup> Air	1.2224	7.83	80.3	80-120			
Nickel	5.89	0.576	ng/m <sup>3</sup> Air	2.4448	3.70	89.5	80-120			
Selenium	2.33	0.00792	ng/m <sup>3</sup> Air	2.4448	0.215	86.6	80-120			
Thallium	0.110	5.21E-4	ng/m <sup>3</sup> Air	0.12224	0.00177	88.3	80-120			
Vanadium	4.76	0.0468	ng/m <sup>3</sup> Air	2.4448	2.46	94.3	80-120			
Zinc	92.9	67.9	ng/m <sup>3</sup> Air	73.344	ND	127	80-120			

**Matrix Spike (B4F0406-MS3) Source: 4060348-03R** Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	0.738	0.0747	ng/m <sup>3</sup> Air	1.3389	0.0793	49.2	80-120			D
Arsenic	2.78	0.0181	ng/m <sup>3</sup> Air	2.6778	0.266	94.0	80-120			D
Barium	30.5	2.07	ng/m <sup>3</sup> Air	26.778	4.69	96.3	80-120			D
Beryllium	1.35	0.00620	ng/m <sup>3</sup> Air	1.3389	0.0538	97.1	80-120			D
Cadmium	1.28	0.143	ng/m <sup>3</sup> Air	1.3389	ND	95.3	80-120			D
Chromium	16.2	4.28	ng/m <sup>3</sup> Air	13.389	ND	121	80-120			D
Cobalt	1.99	0.0844	ng/m <sup>3</sup> Air	1.3389	0.664	99.3	80-120			D
Copper	51.0	5.09	ng/m <sup>3</sup> Air	26.778	23.6	102	80-120			D
Lead	13.5	0.414	ng/m <sup>3</sup> Air	13.389	0.527	97.1	80-120			D
Manganese	22.5	3.66	ng/m <sup>3</sup> Air	8.0333	14.8	96.3	80-120			D
Molybdenum	2.41	0.695	ng/m <sup>3</sup> Air	1.3389	1.28	84.7	80-120			D
Nickel	4.55	1.26	ng/m <sup>3</sup> Air	2.6778	1.90	99.0	80-120			D

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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: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 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 B4F0406 - ICP-MS Extraction

### Matrix Spike (B4F0406-MS3) Continued Source: 4060348-03R Prepared: 06/04/24 Analyzed: 06/07/24

Selenium	2.74	0.0173	ng/m <sup>3</sup> Air	2.6778	0.216	94.3	80-120			D
Thallium	0.128	0.00114	ng/m <sup>3</sup> Air	0.13389	0.00211	94.3	80-120			D
Vanadium	4.18	0.102	ng/m <sup>3</sup> Air	2.6778	1.65	94.2	80-120			D
Zinc	ND	149	ng/m <sup>3</sup> Air	80.333	ND		80-120			U, D

### Matrix Spike (B4F0406-MS4) Source: 4060348-24R Prepared: 06/04/24 Analyzed: 06/07/24

Antimony	0.630	0.0682	ng/m <sup>3</sup> Air	1.2224	ND	51.5	80-120			D
Arsenic	2.85	0.0166	ng/m <sup>3</sup> Air	2.4448	0.609	91.6	80-120			D
Barium	28.3	1.89	ng/m <sup>3</sup> Air	24.448	4.92	95.6	80-120			D
Beryllium	1.18	0.00566	ng/m <sup>3</sup> Air	1.2224	0.0197	94.8	80-120			D
Cadmium	1.18	0.131	ng/m <sup>3</sup> Air	1.2224	ND	96.2	80-120			D
Chromium	15.5	3.91	ng/m <sup>3</sup> Air	12.224	ND	127	80-120			D
Cobalt	2.15	0.0771	ng/m <sup>3</sup> Air	1.2224	0.958	97.5	80-120			D
Copper	207	4.65	ng/m <sup>3</sup> Air	24.448	181	106	80-120			D
Lead	11.8	0.378	ng/m <sup>3</sup> Air	12.224	0.410	93.4	80-120			D
Manganese	28.5	3.34	ng/m <sup>3</sup> Air	7.3344	21.9	90.8	80-120			D
Molybdenum	9.60	0.635	ng/m <sup>3</sup> Air	1.2224	8.52	88.2	80-120			D
Nickel	6.01	1.15	ng/m <sup>3</sup> Air	2.4448	3.82	89.8	80-120			D
Selenium	2.53	0.0158	ng/m <sup>3</sup> Air	2.4448	0.225	94.3	80-120			D
Thallium	0.111	0.00104	ng/m <sup>3</sup> Air	0.12224	0.00186	89.1	80-120			D
Vanadium	4.68	0.0935	ng/m <sup>3</sup> Air	2.4448	2.43	91.9	80-120			D
Zinc	ND	136	ng/m <sup>3</sup> Air	73.344	ND		80-120			U, D

