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

Lahaina, Maui

4/25/2024 – 5/1/2024
[Report Updated: 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 average 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 (µm), 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_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week at each of the following locations: Leialii Hawaiian Homelands (April 25-May 1), WW Pump Station #4 (April 25-May 1), Lahaina Intermediate School (April 25-May 1), Lahaina Boys & Girls Club (April 25-May 1).

The PM_{10} 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 ($PM_{2.5}$) 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 April 26
- WW Pump Station #4 on April 26, 30, and May 1

- Lahaina Intermediate School on April 26
- Lahaina Boys & Girls Club on April 29 and May 1

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 (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 respectively for total dust as time-weighted averages. While total dust sampling has not been conducted, the size-discriminated particulate sampling (PM_{10}) at these locations indicates these thresholds are not being approached and are orders of magnitude less than occupational gypsum exposure criteria.

Heavy metal samples from Leialii Hawaiian Homelands on April 27 and 28 were not collected due to a fuse failure resulting in equipment malfunction. With the exception of the metals samples that were not able to be collected from Leialii Hawaiian Homelands on April 27 and 28, 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.

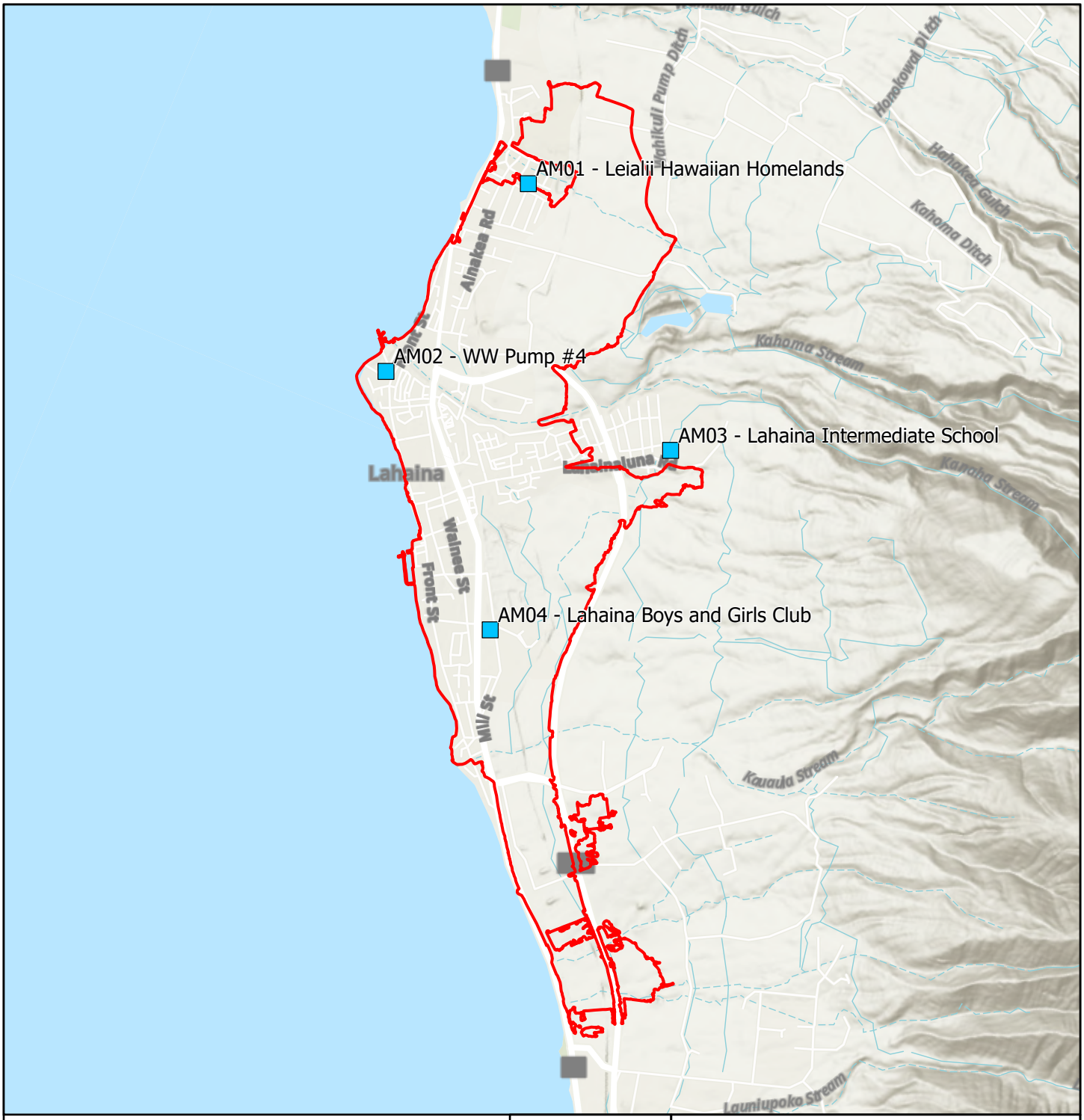
Tetra Tech is using Tisch Environmental High Volume Air Samplers, or equivalent, collocated with the real-time particulate monitors and asbestos samplers described above. Air samples for elemental metals at community locations are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 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

TETRA TECH

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
4/25/2024-5/1/2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening Level*		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
4/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000464	0.000434	0.00441	0.0000152	ND	0.00339	0.000833	0.0497	0.000338	0.0183	0.00196	0.00386	0.0000862	0.00000118	0.00168	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000812	0.000210	0.00407	0.00000978	ND	0.00223	0.000361	0.0492	0.000574	0.00944	0.00166	0.00147	0.0000929	0.00000106	0.000970	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000766	0.000242	0.00315	0.0000165	ND	0.00238	0.000424	0.0515	0.000555	0.00882	0.00219	0.00132	0.0000960	0.00000103	0.000795	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000156	0.00131	0.0116	0.0000340	ND	0.00569	0.00123	0.0433	0.00195	0.0559	0.00136	0.00369	0.000258	0.00000264	0.00256	ND
4/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000672	0.000764	0.00845	0.0000324	ND	0.00549	0.00162	0.112	0.000690	0.0370	0.00418	0.00515	0.000270	0.00000308	0.00389	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000781	0.000256	0.00451	0.0000141	ND	0.00184	0.000315	0.0458	0.000696	0.0113	0.00170	0.00106	0.000195	0.00000256	0.00120	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.000100	0.000330	0.00473	0.0000169	ND	0.00246	0.000465	0.0760	0.000822	0.0116	0.00248	0.00139	0.000200	0.00000254	0.00116	0.0656
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000919	0.000548	0.00568	0.0000115	ND	0.00236	0.000370	0.0346	0.00124	0.0191	0.00146	0.00142	0.000198	0.00000232	0.00105	ND
4/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.000106	0.000214	0.00406	0.00000598	ND	ND	0.000169	0.0270	0.000512	0.00571	0.00103	0.000972	0.000161	0.00000145	0.000723	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000994	0.000190	0.00324	0.0000106	ND	0.00188	0.000279	0.0472	0.000819	0.00682	0.00146	0.00108	0.000158	0.00000142	0.000832	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000871	0.000295	0.00471	0.00000939	ND	0.00241	0.000288	0.0379	0.00101	0.00973	0.00132	0.00120	0.000154	0.00000148	0.00102	ND
4/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0027	0.000130	0.000441	0.00607	0.0000179	ND	0.00298	0.000490	0.0358	0.00307	0.0154	0.00116	0.00173	0.000173	0.00000145	0.00171	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000818	0.000181	0.00302	0.00000658	ND	ND	0.000176	0.0585	0.000967	0.00473	0.00140	0.00103	0.000133	0.000000855	0.000784	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000872	0.000174	0.00429	0.00000746	0.0000983	ND	0.000232	0.0320	0.000841	0.00755	0.00114	0.00107	0.000144	0.000000927	0.000920	ND
4/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000978	0.00111	0.00713	0.0000203	ND	0.00459	0.00109	0.0568	0.000889	0.0278	0.00314	0.00265	0.000226	0.00000195	0.00322	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000970	0.000212	0.00396	0.00000809	ND	ND	0.000242	0.0338	0.000747	0.00741	0.00144	0.00109	0.000191	0.00000111	0.000982	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000740	0.000221	0.00302	0.0000141	ND	0.00206	0.000351	0.0384	0.000782	0.00821	0.00129	0.00128	0.000180	0.00000110	0.00110	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000950	0.000299	0.00388	0.00000972	ND	0.00213	0.000314	0.0304	0.000845	0.00988	0.00115	0.00126	0.000201	0.00000125	0.00115	ND
4/30/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000731	0.000468	0.00539	0.0000153	ND	0.00404	0.000755	0.0421	0.000837	0.0184	0.00228	0.00273	0.000210	0.00000167	0.00203	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000986	0.000236	0.00376	0.00000884	ND	ND	0.000241	0.0300	0.000708	0.00795	0.00129	0.00107	0.000192	0.00000129	0.00107	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000743	0.000217	0.00426	0.0000186	ND	0.00239	0.000431	0.0433	0.000615	0.0110	0.00153	0.00156	0.000209	0.00000150	0.00137	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000979	0.000324	0.00517	0.0000110	ND	0.00219	0.000345	0.0362	0.000974	0.0112	0.00129	0.00134	0.000184	0.00000134	0.00120	ND
5/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000824	0.000596	0.00360	0.00000774	ND	0.00199	0.000316	0.0441	0.000532	0.00887	0.00250	0.00122	0.000174	0.00000124	0.00108	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000101	0.000301	0.00464	0.0000127	ND	0.00227	0.000467	0.0310	0.000803	0.0123	0.00149	0.00184	0.000216	0.00000135	0.00161	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000871	0.000295	0.00390	0.0000182	ND	0.00227	0.000403	0.0422	0.000625	0.0105	0.00155	0.00142	0.000197	0.00000139	0.00129	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.000337	0.00431	0.0000134	ND	0.00226	0.000388	0.0235	0.00109	0.0125	0.000996	0.00145	0.000205	0.00000141	0.00143	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000480	0.00535	0.0000170	NA	0.00312	0.000600	0.0497	0.00105	0.0115	0.00193	0.00203	0.000200	0.00000180	0.00164	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/m3 = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs
Heavy Metal samples voided due to equipment malfunction and fuse trip.