### Matrix Spike Dup (B4F0406-MSD1) Source: 4060348-03 Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.733	0.0374	ng/m <sup>3</sup> Air	1.3389	0.0774	48.9	80-120	1.38	20	SL
Arsenic	2.80	0.00907	ng/m <sup>3</sup> Air	2.6778	0.261	94.8	80-120	1.36	20	
Barium	29.8	1.04	ng/m <sup>3</sup> Air	26.778	4.48	94.6	80-120	0.883	20	
Beryllium	1.31	0.00310	ng/m <sup>3</sup> Air	1.3389	0.0499	94.2	80-120	1.59	20	
Cadmium	1.22	0.0717	ng/m <sup>3</sup> Air	1.3389	ND	91.3	80-120	0.687	20	
Chromium	16.8	2.14	ng/m <sup>3</sup> Air	13.389	3.22	101	80-120	1.89	20	
Cobalt	2.03	0.0422	ng/m <sup>3</sup> Air	1.3389	0.658	103	80-120	1.84	20	
Copper	50.9	2.55	ng/m <sup>3</sup> Air	26.778	22.9	105	80-120	0.00805	20	
Lead	13.2	0.207	ng/m <sup>3</sup> Air	13.389	0.508	95.1	80-120	0.255	20	
Manganese	22.7	1.83	ng/m <sup>3</sup> Air	8.0333	14.5	101	80-120	0.855	20	
Molybdenum	2.21	0.348	ng/m <sup>3</sup> Air	1.3389	1.14	80.1	80-120	1.41	20	
Nickel	4.63	0.631	ng/m <sup>3</sup> Air	2.6778	1.87	103	80-120	1.54	20	
Selenium	2.58	0.00867	ng/m <sup>3</sup> Air	2.6778	0.185	89.5	80-120	0.455	20	
Thallium	0.127	5.70E-4	ng/m <sup>3</sup> Air	0.13389	0.00181	93.5	80-120	1.78	20	
Vanadium	4.42	0.0512	ng/m <sup>3</sup> Air	2.6778	1.72	101	80-120	1.10	20	
Zinc	123	74.4	ng/m <sup>3</sup> Air	80.333	ND	153	80-120	12.5	20	

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

Batch B4F0406 - ICP-MS Extraction

**Matrix Spike Dup (B4F0406-MSD2)**      **Source: 4060348-24**      Prepared: 06/04/24      Analyzed: 06/06/24

Antimony	0.583	0.0341	ng/m <sup>3</sup> Air	1.2224	0.0533	43.3	80-120	7.24	20	SL
Arsenic	2.82	0.00828	ng/m <sup>3</sup> Air	2.4448	0.594	90.9	80-120	1.62	20	
Barium	27.7	0.946	ng/m <sup>3</sup> Air	24.448	4.77	94.0	80-120	1.77	20	
Beryllium	1.16	0.00283	ng/m <sup>3</sup> Air	1.2224	0.0178	93.2	80-120	2.83	20	
Cadmium	1.12	0.0655	ng/m <sup>3</sup> Air	1.2224	ND	91.6	80-120	0.792	20	
Chromium	16.3	1.95	ng/m <sup>3</sup> Air	12.224	3.79	103	80-120	4.69	20	
Cobalt	2.18	0.0385	ng/m <sup>3</sup> Air	1.2224	0.944	101	80-120	2.69	20	
Copper	208	2.32	ng/m <sup>3</sup> Air	24.448	178	120	80-120	2.56	20	QM-4X
Lead	12.0	0.189	ng/m <sup>3</sup> Air	12.224	0.389	94.6	80-120	1.43	20	
Manganese	28.7	1.67	ng/m <sup>3</sup> Air	7.3344	21.4	99.1	80-120	1.59	20	
Molybdenum	9.12	0.317	ng/m <sup>3</sup> Air	1.2224	7.83	106	80-120	3.52	20	
Nickel	6.14	0.576	ng/m <sup>3</sup> Air	2.4448	3.70	99.7	80-120	4.13	20	
Selenium	2.38	0.00792	ng/m <sup>3</sup> Air	2.4448	0.215	88.6	80-120	2.08	20	
Thallium	0.111	5.21E-4	ng/m <sup>3</sup> Air	0.12224	0.00177	89.6	80-120	1.48	20	
Vanadium	4.85	0.0468	ng/m <sup>3</sup> Air	2.4448	2.46	98.0	80-120	1.86	20	
Zinc	91.0	67.9	ng/m <sup>3</sup> Air	73.344	ND	124	80-120	1.97	20	

**Matrix Spike Dup (B4F0406-MSD3)**      **Source: 4060348-03R**      Prepared: 06/04/24      Analyzed: 06/07/24

Antimony	0.745	0.0747	ng/m <sup>3</sup> Air	1.3389	0.0793	49.7	80-120	0.919	20	D
Arsenic	2.85	0.0181	ng/m <sup>3</sup> Air	2.6778	0.266	96.4	80-120	2.31	20	D
Barium	30.9	2.07	ng/m <sup>3</sup> Air	26.778	4.69	97.8	80-120	1.35	20	D
Beryllium	1.37	0.00620	ng/m <sup>3</sup> Air	1.3389	0.0538	98.2	80-120	1.08	20	D
Cadmium	1.29	0.143	ng/m <sup>3</sup> Air	1.3389	ND	96.2	80-120	0.950	20	D
Chromium	16.5	4.28	ng/m <sup>3</sup> Air	13.389	ND	123	80-120	1.83	20	D
Cobalt	2.01	0.0844	ng/m <sup>3</sup> Air	1.3389	0.664	101	80-120	1.02	20	D
Copper	50.9	5.09	ng/m <sup>3</sup> Air	26.778	23.6	102	80-120	0.245	20	D
Lead	13.5	0.414	ng/m <sup>3</sup> Air	13.389	0.527	97.1	80-120	0.0653	20	D
Manganese	22.4	3.66	ng/m <sup>3</sup> Air	8.0333	14.8	94.6	80-120	0.600	20	D
Molybdenum	2.44	0.695	ng/m <sup>3</sup> Air	1.3389	1.28	86.8	80-120	1.17	20	D
Nickel	4.64	1.26	ng/m <sup>3</sup> Air	2.6778	1.90	102	80-120	1.88	20	D
Selenium	2.78	0.0173	ng/m <sup>3</sup> Air	2.6778	0.216	95.6	80-120	1.24	20	D
Thallium	0.132	0.00114	ng/m <sup>3</sup> Air	0.13389	0.00211	97.1	80-120	2.87	20	D
Vanadium	4.24	0.102	ng/m <sup>3</sup> Air	2.6778	1.65	96.5	80-120	1.41	20	D
Zinc	ND	149	ng/m <sup>3</sup> Air	80.333	ND		80-120		20	U, D

**Matrix Spike Dup (B4F0406-MSD4)**      **Source: 4060348-24R**      Prepared: 06/04/24      Analyzed: 06/07/24

Antimony	0.587	0.0682	ng/m <sup>3</sup> Air	1.2224	ND	48.0	80-120	7.06	20	D
Arsenic	2.86	0.0166	ng/m <sup>3</sup> Air	2.4448	0.609	91.9	80-120	0.243	20	D
Barium	28.6	1.89	ng/m <sup>3</sup> Air	24.448	4.92	96.8	80-120	1.05	20	D
Beryllium	1.21	0.00566	ng/m <sup>3</sup> Air	1.2224	0.0197	97.1	80-120	2.33	20	D