Table 2
HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results for PM_{10}
Maui Wildfire, Lahaina
4/25/2024 - 5/1/2024

Screening Level		**150 µg/m^3**
4/25/2024	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)	37
4/26/2024	Leialii Hawaiian Homelands (AM-01)	8.5
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	8.3
4/27/2024	Leialii Hawaiian Homelands (AM-01)	9.2
	WW Pump Station #4 (AM-02)	9.3
	Lahaina Intermediate School (AM-03)	9.9
	Lahaina Boys & Girls Club (AM-04)	9.1
4/28/2024	Leialii Hawaiian Homelands (AM-01)	7.0
	WW Pump Station #4 (AM-02)	7.9
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Boys & Girls Club (AM-04)	6.9
4/29/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	6.3
4/30/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	9.9
	Lahaina Boys & Girls Club (AM-04)	7.0
5/1/2024	Leialii Hawaiian Homelands (AM-01)	9.2
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	8.9

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation except for the following:
Results for Lahaina Boys & Girls Club (AM-04) on 4/29 are based on a 23 hr. TWA because of equipment maintenance.

Table 3
Maui Wildfire - Lahaina
Meteorological Data
4/25/2024-5/1/2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
4/25/2024	AM-01	Leialii Hawaiian Homelands	1.3	SE	80	59	762.6
4/25/2024	AM-02	WW Pump Station #4	1.1	S	78	64	764.8
4/25/2024	AM-03	Lahaina Intermediate School	1.2	SSE	76	68	755.5
4/25/2024	AM-04	Lahaina Boys & Girls Club	1.4	S	77	66	764.5
4/26/2024	AM-01	Leialii Hawaiian Homelands	0.8	SSE	79	64	762.3
4/26/2024	AM-02	WW Pump Station #4	0.9	S	78	68	764.5
4/26/2024	AM-03	Lahaina Intermediate School	1.0	S	76	72	755.2
4/26/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	77	68	764.2
4/27/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	79	66	761.4
4/27/2024	AM-02	WW Pump Station #4	1.0	SSE	78	72	763.5
4/27/2024	AM-03	Lahaina Intermediate School	1.1	SE	76	74	754.3
4/27/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	70	763.3
4/28/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	81	65	760.9
4/28/2024	AM-02	WW Pump Station #4	1.0	SSE	79	71	763.0
4/28/2024	AM-03	Lahaina Intermediate School	1.2	SE	77	72	753.8
4/28/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	78	71	762.8
4/29/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	79	66	759.7
4/29/2024	AM-02	WW Pump Station #4	0.9	S	78	70	761.8
4/29/2024	AM-03	Lahaina Intermediate School	1.2	SE	76	72	752.6
4/29/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSE	77	70	761.5
4/30/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	80	64	759.6
4/30/2024	AM-02	WW Pump Station #4	1.2	SSE	79	70	761.7
4/30/2024	AM-03	Lahaina Intermediate School	1.4	SSE	77	73	752.5
4/30/2024	AM-04	Lahaina Boys & Girls Club	1.5	S	77	71	761.5
5/1/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	81	63	760.3
5/1/2024	AM-02	WW Pump Station #4	1.0	S	79	68	762.5
5/1/2024	AM-03	Lahaina Intermediate School	1.3	SE	77	71	753.2
5/1/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	78	68	762.2

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

Appendix 1

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

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

EMSL Order:	042408885
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:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-042524-AB** **Sample Description: DK797051**

EMSL Sample Number:	042408885-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7220.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042408885
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: 042408885-0001 **Customer Sample:** MFL-AM01-042524-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	C3	None Detected									
B1	E7	None Detected									
B1	J5	None Detected									
B2	B7	None Detected									
B2	G6	None Detected									

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

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

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-042524-AB** **Sample Description: DK797023**

EMSL Sample Number:	042408885-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7247.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408885-0002 **Customer Sample:** MFL-AM02-042524-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	J8	None Detected									
B5	E5	None Detected									
B5	A5	None Detected									
B6	I4	None Detected									
B6	D9	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:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042524-AB** **Sample Description: DK797025**

EMSL Sample Number:	042408885-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7211.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408885-0003 **Customer Sample:** MFL-AM03-042524-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	H6	None Detected									
C1	F3	None Detected									
C1	B7	None Detected									
C2	G5	None Detected									
C2	A6	None Detected									

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

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

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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-042524-AB** **Sample Description: DK797019**

EMSL Sample Number:	042408885-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
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 Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408885-0004 **Customer Sample:** MFL-AM04-042524-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	A6	None Detected									
C5	F3	None Detected									
C5	J8	None Detected									
C6	G4	None Detected									
C6	C5	None Detected									

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

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EMSL Order:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042524-AB** **Sample Description: DK797053**

EMSL Sample Number:	042408885-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042408885
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: 042408885-0005 **Customer Sample:** MFL-FB01-042524-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	H4	None Detected									
D1	E3	None Detected									
D1	A6	None Detected									
D2	C8	None Detected									
D2	D4	None Detected									
D2	I6	None Detected									
D3	A7	None Detected									
D3	E5	None Detected									
D3	I7	None Detected									

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

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EMSL Order:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-042624-AB**		**Sample Description:**	**DK797054**
EMSL Sample Number:	042408885-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0006 **Customer Sample:** MFL-AM01-042624-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	I8	None Detected									
D5	C5	None Detected									
D6	A4	None Detected									
D6	F7	None Detected									
D6	J8	None Detected									

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

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EMSL Order:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-042624-AB** **Sample Description: DK797066**

EMSL Sample Number:	042408885-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7042.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0007 **Customer Sample:** MFL-AM02-042624-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	B6	None Detected									
E1	E2	None Detected									
E1	H5	None Detected									
E3	D6	None Detected									
E3	G5	None Detected									

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

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EMSL Order:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042624-AB** **Sample Description: DK797069**

EMSL Sample Number:	042408885-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6958.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsumm fibers present.

Robyn Ray
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EMSL Order ID: 042408885
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: 042408885-0008 **Customer Sample:** MFL-AM03-042624-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					
E6	C8	None Detected									
E6	E5	None Detected									
E6	J4	None Detected									
E7	B4	None Detected									
E7	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:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-042624-AB** **Sample Description: DK797034**

EMSL Sample Number:	042408885-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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 Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408885-0009 **Customer Sample:** MFL-AM04-042624-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	I7	None Detected									
F1	G4	None Detected									
F1	C6	None Detected									
F2	A6	None Detected									
F2	F7	None Detected									

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

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EMSL Order:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042624-AB** **Sample Description: DK797040**

EMSL Sample Number:	042408885-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042408885
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: 042408885-0010 **Customer Sample:** MFL-FB01-042624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J7	None Detected									
F5	F3	None Detected									
F5	E7	None Detected									
F5	B5	None Detected									
F6	C4	None Detected									
F6	D7	None Detected									
F6	H6	None Detected									
F7	I4	None Detected									
F7	F8	None Detected									
F7	B6	None Detected									

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

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EMSL Order:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-042724-AB** **Sample Description: DK797037**

EMSL Sample Number:	042408885-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7301.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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

EMSL Order ID: 042408885
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: 042408885-0011 **Customer Sample:** MFL-AM01-042724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	A8	None Detected									
G1	A4	None Detected									
G1	H5	None Detected									
G2	G3	None Detected									
G2	D6	None Detected									

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

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EMSL Order:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-042724-AB** **Sample Description: DK797067**

EMSL Sample Number:	042408885-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7285.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042408885
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: 042408885-0012 **Customer Sample:** MFL-AM02-042724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B7	None Detected									
G5	E5	None Detected									
G5	J2	None Detected									
G6	H8	None Detected									
G6	D5	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:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042724-AB** **Sample Description: DK797070**

EMSL Sample Number:	042408885-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7068.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042408885
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: 042408885-0013 **Customer Sample:** MFL-AM03-042724-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	F3	None Detected									
H1	H8	None Detected									
H1	J6	None Detected									
H2	B7	None Detected									
H2	F4	None Detected									

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

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

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

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Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-042724-AB** **Sample Description:** **Dk797071**

EMSL Sample Number:	042408885-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7053.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042408885
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: 042408885-0014 **Customer Sample:** MFL-AM04-042724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B5	None Detected									
H5	E3	None Detected									
H5	I4	None Detected									
H6	H6	None Detected									
H6	E4	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:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042724-AB** **Sample Description:** **Dk797071**

EMSL Sample Number:	042408885-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042408885
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: 042408885-0015 **Customer Sample:** MFL-FB01-042724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	C7	None Detected									
I1	D2	None Detected									
I1	G3	None Detected									
I1	I4	None Detected									
I2	J5	None Detected									
I2	E8	None Detected									
I2	A4	None Detected									
I3	B8	None Detected									
I3	C3	None Detected									
I3	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:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-042824-AB** **Sample Description: Dk797063**

EMSL Sample Number:	042408885-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042408885
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: 042408885-0016 **Customer Sample:** MFL-AM01-042824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A4	None Detected									
I5	F6	None Detected									
I5	J7	None Detected									
I6	D7	None Detected									
I6	H6	None Detected									

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

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EMSL Order:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-042824-AB** **Sample Description: Dk797041**

EMSL Sample Number:	042408885-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7012.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042408885
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: 042408885-0017 **Customer Sample:** MFL-AM02-042824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	A6	None Detected									
J1	F6	None Detected									
J1	I4	None Detected									
J2	H3	None Detected									
J2	D4	None Detected									

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

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

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Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042824-AB** **Sample Description: Dk797022**

EMSL Sample Number:	042408885-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7252.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042408885
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: 042408885-0018 **Customer Sample:** MFL-AM03-042824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	G8	None Detected									
J5	D7	None Detected									
J5	B5	None Detected									
J6	A3	None Detected									
J6	C9	None Detected									

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

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

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Project: **Maui Fires - Lahaina**

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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-042824-AB** **Sample Description: Dk797072**

EMSL Sample Number:	042408885-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408885-0019 **Customer Sample:** MFL-AM04-042824-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	B4	None Detected									
K1	F4	None Detected									
K1	J4	None Detected									
K4	G9	None Detected									
K4	F4	None Detected									

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

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

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Project: **Maui Fires - Lahaina**

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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042824-AB** **Sample Description:** **Dk797072**

EMSL Sample Number:	042408885-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042408885
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: 042408885-0020 **Customer Sample:** MFL-FB01-042824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	H3	None Detected									
K5	H7	None Detected									
K5	D6	None Detected									
K5	A4	None Detected									
K6	I4	None Detected									
K6	G2	None Detected									
K6	C5	None Detected									
K7	A6	None Detected									
K7	C2	None Detected									
K7	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:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description: Lab Blank**

EMSL Sample Number:	042408885-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042408885
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: 042408885-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A3	None Detected									
A1	C7	None Detected									
A1	G6	None Detected									
A1	I2	None Detected									
A2	B5	None Detected									
A2	E5	None Detected									
A2	J5	None Detected									
A3	I3	None Detected									
A3	H7	None Detected									
A3	D4	None Detected									

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042408885

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

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

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

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 Country: USA	City, State, Zip:	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 - LAHAINA	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected: HI	State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Elian Klangsa 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%)

Other Test (please specify)

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

RECEIVED EMSL CINNAMINSON, NJ 2024 MAY -1 A 11:

*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-AM01-042524-AB	DK797051	7,220.764	04/25/24 1107
MFL-AM02-042524-AB	DK797023	7247.782	04/25/24 1125
MFL-AM03-042524-AB	DK797025	7,211.736	04/25/24 1308
MFL-AM04-042524-AB	DK797019	7,159.698	04/25/24 1327
MFL-FB01-042524-AB	DK797053	0	04/25/24 1200
MFL-AM01-042624-AB	DK797054 (EKS)	7,212.526	04/26/24 1052
MFL-AM02-042624-AB	DK797066	7,042.896	04/26/24 1129
MFL-AM03-042624-AB	DK797069	6,958.044	04/26/24 1256

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

All Samples Received Acceptable for Analysis

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 04/29/24 1100	Received by: [signature] FX	Date/Time 5/1/24 93
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.)

OrderID: 042408885

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042408885

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

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

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-042624-AB	DK797034	7,207.488	04/26/24 1330
MFL-FB01-042624-AB	DK797040	0	04/26/24 1200
MFL-AM01-042724-AB	DK797037	7,301.376	04/27/24 1057
MFL-AM02-042724-AB	DK797067	7,285.134	04/27/24 1124
MFL-AM03-042724-AB	DK797070	7,068.096	04/27/24 1300
MFL-AM04-042724-AB	DK797071	7,053.826	04/27/24 1326
MFL-FB01-042724-AB	DK797058	0	04/27/24 1200
MFL-AM01-042824-AB	DK797063	7,165.793	04/28/24 1051
MFL-AM02-042824-AB	DK797041	7,012.944	04/28/24 1128
MFL-AM03-042824-AB	DK797022	7,252.704	04/28/24 1309
MFL-AM04-042824-AB	DK797072	7,199.856	04/28/24 1330
MFL-FB01-042824-AB	DK797061	0	04/28/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 MAY -1 A 11:14

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 04/29/24 1100	Received by:	Date/Time
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 05/07/2024 and Shanna Vasser 05/08/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 04/25/2024 – 04/28/2024
Report No: 42408885

√	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 / cinnasblab@EMSL.com

EMSL Order:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/08/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-042924-AB**		**Sample Description:**	**DK797074**
EMSL Sample Number:	042409175-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7124.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042409175
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: 042409175-0001 **Customer Sample:** MFL-AM01-042924-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	B4	None Detected									
A5	F7	None Detected									
A5	J6	None Detected									
A6	G6	None Detected									
A6	D3	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 / cinnasblab@EMSL.com

EMSL Order:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/08/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-042924-AB**		**Sample Description:**	**DK797073**
EMSL Sample Number:	042409175-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042409175
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: 042409175-0002 **Customer Sample:** MFL-AM02-042924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	B3	None Detected									
B2	F6	None Detected									
B2	I4	None Detected									
B3	H5	None Detected									
B3	D6	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 / cinnasblab@EMSL.com

EMSL Order:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042924-AB** **Sample Description: DK979031**

EMSL Sample Number:	042409175-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7295.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042409175
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: 042409175-0003 **Customer Sample:** MFL-AM03-042924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I6	None Detected									
G5	E3	None Detected									
G5	A6	None Detected									
G6	B8	None Detected									
G6	F6	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:	042409175
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-042924-AB** **Sample Description: DK797045**

EMSL Sample Number:	042409175-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7111.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409175-0004 **Customer Sample:** MFL-AM04-042924-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					
C2	J8	None Detected									
C2	G3	None Detected									
C2	C6	None Detected									
C3	H5	None Detected									
C3	D3	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:	042409175
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042924-AB** **Sample Description: DK797059**