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

Batch B4F0406 - ICP-MS Extraction

**Matrix Spike Dup (B4F0406-MSD4) ContirSource: 4060348-24R** Prepared: 06/04/24 Analyzed: 06/07/24

Cadmium	1.17	0.131	ng/m <sup>3</sup> Air	1.2224	ND	95.5	80-120	0.751	20	D
Chromium	16.1	3.91	ng/m <sup>3</sup> Air	12.224	ND	132	80-120	3.56	20	D
Cobalt	2.19	0.0771	ng/m <sup>3</sup> Air	1.2224	0.958	101	80-120	1.72	20	D
Copper	210	4.65	ng/m <sup>3</sup> Air	24.448	181	119	80-120	1.54	20	D
Lead	12.1	0.378	ng/m <sup>3</sup> Air	12.224	0.410	95.6	80-120	2.20	20	D
Manganese	28.8	3.34	ng/m <sup>3</sup> Air	7.3344	21.9	94.1	80-120	0.853	20	D
Molybdenum	9.82	0.635	ng/m <sup>3</sup> Air	1.2224	8.52	107	80-120	2.34	20	D
Nickel	6.23	1.15	ng/m <sup>3</sup> Air	2.4448	3.82	98.6	80-120	3.51	20	D
Selenium	2.56	0.0158	ng/m <sup>3</sup> Air	2.4448	0.225	95.3	80-120	0.985	20	D
Thallium	0.115	0.00104	ng/m <sup>3</sup> Air	0.12224	0.00186	92.5	80-120	3.72	20	D
Vanadium	4.71	0.0935	ng/m <sup>3</sup> Air	2.4448	2.43	93.2	80-120	0.682	20	D
Zinc	ND	136	ng/m <sup>3</sup> Air	73.344	ND		80-120		20	U, D

**Post Spike (B4F0406-PS1) Source: 4060348-03** Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.333	0.0374	ng/m <sup>3</sup> Air	0.26778	0.0774	95.4	75-125			SL
Arsenic	1.50	0.00907	ng/m <sup>3</sup> Air	1.3389	0.261	92.6	75-125			
Barium	6.91	1.04	ng/m <sup>3</sup> Air	2.6778	4.48	90.6	75-125			
Beryllium	0.303	0.00310	ng/m <sup>3</sup> Air	0.26778	0.0499	94.4	75-125			
Cadmium	0.137	0.0717	ng/m <sup>3</sup> Air	0.13389	ND	102	75-125			
Chromium	4.55	2.14	ng/m <sup>3</sup> Air	1.3389	3.22	98.8	75-125			
Cobalt	0.928	0.0422	ng/m <sup>3</sup> Air	0.26778	0.658	101	75-125			
Copper	37.0	2.55	ng/m <sup>3</sup> Air	13.389	22.9	105	75-125			
Lead	25.8	0.207	ng/m <sup>3</sup> Air	26.778	0.508	94.3	75-125			
Manganese	17.3	1.83	ng/m <sup>3</sup> Air	2.6778	14.5	103	75-125			
Molybdenum	2.15	0.348	ng/m <sup>3</sup> Air	1.3389	1.14	75.9	75-125			
Nickel	4.52	0.631	ng/m <sup>3</sup> Air	2.6778	1.87	98.8	75-125			
Selenium	1.37	0.00867	ng/m <sup>3</sup> Air	1.3389	0.185	88.5	75-125			
Thallium	0.0658	5.70E-4	ng/m <sup>3</sup> Air	6.6944E-2	0.00181	95.6	75-125			
Vanadium	3.03	0.0512	ng/m <sup>3</sup> Air	1.3389	1.72	97.6	75-125			
Zinc	ND	74.4	ng/m <sup>3</sup> Air	26.778	ND		75-125			U

**Post Spike (B4F0406-PS2) Source: 4060348-24** Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	0.294	0.0341	ng/m <sup>3</sup> Air	0.24448	0.0533	98.3	75-125			SL
Arsenic	1.76	0.00828	ng/m <sup>3</sup> Air	1.2224	0.594	95.4	75-125			
Barium	7.14	0.946	ng/m <sup>3</sup> Air	2.4448	4.77	96.9	75-125			
Beryllium	0.248	0.00283	ng/m <sup>3</sup> Air	0.24448	0.0178	94.0	75-125			
Cadmium	0.142	0.0655	ng/m <sup>3</sup> Air	0.12224	ND	117	75-125			
Chromium	5.13	1.95	ng/m <sup>3</sup> Air	1.2224	3.79	110	75-125			
Cobalt	1.22	0.0385	ng/m <sup>3</sup> Air	0.24448	0.944	112	75-125			
Copper	195	2.32	ng/m <sup>3</sup> Air	12.224	178	141	75-125			A-01