EMSL Sample Number:	042409175-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042409175
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: 042409175-0005 **Customer Sample:** MFL-FB01-042924-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	I2	None Detected									
C6	J8	None Detected									
C6	F4	None Detected									
C6	B5	None Detected									
C7	A4	None Detected									
C7	D7	None Detected									
C7	H9	None Detected									
C8	J6	None Detected									
C8	E3	None Detected									
C8	C5	None Detected									

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

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EMSL Order:	042409175
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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-043024-AB** **Sample Description: DK797065**

EMSL Sample Number:	042409175-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7191.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042409175
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: 042409175-0006 **Customer Sample:** MFL-AM01-043024-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	I7	None Detected									
D1	E5	None Detected									
D1	A6	None Detected									
D2	G4	None Detected									
D2	B4	None Detected									

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

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EMSL Order:	042409175
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-043024-AB**		**Sample Description:**	**DK797068**
EMSL Sample Number:	042409175-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7334.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
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EMSL Order ID: 042409175
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: 042409175-0007 **Customer Sample:** MFL-AM02-043024-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					
D6	C5	None Detected									
D6	F7	None Detected									
D6	H4	None Detected									
D7	D7	None Detected									
D7	I6	None Detected									

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

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EMSL Order:	042409175
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-043024-AB** **Sample Description: DK797064**

EMSL Sample Number:	042409175-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042409175
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: 042409175-0008 **Customer Sample:** MFL-AM03-043024-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	A4	None Detected									
E1	E8	None Detected									
E1	I7	None Detected									
E2	D5	None Detected									
E2	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:	042409175
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-043024-AB** **Sample Description: DK797628**

EMSL Sample Number:	042409175-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7245.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409175-0009 **Customer Sample:** MFL-AM04-043024-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	H8	None Detected									
E5	G3	None Detected									
E5	C6	None Detected									
E6	A4	None Detected									
E6	F7	None Detected									

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

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

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-043024-AB** **Sample Description: DK797606**

EMSL Sample Number:	042409175-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042409175
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: 042409175-0010 **Customer Sample:** MFL-FB01-043024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B3	None Detected									
F1	D7	None Detected									
F1	H7	None Detected									
F2	A4	None Detected									
F2	D9	None Detected									
F2	F3	None Detected									
F2	J6	None Detected									
F4	B5	None Detected									
F4	E8	None Detected									
F4	I6	None Detected									

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

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EMSL Order:	042409175
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-050124-AB** **Sample Description: DK797623**

EMSL Sample Number:	042409175-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7171.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042409175
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: 042409175-0011 **Customer Sample:** MFL-AM01-050124-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	A5	None Detected									
F5	F3	None Detected									
F6	H3	None Detected									
F6	E7	None Detected									
F6	A4	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:	042409175
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-050124-AB**		**Sample Description:**	**D797616**
EMSL Sample Number:	042409175-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7101.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

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EMSL Order ID: 042409175
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: 042409175-0012 **Customer Sample:** MFL-AM02-050124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	G5	None Detected									
G1	D2	None Detected									
G1	C6	None Detected									
G4	G7	None Detected									
G4	A4	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:	042409175
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-050124-AB** **Sample Description: DK797600**

EMSL Sample Number:	042409175-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7304.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042409175
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: 042409175-0013 **Customer Sample:** MFL-AM03-050124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	I6	None Detected									
G5	E3	None Detected									
G5	D7	None Detected									
G6	J6	None Detected									
G6	G3	None Detected									

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

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-050124-AB**	**Sample Description:**	**DK797619**
EMSL Sample Number:	042409175-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7096.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**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
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**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 Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**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
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers presents.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042409175
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: 042409175-0014 **Customer Sample:** MFL-AM04-050124-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					
H2	J8	None Detected									
H2	E5	None Detected									
H2	B2	None Detected									
H3	I7	None Detected									
H3	D4	None Detected									

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

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

EMSL Order:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050124-AB** **Sample Description: DK797612**

EMSL Sample Number:	042409175-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042409175
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: 042409175-0015 **Customer Sample:** MFL-FB01-050124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A7	None Detected									
H5	C4	None Detected									
H6	J9	None Detected									
6	G4	None Detected									
H6	C7	None Detected									
H6	A5	None Detected									
H7	B9	None Detected									
H7	C5	None Detected									
H7	G4	None Detected									
H7	J2	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 / cinnasblab@EMSL.com

EMSL Order:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/07/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description: Lab Blank**

EMSL Sample Number:	042409175-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**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			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**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			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

EMSL Analytical, Inc.
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409175
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: 042409175-0016 **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	J3	None Detected									
A1	G7	None Detected									
A1	D5	None Detected									
A1	B2	None Detected									
A2	A8	None Detected									
A2	E4	None Detected									
A2	J6	None Detected									
A3	C3	None Detected									
A3	F7	None Detected									
A3	H3	None Detected									

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

OrderID: 042409175

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409175

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

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

Customer Information

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

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Elia Kenyon Sullivan
Sampled By Signature: E. Sullivan
No. of Samples in Shipment: 15

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%)

Other Test (please specify)

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

RECEIVED EMSL CINNAMINSON NJ 24 MAY -6 AM 8:30

*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-AM01-042924-AB3	DK797074	7,124.832	04/29/24 1054
MFL-AM02-042924-AB3	DK797073	7,199.373	04/29/24 1125
MFL-AM03-042924-AB3	DK797031	7,295.034	04/29/24 1307
MFL-AM04-042924-AB3	DK797045	7,111.355	04/29/24 1328
MFL-FB01-042924-AB3	DK797059	0	04/29/24 1200
MFL-AM01-043024-AB3	DK797065	7,191.080	04/30/24 1107
MFL-AM02-043024-AB3	DK797068	7,334.520	04/30/24 1126
MFL-AM03-043024-AB3	DK797064	7,173.450	04/30/24 1305

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

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: E. Sullivan	Date/Time: 05/02/24 1100	Received by: FX	Date/Time: 5/6/24 730
Relinquished by:	Date/Time:	Received by:	Date/Time:

15

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.

OrderID: 042409175

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409175

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

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

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-043024-AB	DK797628	7,245.920	04/30/24 1324
MFL-FB01-043024-AB	DK797606	0	04/30/24 1200
MFL-AM01-050124-AB	DK797623	7,171.257	05/01/24 1111
MFL-AM02-050124-AB	DK797616	7,101.648	05/01/24 1130
MFL-AM03-050124-AB	DK797600	7,304.558	05/01/24 1308
MFL-AM04-050124-AB	DK797619	~~7,096~~ 7,096.536 (RKS)	05/01/24 1328
MFL-FB01-050124-AB	DK797612	0	05/01/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAY -6 AM 10: 39

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/02/24 1100	Received by: FX	Date/Time: 5/6/24 930
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 05/13/2024 and Shanna Vasser 5/14/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 04/29/2024 – 05/01/2024
Report No: 042409175

√	1.	Chain of custody (CoC) documentation is present.
X	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:

2. No sample receipt information was included.

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

May 14, 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 05/06/24 14:28.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-042524-HM	4050626-01	Air	04/25/24 23:59	05/06/24 14:28
MFL-AM02-042524-HM	4050626-02	Air	04/25/24 23:59	05/06/24 14:28
MFL-AM03-042524-HM	4050626-03	Air	04/25/24 23:59	05/06/24 14:28
MFL-AM04-042524-HM	4050626-04	Air	04/25/24 23:59	05/06/24 14:28
MFL-FB01-042524-HM	4050626-05	Air	04/25/24 00:00	05/06/24 14:28
MFL-AM01-042624-HM	4050626-06	Air	04/26/24 23:59	05/06/24 14:28
MFL-AM02-042624-HM	4050626-07	Air	04/26/24 23:59	05/06/24 14:28
MFL-AM03-042624-HM/MS/I	4050626-08	Air	04/26/24 23:59	05/06/24 14:28
MFL-AM04-042624-HM	4050626-09	Air	04/26/24 23:59	05/06/24 14:28
MFL-AM02-042724-HM	4050626-11	Air	04/27/24 23:59	05/06/24 14:28
MFL-AM03-042724-HM	4050626-12	Air	04/27/24 23:59	05/06/24 14:28
MFL-AM04-042724-HM	4050626-13	Air	04/27/24 23:59	05/06/24 14:28
MFL-FB01-042724-HM	4050626-14	Air	04/27/24 00:00	05/06/24 14:28
MFL-AM02-042824-HM	4050626-16	Air	04/28/24 23:59	05/06/24 14:28
MFL-AM03-042824-HM	4050626-17	Air	04/28/24 23:59	05/06/24 14:28
MFL-AM04-042824-HM	4050626-18	Air	04/28/24 23:59	05/06/24 14:28
MFL-AM01-042924-HM	4050626-19	Air	04/29/24 23:59	05/06/24 14:28
MFL-AM02-042924-HM	4050626-20	Air	04/29/24 23:59	05/06/24 14:28
MFL-AM03-042924-HM	4050626-21	Air	04/29/24 23:59	05/06/24 14:28
MFL-AM04-042924-HM	4050626-22	Air	04/29/24 23:59	05/06/24 14:28
MFL-FB01-042924-HM	4050626-23	Air	04/29/24 00:00	05/06/24 14:28

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM01-043024-HM	4050626-24	Air	04/30/24 23:59	05/06/24 14:28
MFL-AM02-043024-HM	4050626-25	Air	04/30/24 23:59	05/06/24 14:28
MFL-AM03-043024-HM	4050626-26	Air	04/30/24 23:59	05/06/24 14:28
MFL-AM04-043024-HM	4050626-27	Air	04/30/24 23:59	05/06/24 14:28
MFL-AM01-050124-HM/MS/I	4050626-28	Air	05/01/24 23:59	05/06/24 14:28
MFL-AM02-050124-HM	4050626-29	Air	05/01/24 23:59	05/06/24 14:28
MFL-AM03-050124-HM	4050626-30	Air	05/01/24 23:59	05/06/24 14:28
MFL-AM04-050124-HM	4050626-31	Air	05/01/24 23:59	05/06/24 14:28
MFL-FB01-050124-HM	4050626-32	Air	05/01/24 00:00	05/06/24 14:28

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042524-HM
Matrix: Air
Lab ID: 4050626-01
Sample Volume: 1655.243 m³
Filter ID:
Sampled: 04/25/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 02:37

Comments: Q8506901 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0464**	SL	**0.0379**
Arsenic	**7440-38-2**	**0.434**		**0.00921**
Barium	**7440-39-3**	**4.41**	QB-01	**1.05**
Beryllium	**7440-41-7**	**0.0152**		**0.00315**
Cadmium	7440-43-9	0.00636	U	0.0728
Chromium	**7440-47-3**	**3.39**		**2.17**
Cobalt	**7440-48-4**	**0.833**		**0.0429**
Copper	**7440-50-8**	**49.7**		**2.59**
Lead	**7439-92-1**	**0.338**		**0.210**
Manganese	**7439-96-5**	**18.3**		**1.86**
Molybdenum	**7439-98-7**	**1.96**		**0.353**
Nickel	**7440-02-0**	**3.86**		**0.641**
Selenium	**7782-49-2**	**0.0862**	B, LL, QB-04	**0.00881**
Thallium	**7440-28-0**	**0.00118**		**5.79E-4**
Vanadium	**7440-62-2**	**1.68**		**0.0520**
Zinc	7440-66-6	46.2	GC-BS, QB-01, U	75.5

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042524-HM
Matrix: Air
Lab ID: 4050626-02
Sample Volume: 2058.134 m³
Filter ID:
Sampled: 04/25/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 02:52

Comments: Q8506897 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0812**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.210**		**0.00741**
Barium	**7440-39-3**	**4.07**	QB-01	**0.846**
Beryllium	**7440-41-7**	**0.00978**		**0.00253**
Cadmium	7440-43-9	0.00752	U	0.0586
Chromium	**7440-47-3**	**2.23**		**1.75**
Cobalt	**7440-48-4**	**0.361**		**0.0345**
Copper	**7440-50-8**	**49.2**		**2.08**
Lead	**7439-92-1**	**0.574**		**0.169**
Manganese	**7439-96-5**	**9.44**		**1.49**
Molybdenum	**7439-98-7**	**1.66**		**0.284**
Nickel	**7440-02-0**	**1.47**		**0.515**
Selenium	**7782-49-2**	**0.0929**	B, LL, QB-04	**0.00708**
Thallium	**7440-28-0**	**0.00106**		**4.66E-4**
Vanadium	**7440-62-2**	**0.970**		**0.0418**
Zinc	7440-66-6	35.6	GC-BS, QB-01, U	60.7

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042524-HM
Matrix: Air
Lab ID: 4050626-03
Sample Volume: 1783.889 m³
Filter ID:
Sampled: 04/25/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 03:08

Comments: Q8506896 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0766**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.242**		**0.00855**
Barium	**7440-39-3**	**3.15**	QB-01	**0.976**
Beryllium	**7440-41-7**	**0.0165**		**0.00292**
Cadmium	7440-43-9	0.00696	U	0.0676
Chromium	**7440-47-3**	**2.38**		**2.02**
Cobalt	**7440-48-4**	**0.424**		**0.0398**
Copper	**7440-50-8**	**51.5**		**2.40**
Lead	**7439-92-1**	**0.555**		**0.195**
Manganese	**7439-96-5**	**8.82**		**1.72**
Molybdenum	**7439-98-7**	**2.19**		**0.327**
Nickel	**7440-02-0**	**1.32**		**0.595**
Selenium	**7782-49-2**	**0.0960**	B, LL, QB-04	**0.00817**
Thallium	**7440-28-0**	**0.00103**		**5.37E-4**
Vanadium	**7440-62-2**	**0.795**		**0.0482**
Zinc	7440-66-6	46.9	GC-BS, QB-01, U	70.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042524-HM
Matrix: Air
Lab ID: 4050626-04
Sample Volume: 1870.265 m³
Filter ID:
Sampled: 04/25/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 03:23

Comments: Q8503979 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.156**	SL	**0.0336**
Arsenic	**7440-38-2**	**1.31**		**0.00815**
Barium	**7440-39-3**	**11.6**	QB-01	**0.931**
Beryllium	**7440-41-7**	**0.0340**		**0.00278**
Cadmium	7440-43-9	0.0432	U	0.0645
Chromium	**7440-47-3**	**5.69**		**1.92**
Cobalt	**7440-48-4**	**1.23**		**0.0379**
Copper	**7440-50-8**	**43.3**		**2.29**
Lead	**7439-92-1**	**1.95**		**0.186**
Manganese	**7439-96-5**	**55.9**		**1.64**
Molybdenum	**7439-98-7**	**1.36**		**0.312**
Nickel	**7440-02-0**	**3.69**		**0.567**
Selenium	**7782-49-2**	**0.258**	B, LL, QB-04	**0.00779**
Thallium	**7440-28-0**	**0.00264**		**5.12E-4**
Vanadium	**7440-62-2**	**2.56**		**0.0460**
Zinc	7440-66-6	55.2	GC-BS, QB-01, U	66.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-042524-HM
Matrix: Air
Lab ID: 4050626-05
Sample Volume: 1655.243 m³
Filter ID:
Sampled: 04/25/24 00:00
Received: 05/06/24 14:28
Analysis Date: 05/08/24 03:41

Comments: Q8503975 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0176	SL, U	0.0379
Arsenic	7440-38-2	0.00643	U	0.00921
Barium	**7440-39-3**	**1.33**	FB-01, QB-01	**1.05**
Beryllium	7440-41-7	8.56E-4	U	0.00315
Cadmium	7440-43-9	8.60E-4	U	0.0728
Chromium	7440-47-3	1.26	U	2.17
Cobalt	7440-48-4	0.0133	U	0.0429
Copper	7440-50-8	0.651	U	2.59
Lead	7439-92-1	0.0428	U	0.210
Manganese	7439-96-5	0.304	U	1.86
Molybdenum	7439-98-7	0.190	U	0.353
Nickel	7440-02-0	0.472	U	0.641
Selenium	7782-49-2	ND	B, BR, LL, QB-04, U	0.00881
Thallium	7440-28-0	1.68E-4	U	5.79E-4
Vanadium	7440-62-2	0.0276	U	0.0520
Zinc	7440-66-6	25.0	GC-BS, QB-01, U	75.5

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042624-HM
Matrix: Air
Lab ID: 4050626-06
Sample Volume: 1977.928 m³
Filter ID:
Sampled: 04/26/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 03:55