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

Batch B4F0406 - ICP-MS Extraction

**Post Spike (B4F0406-PS2) Continued**      **Source: 4060348-24**      Prepared: 06/04/24      Analyzed: 06/06/24

Lead	23.9	0.189	ng/m <sup>3</sup> Air	24.448	0.389	96.1	75-125			
Manganese	24.5	1.67	ng/m <sup>3</sup> Air	2.4448	21.4	125	75-125			
Molybdenum	8.94	0.317	ng/m <sup>3</sup> Air	1.2224	7.83	91.3	75-125			
Nickel	6.27	0.576	ng/m <sup>3</sup> Air	2.4448	3.70	105	75-125			
Selenium	1.31	0.00792	ng/m <sup>3</sup> Air	1.2224	0.215	89.5	75-125			
Thallium	0.0594	5.21E-4	ng/m <sup>3</sup> Air	6.1120E-2	0.00177	94.4	75-125			
Vanadium	3.76	0.0468	ng/m <sup>3</sup> Air	1.2224	2.46	106	75-125			
Zinc	ND	67.9	ng/m <sup>3</sup> Air	24.448	ND		75-125			U

**Post Spike (B4F0406-PS3)**      **Source: 4060348-03R**      Prepared: 06/04/24      Analyzed: 06/07/24

Antimony	0.338	0.0747	ng/m <sup>3</sup> Air	0.26778	0.0793	96.7	75-125			D
Arsenic	1.53	0.0181	ng/m <sup>3</sup> Air	1.3389	0.266	94.4	75-125			D
Barium	6.94	2.07	ng/m <sup>3</sup> Air	2.6778	4.69	84.2	75-125			D
Beryllium	0.313	0.00620	ng/m <sup>3</sup> Air	0.26778	0.0538	96.8	75-125			D
Cadmium	0.143	0.143	ng/m <sup>3</sup> Air	0.13389	ND		75-125			D
Chromium	4.50	4.28	ng/m <sup>3</sup> Air	1.3389	ND	336	75-125			D
Cobalt	0.933	0.0844	ng/m <sup>3</sup> Air	0.26778	0.664	101	75-125			D
Copper	37.3	5.09	ng/m <sup>3</sup> Air	13.389	23.6	102	75-125			D
Lead	26.5	0.414	ng/m <sup>3</sup> Air	26.778	0.527	96.9	75-125			D
Manganese	17.3	3.66	ng/m <sup>3</sup> Air	2.6778	14.8	96.7	75-125			D
Molybdenum	2.40	0.695	ng/m <sup>3</sup> Air	1.3389	1.28	83.5	75-125			D
Nickel	4.59	1.26	ng/m <sup>3</sup> Air	2.6778	1.90	100	75-125			D
Selenium	1.49	0.0173	ng/m <sup>3</sup> Air	1.3389	0.216	95.5	75-125			D
Thallium	0.0686	0.00114	ng/m <sup>3</sup> Air	6.6944E-2	0.00211	99.4	75-125			D
Vanadium	2.92	0.102	ng/m <sup>3</sup> Air	1.3389	1.65	94.8	75-125			D
Zinc	ND	149	ng/m <sup>3</sup> Air	26.778	ND		75-125			U, D