Comments: Q8503978 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0672**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.764**		**0.00771**
Barium	**7440-39-3**	**8.45**	QB-01	**0.880**
Beryllium	**7440-41-7**	**0.0324**		**0.00263**
Cadmium	7440-43-9	0.0176	U	0.0610
Chromium	**7440-47-3**	**5.49**		**1.82**
Cobalt	**7440-48-4**	**1.62**		**0.0359**
Copper	**7440-50-8**	**112**		**2.16**
Lead	**7439-92-1**	**0.690**		**0.176**
Manganese	**7439-96-5**	**37.0**		**1.55**
Molybdenum	**7439-98-7**	**4.18**		**0.295**
Nickel	**7440-02-0**	**5.15**		**0.536**
Selenium	**7782-49-2**	**0.270**	B, LL, QB-04	**0.00737**
Thallium	**7440-28-0**	**0.00308**		**4.84E-4**
Vanadium	**7440-62-2**	**3.89**		**0.0435**
Zinc	7440-66-6	34.2	GC-BS, QB-01, U	63.2

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042624-HM
Matrix: Air
Lab ID: 4050626-07
Sample Volume: 2134.525 m³
Filter ID:
Sampled: 04/26/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 04:10

Comments: Q8503977 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0781**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.256**		**0.00714**
Barium	**7440-39-3**	**4.51**	QB-01	**0.816**
Beryllium	**7440-41-7**	**0.0141**		**0.00244**
Cadmium	7440-43-9	0.0135	U	0.0565
Chromium	**7440-47-3**	**1.84**		**1.68**
Cobalt	**7440-48-4**	**0.315**		**0.0332**
Copper	**7440-50-8**	**45.8**		**2.00**
Lead	**7439-92-1**	**0.696**		**0.163**
Manganese	**7439-96-5**	**11.3**		**1.44**
Molybdenum	**7439-98-7**	**1.70**		**0.274**
Nickel	**7440-02-0**	**1.06**		**0.497**
Selenium	**7782-49-2**	**0.195**	B, LL, QB-04	**0.00683**
Thallium	**7440-28-0**	**0.00256**		**4.49E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0403**
Zinc	7440-66-6	23.6	GC-BS, QB-01, U	58.5

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042624-HM/MS/MS
Matrix: Air
Lab ID: 4050626-08
Sample Volume: 1922.018 m³
Filter ID:
Sampled: 04/26/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/07/24 19:47

Comments: Q8503976 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.330**		**0.00793**
Barium	**7440-39-3**	**4.73**	QB-01	**0.906**
Beryllium	**7440-41-7**	**0.0169**		**0.00271**
Cadmium	7440-43-9	0.0133	U	0.0627
Chromium	**7440-47-3**	**2.46**		**1.87**
Cobalt	**7440-48-4**	**0.465**		**0.0369**
Copper	**7440-50-8**	**76.0**		**2.23**
Lead	**7439-92-1**	**0.822**		**0.181**
Manganese	**7439-96-5**	**11.6**		**1.60**
Molybdenum	**7439-98-7**	**2.48**		**0.304**
Nickel	**7440-02-0**	**1.39**		**0.552**
Selenium	**7782-49-2**	**0.200**	B, LL, QB-04, SRD-01	**0.00758**
Thallium	**7440-28-0**	**0.00254**		**4.99E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0448**
Zinc	**7440-66-6**	**65.6**	GC-BS, QB-01	**65.0**

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042624-HM
Matrix: Air
Lab ID: 4050626-09
Sample Volume: 1956.489 m³
Filter ID:
Sampled: 04/26/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 04:25

Comments: Q8503974 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0919**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.548**		**0.00779**
Barium	**7440-39-3**	**5.68**	QB-01	**0.890**
Beryllium	**7440-41-7**	**0.0115**		**0.00266**
Cadmium	7440-43-9	0.0262	U	0.0616
Chromium	**7440-47-3**	**2.36**		**1.84**
Cobalt	**7440-48-4**	**0.370**		**0.0363**
Copper	**7440-50-8**	**34.6**		**2.19**
Lead	**7439-92-1**	**1.24**		**0.178**
Manganese	**7439-96-5**	**19.1**		**1.57**
Molybdenum	**7439-98-7**	**1.46**		**0.299**
Nickel	**7440-02-0**	**1.42**		**0.542**
Selenium	**7782-49-2**	**0.198**	B, LL, QB-04	**0.00745**
Thallium	**7440-28-0**	**0.00232**		**4.90E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0440**
Zinc	7440-66-6	38.6	GC-BS, QB-01, U	63.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042724-HM
Matrix: Air
Lab ID: 4050626-11
Sample Volume: 2017.957 m³
Filter ID:
Sampled: 04/27/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 04:40

Comments: Q8503969 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.214**		**0.00755**
Barium	**7440-39-3**	**4.06**	QB-01	**0.863**
Beryllium	**7440-41-7**	**0.00598**		**0.00258**
Cadmium	7440-43-9	0.0149	U	0.0597
Chromium	7440-47-3	1.77	U	1.78
Cobalt	**7440-48-4**	**0.169**		**0.0352**
Copper	**7440-50-8**	**27.0**		**2.12**
Lead	**7439-92-1**	**0.512**		**0.173**
Manganese	**7439-96-5**	**5.71**		**1.52**
Molybdenum	**7439-98-7**	**1.03**		**0.289**
Nickel	**7440-02-0**	**0.972**		**0.526**
Selenium	**7782-49-2**	**0.161**	B, LL, QB-04	**0.00722**
Thallium	**7440-28-0**	**0.00145**		**4.75E-4**
Vanadium	**7440-62-2**	**0.723**		**0.0427**
Zinc	7440-66-6	36.2	GC-BS, QB-01, U	61.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042724-HM
Matrix: Air
Lab ID: 4050626-12
Sample Volume: 1989.997 m³
Filter ID:
Sampled: 04/27/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 04:54

Comments: Q8503968 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0994**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.190**		**0.00766**
Barium	**7440-39-3**	**3.24**	QB-01	**0.875**
Beryllium	**7440-41-7**	**0.0106**		**0.00262**
Cadmium	7440-43-9	0.0162	U	0.0606
Chromium	**7440-47-3**	**1.88**		**1.81**
Cobalt	**7440-48-4**	**0.279**		**0.0356**
Copper	**7440-50-8**	**47.2**		**2.15**
Lead	**7439-92-1**	**0.819**		**0.175**
Manganese	**7439-96-5**	**6.82**		**1.55**
Molybdenum	**7439-98-7**	**1.46**		**0.294**
Nickel	**7440-02-0**	**1.08**		**0.533**
Selenium	**7782-49-2**	**0.158**	B, LL, QB-04	**0.00733**
Thallium	**7440-28-0**	**0.00142**		**4.82E-4**
Vanadium	**7440-62-2**	**0.832**		**0.0433**
Zinc	7440-66-6	34.4	GC-BS, QB-01, U	62.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042724-HM
Matrix: Air
Lab ID: 4050626-13
Sample Volume: 1766.853 m³
Filter ID:
Sampled: 04/27/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 06:02

Comments: Q8503967 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0871**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.295**		**0.00863**
Barium	**7440-39-3**	**4.71**	QB-01	**0.985**
Beryllium	**7440-41-7**	**0.00939**		**0.00295**
Cadmium	7440-43-9	0.0330	U	0.0682
Chromium	**7440-47-3**	**2.41**		**2.04**
Cobalt	**7440-48-4**	**0.288**		**0.0401**
Copper	**7440-50-8**	**37.9**		**2.42**
Lead	**7439-92-1**	**1.01**		**0.197**
Manganese	**7439-96-5**	**9.73**		**1.74**
Molybdenum	**7439-98-7**	**1.32**		**0.331**
Nickel	**7440-02-0**	**1.20**		**0.600**
Selenium	**7782-49-2**	**0.154**	B, LL, QB-04	**0.00825**
Thallium	**7440-28-0**	**0.00148**		**5.42E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0487**
Zinc	7440-66-6	37.0	GC-BS, QB-01, U	70.7

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-042724-HM
Matrix: Air
Lab ID: 4050626-14
Sample Volume: 2017.957 m³
Filter ID:
Sampled: 04/27/24 00:00
Received: 05/06/24 14:28
Analysis Date: 05/08/24 06:18

Comments: Q8533016 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0195	SL, U	0.0311
Arsenic	7440-38-2	0.00341	U	0.00755
Barium	**7440-39-3**	**1.92**	FB-01, QB-01	**0.863**
Beryllium	7440-41-7	4.34E-4	U	0.00258
Cadmium	7440-43-9	0.00157	U	0.0597
Chromium	7440-47-3	0.803	U	1.78
Cobalt	7440-48-4	0.00808	U	0.0352
Copper	7440-50-8	0.403	U	2.12
Lead	7439-92-1	0.0235	U	0.173
Manganese	7439-96-5	0.144	U	1.52
Molybdenum	7439-98-7	0.136	U	0.289
Nickel	7440-02-0	0.353	U	0.526
Selenium	7782-49-2	ND	B, BR, LL, QB-04, U	0.00722
Thallium	7440-28-0	1.47E-4	U	4.75E-4
Vanadium	7440-62-2	0.0138	U	0.0427
Zinc	7440-66-6	17.4	GC-BS, QB-01, U	61.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042824-HM
Matrix: Air
Lab ID: 4050626-16
Sample Volume: 2095.042 m³
Filter ID:
Sampled: 04/28/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 06:31

Comments: Q8533019 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.130**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.441**		**0.00728**
Barium	**7440-39-3**	**6.07**	QB-01	**0.831**
Beryllium	**7440-41-7**	**0.0179**		**0.00249**
Cadmium	7440-43-9	0.0286	U	0.0575
Chromium	**7440-47-3**	**2.98**		**1.72**
Cobalt	**7440-48-4**	**0.490**		**0.0339**
Copper	**7440-50-8**	**35.8**		**2.04**
Lead	**7439-92-1**	**3.07**		**0.166**
Manganese	**7439-96-5**	**15.4**		**1.47**
Molybdenum	**7439-98-7**	**1.16**		**0.279**
Nickel	**7440-02-0**	**1.73**		**0.506**
Selenium	**7782-49-2**	**0.173**	B, LL, QB-04	**0.00696**
Thallium	**7440-28-0**	**0.00145**		**4.57E-4**
Vanadium	**7440-62-2**	**1.71**		**0.0411**
Zinc	7440-66-6	46.4	GC-BS, QB-01, U	59.6

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042824-HM
Matrix: Air
Lab ID: 4050626-17
Sample Volume: 1957.021 m³
Filter ID:
Sampled: 04/28/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 07:05

Comments: Q8533018 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0818**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.181**		**0.00779**
Barium	**7440-39-3**	**3.02**	QB-01	**0.890**
Beryllium	**7440-41-7**	**0.00658**		**0.00266**
Cadmium	7440-43-9	0.0119	U	0.0616
Chromium	7440-47-3	1.70	U	1.84
Cobalt	**7440-48-4**	**0.176**		**0.0362**
Copper	**7440-50-8**	**58.5**		**2.19**
Lead	**7439-92-1**	**0.967**		**0.178**
Manganese	**7439-96-5**	**4.73**		**1.57**
Molybdenum	**7439-98-7**	**1.40**		**0.298**
Nickel	**7440-02-0**	**1.03**		**0.542**
Selenium	**7782-49-2**	**0.133**	B, LL, QB-04	**0.00745**
Thallium	**7440-28-0**	**8.55E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**0.784**		**0.0440**
Zinc	7440-66-6	32.6	GC-BS, QB-01, U	63.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042824-HM
Matrix: Air
Lab ID: 4050626-18
Sample Volume: 1793.6 m³
Filter ID:
Sampled: 04/28/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 07:20

Comments: Q8533017 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0872**	SL	**0.0350**
Arsenic	**7440-38-2**	**0.174**		**0.00850**
Barium	**7440-39-3**	**4.29**	QB-01	**0.971**
Beryllium	**7440-41-7**	**0.00746**		**0.00290**
Cadmium	**7440-43-9**	**0.0983**		**0.0672**
Chromium	7440-47-3	1.66	U	2.00
Cobalt	**7440-48-4**	**0.232**		**0.0396**
Copper	**7440-50-8**	**32.0**		**2.39**
Lead	**7439-92-1**	**0.841**		**0.194**
Manganese	**7439-96-5**	**7.55**		**1.71**
Molybdenum	**7439-98-7**	**1.14**		**0.326**
Nickel	**7440-02-0**	**1.07**		**0.591**
Selenium	**7782-49-2**	**0.144**	B, LL, QB-04	**0.00813**
Thallium	**7440-28-0**	**9.27E-4**		**5.34E-4**
Vanadium	**7440-62-2**	**0.920**		**0.0480**
Zinc	7440-66-6	26.3	GC-BS, QB-01, U	69.7

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042924-HM
Matrix: Air
Lab ID: 4050626-19
Sample Volume: 1963.749 m³
Filter ID:
Sampled: 04/29/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 07:34

Comments: Q8533015 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0978**	SL	**0.0320**
Arsenic	**7440-38-2**	**1.11**		**0.00776**
Barium	**7440-39-3**	**7.13**	QB-01	**0.887**
Beryllium	**7440-41-7**	**0.0203**		**0.00265**
Cadmium	7440-43-9	0.0175	U	0.0614
Chromium	**7440-47-3**	**4.59**		**1.83**
Cobalt	**7440-48-4**	**1.09**		**0.0361**
Copper	**7440-50-8**	**56.8**		**2.18**
Lead	**7439-92-1**	**0.889**		**0.177**
Manganese	**7439-96-5**	**27.8**		**1.57**
Molybdenum	**7439-98-7**	**3.14**		**0.297**
Nickel	**7440-02-0**	**2.65**		**0.540**
Selenium	**7782-49-2**	**0.226**	B, LL, QB-04	**0.00742**
Thallium	**7440-28-0**	**0.00195**		**4.88E-4**
Vanadium	**7440-62-2**	**3.22**		**0.0438**
Zinc	7440-66-6	33.9	GC-BS, QB-01, U	63.6

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042924-HM
Matrix: Air
Lab ID: 4050626-20
Sample Volume: 2023.539 m³
Filter ID:
Sampled: 04/29/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 07:49

Comments: Q8533013 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0970**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.212**		**0.00753**
Barium	**7440-39-3**	**3.96**	QB-01	**0.860**
Beryllium	**7440-41-7**	**0.00809**		**0.00257**
Cadmium	7440-43-9	0.0245	U	0.0596
Chromium	7440-47-3	1.66	U	1.78
Cobalt	**7440-48-4**	**0.242**		**0.0351**
Copper	**7440-50-8**	**33.8**		**2.11**
Lead	**7439-92-1**	**0.747**		**0.172**
Manganese	**7439-96-5**	**7.41**		**1.52**
Molybdenum	**7439-98-7**	**1.44**		**0.289**
Nickel	**7440-02-0**	**1.09**		**0.524**
Selenium	**7782-49-2**	**0.191**	B, LL, QB-04	**0.00720**
Thallium	**7440-28-0**	**0.00111**		**4.74E-4**
Vanadium	**7440-62-2**	**0.982**		**0.0425**
Zinc	7440-66-6	27.1	GC-BS, QB-01, U	61.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042924-HM
Matrix: Air
Lab ID: 4050626-21
Sample Volume: 1964.98 m³
Filter ID:
Sampled: 04/29/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 08:04

Comments: Q8533012 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0740**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.221**		**0.00776**
Barium	**7440-39-3**	**3.02**	QB-01	**0.886**
Beryllium	**7440-41-7**	**0.0141**		**0.00265**
Cadmium	7440-43-9	0.00940	U	0.0614
Chromium	**7440-47-3**	**2.06**		**1.83**
Cobalt	**7440-48-4**	**0.351**		**0.0361**
Copper	**7440-50-8**	**38.4**		**2.18**
Lead	**7439-92-1**	**0.782**		**0.177**
Manganese	**7439-96-5**	**8.21**		**1.56**
Molybdenum	**7439-98-7**	**1.29**		**0.297**
Nickel	**7440-02-0**	**1.28**		**0.540**
Selenium	**7782-49-2**	**0.180**	B, LL, QB-04	**0.00742**
Thallium	**7440-28-0**	**0.00110**		**4.88E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0438**
Zinc	7440-66-6	25.8	GC-BS, QB-01, U	63.6

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042924-HM
Matrix: Air
Lab ID: 4050626-22
Sample Volume: 1756.832 m³
Filter ID:
Sampled: 04/29/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 09:11