**Post Spike (B4F0406-PS4)**      **Source: 4060348-24R**      Prepared: 06/04/24      Analyzed: 06/07/24

Antimony	21.9	0.0341	ng/m <sup>3</sup> Air	0.24448	0.0531	NR	75-125			A-01a, D
Arsenic	78.2	0.00828	ng/m <sup>3</sup> Air	1.2224	0.609	NR	75-125			A-01a, D
Barium	182	0.946	ng/m <sup>3</sup> Air	2.4448	4.92	NR	75-125			A-01a, D
Beryllium	27.8	0.00283	ng/m <sup>3</sup> Air	0.24448	0.0197	NR	75-125			A-01a, D
Cadmium	5.62	0.0655	ng/m <sup>3</sup> Air	0.12224	ND	NR	75-125			A-01a, D
Chromium	484	1.95	ng/m <sup>3</sup> Air	1.2224	3.83	NR	75-125			A-01a, D
Cobalt	162	0.0385	ng/m <sup>3</sup> Air	0.24448	0.958	NR	75-125			A-01a, D
Copper	244000	2.32	ng/m <sup>3</sup> Air	12.224	181	2.00E6	75-125			A-01a, D
Lead	1100	0.189	ng/m <sup>3</sup> Air	24.448	0.410	NR	75-125			A-01a, D
Manganese	244000	1.67	ng/m <sup>3</sup> Air	2.4448	21.9	10.00E6	75-125			A-01a, D
Molybdenum	100	0.317	ng/m <sup>3</sup> Air	1.2224	8.52	NR	75-125			A-01a, D
Nickel	886	0.576	ng/m <sup>3</sup> Air	2.4448	3.82	NR	75-125			A-01a, D

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# CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001  
 REPORTED: 06/11/24 15:56  
 SUBMITTED: 06/03/24  
 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 B4F0406 - ICP-MS Extraction

**Post Spike (B4F0406-PS4) Continued** Source: 4060348-24R Prepared: 06/04/24 Analyzed: 06/07/24

Selenium	26.9	0.00792	ng/m <sup>3</sup> Air	1.2224	0.225	NR	75-125			A-01a, D
Thallium	2.52	5.21E-4	ng/m <sup>3</sup> Air	6.1120E-2	0.00186	NR	75-125			A-01a, D
Vanadium	334	0.0468	ng/m <sup>3</sup> Air	1.2224	2.43	NR	75-125			A-01a, D
Zinc	244000	67.9	ng/m <sup>3</sup> Air	24.448	ND	1.00E6	75-125			A-01a, D

**Dilution Check (B4F0406-SRL1)** Source: 4060348-03 Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	ND	0.187	ng/m <sup>3</sup> Air		ND				10	U, SL
Arsenic	0.271	0.0454	ng/m <sup>3</sup> Air		0.261			3.72	10	
Barium	ND	5.18	ng/m <sup>3</sup> Air		ND				10	U
Beryllium	0.0505	0.0155	ng/m <sup>3</sup> Air		0.0499			1.19	10	
Cadmium	ND	0.359	ng/m <sup>3</sup> Air		ND				10	U
Chromium	ND	10.7	ng/m <sup>3</sup> Air		ND				10	U
Cobalt	0.674	0.211	ng/m <sup>3</sup> Air		0.658			2.42	10	
Copper	24.2	12.7	ng/m <sup>3</sup> Air		22.9			5.33	10	
Lead	ND	1.04	ng/m <sup>3</sup> Air		ND				10	U
Manganese	14.9	9.15	ng/m <sup>3</sup> Air		14.5			2.86	10	
Molybdenum	ND	1.74	ng/m <sup>3</sup> Air		ND				10	U
Nickel	ND	3.16	ng/m <sup>3</sup> Air		ND				10	U
Selenium	0.193	0.0434	ng/m <sup>3</sup> Air		0.185			4.03	10	
Thallium	ND	0.00285	ng/m <sup>3</sup> Air		ND				10	U
Vanadium	1.72	0.256	ng/m <sup>3</sup> Air		1.72			0.123	10	
Zinc	ND	372	ng/m <sup>3</sup> Air		ND				10	U

**Dilution Check (B4F0406-SRL2)** Source: 4060348-24 Prepared: 06/04/24 Analyzed: 06/06/24

Antimony	ND	0.171	ng/m <sup>3</sup> Air		ND				10	U, SL
Arsenic	0.624	0.0414	ng/m <sup>3</sup> Air		0.594			4.96	10	
Barium	4.87	4.73	ng/m <sup>3</sup> Air		4.77			2.08	10	
Beryllium	0.0193	0.0141	ng/m <sup>3</sup> Air		0.0178			7.91	10	
Cadmium	ND	0.327	ng/m <sup>3</sup> Air		ND				10	U
Chromium	ND	9.77	ng/m <sup>3</sup> Air		ND				10	U
Cobalt	0.983	0.193	ng/m <sup>3</sup> Air		0.944			4.04	10	
Copper	186	11.6	ng/m <sup>3</sup> Air		178			4.53	10	
Lead	ND	0.946	ng/m <sup>3</sup> Air		ND				10	U
Manganese	22.1	8.35	ng/m <sup>3</sup> Air		21.4			2.98	10	
Molybdenum	9.00	1.59	ng/m <sup>3</sup> Air		7.83			13.9	10	
Nickel	3.88	2.88	ng/m <sup>3</sup> Air		3.70			4.71	10	
Selenium	0.259	0.0396	ng/m <sup>3</sup> Air		0.215			18.4	10	SRD-01
Thallium	0.00325	0.00260	ng/m <sup>3</sup> Air		ND			59.1	10	
Vanadium	2.48	0.234	ng/m <sup>3</sup> Air		2.46			0.813	10	
Zinc	ND	339	ng/m <sup>3</sup> Air		ND				10	U

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

Batch B4F0406 - ICP-MS Extraction

**Dilution Check (B4F0406-SRL3)**      **Source: 4060348-03R**      Prepared: 06/04/24      Analyzed: 06/07/24

Antimony	ND	0.374	ng/m <sup>3</sup> Air		ND				10	U
Arsenic	0.272	0.0907	ng/m <sup>3</sup> Air		0.266			2.16	10	
Barium	ND	10.4	ng/m <sup>3</sup> Air		ND				10	U
Beryllium	0.0480	0.0310	ng/m <sup>3</sup> Air		0.0538			11.5	10	
Cadmium	ND	0.717	ng/m <sup>3</sup> Air		ND				10	U
Chromium	ND	21.4	ng/m <sup>3</sup> Air		ND				10	U
Cobalt	0.680	0.422	ng/m <sup>3</sup> Air		0.664			2.35	10	
Copper	ND	25.5	ng/m <sup>3</sup> Air		ND				10	U
Lead	ND	2.07	ng/m <sup>3</sup> Air		ND				10	U
Manganese	ND	18.3	ng/m <sup>3</sup> Air		ND				10	U
Molybdenum	ND	3.48	ng/m <sup>3</sup> Air		ND				10	U
Nickel	ND	6.31	ng/m <sup>3</sup> Air		ND				10	U
Selenium	0.236	0.0867	ng/m <sup>3</sup> Air		0.216			8.74	10	
Thallium	ND	0.00570	ng/m <sup>3</sup> Air		ND				10	U
Vanadium	1.65	0.512	ng/m <sup>3</sup> Air		1.65			0.434	10	
Zinc	ND	744	ng/m <sup>3</sup> Air		ND				10	U



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## Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
A-01a	Prep error, no ISTD added. No valid data
A-01	Parent sample greater than 4x Spike amount: Post spike
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 06/12/2024 and Shanna Vasser 06/13/2024

Laboratory: Eastern Research Group – Morrisville, NC

Collection date(s): 05/23/2024 – 05/29/2024

Report No: 4060348

- ✓ 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 (MDL) were reported for barium in MFL-FB01-052324-HM, for barium in MFL-FB01-052524-HM, for barium and copper in MFL-FB01-052724-HM, for arsenic and barium in MFL-FB01-052924-HM, and arsenic, barium, and cobalt in MFL-LB01-052924-HM. MFL-LB01-052924-HM had detections about the MDL for arsenic, barium, and cobalt.

Notes:

- 7. MFL-AM01-052824-HM was analyzed at a two-fold dilution for arsenic, cadmium, molybdenum, and selenium. MFL-AM03-052324-HM was analyzed at a two-fold dilution for arsenic, cadmium, and molybdenum, and selenium. MFL-AM03-052424-HM and MFL-AM03-052924-HM were analyzed at a five-fold dilution for arsenic, cadmium, and molybdenum, and selenium. MFL-AM03-052524-HM and MFL-AM03-052824-HM were analyzed at a two-fold dilution for arsenic, cadmium, molybdenum, and selenium. MFL-AM04-052924-HM was analyzed at a five-fold dilution for antimony, arsenic, barium, cadmium, molybdenum, and selenium.