Comments: Q8533011 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0950**	SL	**0.0357**
Arsenic	**7440-38-2**	**0.299**		**0.00868**
Barium	**7440-39-3**	**3.88**	QB-01	**0.991**
Beryllium	**7440-41-7**	**0.00972**		**0.00296**
Cadmium	7440-43-9	0.0118	U	0.0686
Chromium	**7440-47-3**	**2.13**		**2.05**
Cobalt	**7440-48-4**	**0.314**		**0.0404**
Copper	**7440-50-8**	**30.4**		**2.44**
Lead	**7439-92-1**	**0.845**		**0.198**
Manganese	**7439-96-5**	**9.88**		**1.75**
Molybdenum	**7439-98-7**	**1.15**		**0.332**
Nickel	**7440-02-0**	**1.26**		**0.604**
Selenium	**7782-49-2**	**0.201**	B, LL, QB-04	**0.00830**
Thallium	**7440-28-0**	**0.00125**		**5.45E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0490**
Zinc	7440-66-6	28.3	GC-BS, QB-01, U	71.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-042924-HM
Matrix: Air
Lab ID: 4050626-23
Sample Volume: 1963.749 m³
Filter ID:
Sampled: 04/29/24 00:00
Received: 05/06/24 14:28
Analysis Date: 05/08/24 09:40

Comments: Q8533008 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0200	SL, U	0.0320
Arsenic	7440-38-2	0.00512	U	0.00776
Barium	**7440-39-3**	**1.10**	FB-01, QB-01	**0.887**
Beryllium	7440-41-7	5.07E-4	U	0.00265
Cadmium	7440-43-9	0.00108	U	0.0614
Chromium	7440-47-3	0.836	U	1.83
Cobalt	7440-48-4	0.0324	U	0.0361
Copper	**7440-50-8**	**2.21**	FB-01	**2.18**
Lead	7439-92-1	0.0534	U	0.177
Manganese	7439-96-5	0.253	U	1.57
Molybdenum	7439-98-7	0.187	U	0.297
Nickel	**7440-02-0**	**0.572**	FB-01	**0.540**
Selenium	7782-49-2	ND	B, LL, QB-04, U	0.00742
Thallium	7440-28-0	9.40E-5	U	4.88E-4
Vanadium	7440-62-2	0.0263	U	0.0438
Zinc	7440-66-6	12.4	GC-BS, QB-01, U	63.6

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-043024-HM
Matrix: Air
Lab ID: 4050626-24
Sample Volume: 2017.842 m³
Filter ID:
Sampled: 04/30/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 09:54

Comments: Q8503966 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0731**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.468**		**0.00756**
Barium	**7440-39-3**	**5.39**	QB-01	**0.863**
Beryllium	**7440-41-7**	**0.0153**		**0.00258**
Cadmium	7440-43-9	0.0167	U	0.0597
Chromium	**7440-47-3**	**4.04**		**1.78**
Cobalt	**7440-48-4**	**0.755**		**0.0352**
Copper	**7440-50-8**	**42.1**		**2.12**
Lead	**7439-92-1**	**0.837**		**0.173**
Manganese	**7439-96-5**	**18.4**		**1.52**
Molybdenum	**7439-98-7**	**2.28**		**0.289**
Nickel	**7440-02-0**	**2.73**		**0.526**
Selenium	**7782-49-2**	**0.210**	B, LL, QB-04	**0.00722**
Thallium	**7440-28-0**	**0.00167**		**4.75E-4**
Vanadium	**7440-62-2**	**2.03**		**0.0427**
Zinc	7440-66-6	23.7	GC-BS, QB-01, U	61.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-043024-HM
Matrix: Air
Lab ID: 4050626-25
Sample Volume: 2074.204 m³
Filter ID:
Sampled: 04/30/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 10:09

Comments: Q8533009 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0986**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.236**		**0.00735**
Barium	**7440-39-3**	**3.76**	QB-01	**0.839**
Beryllium	**7440-41-7**	**0.00884**		**0.00251**
Cadmium	7440-43-9	0.0121	U	0.0581
Chromium	7440-47-3	1.64	U	1.73
Cobalt	**7440-48-4**	**0.241**		**0.0342**
Copper	**7440-50-8**	**30.0**		**2.06**
Lead	**7439-92-1**	**0.708**		**0.168**
Manganese	**7439-96-5**	**7.95**		**1.48**
Molybdenum	**7439-98-7**	**1.29**		**0.282**
Nickel	**7440-02-0**	**1.07**		**0.511**
Selenium	**7782-49-2**	**0.192**	B, LL, QB-04	**0.00703**
Thallium	**7440-28-0**	**0.00129**		**4.62E-4**
Vanadium	**7440-62-2**	**1.07**		**0.0415**
Zinc	7440-66-6	19.5	GC-BS, QB-01, U	60.2

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-043024-HM
Matrix: Air
Lab ID: 4050626-26
Sample Volume: 1876.028 m³
Filter ID:
Sampled: 04/30/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 10:24

Comments: Q8533007 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0743**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.217**		**0.00813**
Barium	**7440-39-3**	**4.26**	QB-01	**0.928**
Beryllium	**7440-41-7**	**0.0186**		**0.00278**
Cadmium	7440-43-9	0.0105	U	0.0643
Chromium	**7440-47-3**	**2.39**		**1.92**
Cobalt	**7440-48-4**	**0.431**		**0.0378**
Copper	**7440-50-8**	**43.3**		**2.28**
Lead	**7439-92-1**	**0.615**		**0.186**
Manganese	**7439-96-5**	**11.0**		**1.64**
Molybdenum	**7439-98-7**	**1.53**		**0.311**
Nickel	**7440-02-0**	**1.56**		**0.565**
Selenium	**7782-49-2**	**0.209**	B, LL, QB-04	**0.00777**
Thallium	**7440-28-0**	**0.00150**		**5.11E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0459**
Zinc	7440-66-6	24.4	GC-BS, QB-01, U	66.6

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-043024-HM
Matrix: Air
Lab ID: 4050626-27
Sample Volume: 1753.883 m³
Filter ID:
Sampled: 04/30/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 10:38

Comments: Q8533005 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0979**	SL	**0.0358**
Arsenic	**7440-38-2**	**0.324**		**0.00869**
Barium	**7440-39-3**	**5.17**	QB-01	**0.993**
Beryllium	**7440-41-7**	**0.0110**		**0.00297**
Cadmium	7440-43-9	0.0199	U	0.0687
Chromium	**7440-47-3**	**2.19**		**2.05**
Cobalt	**7440-48-4**	**0.345**		**0.0404**
Copper	**7440-50-8**	**36.2**		**2.44**
Lead	**7439-92-1**	**0.974**		**0.199**
Manganese	**7439-96-5**	**11.2**		**1.75**
Molybdenum	**7439-98-7**	**1.29**		**0.333**
Nickel	**7440-02-0**	**1.34**		**0.605**
Selenium	**7782-49-2**	**0.184**	B, LL, QB-04	**0.00831**
Thallium	**7440-28-0**	**0.00134**		**5.46E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0491**
Zinc	7440-66-6	27.5	GC-BS, QB-01, U	71.2

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-050124-HM/MS/MS
Matrix: Air
Lab ID: 4050626-28
Sample Volume: 1970.557 m³
Filter ID:
Sampled: 05/01/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/07/24 23:55

Comments: Q8533004 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0824**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.596**		**0.00774**
Barium	**7440-39-3**	**3.60**	QB-01	**0.883**
Beryllium	**7440-41-7**	**0.00774**		**0.00264**
Cadmium	7440-43-9	0.00981	U	0.0612
Chromium	**7440-47-3**	**1.99**		**1.82**
Cobalt	**7440-48-4**	**0.316**		**0.0360**
Copper	**7440-50-8**	**44.1**		**2.17**
Lead	**7439-92-1**	**0.532**		**0.177**
Manganese	**7439-96-5**	**8.87**		**1.56**
Molybdenum	**7439-98-7**	**2.50**		**0.296**
Nickel	**7440-02-0**	**1.22**		**0.538**
Selenium	**7782-49-2**	**0.174**	B, LL, QB-04	**0.00740**
Thallium	**7440-28-0**	**0.00124**		**4.86E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0437**
Zinc	7440-66-6	23.0	GC-BS, QB-01, U	63.4

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050124-HM
Matrix: Air
Lab ID: 4050626-29
Sample Volume: 2014.516 m³
Filter ID:
Sampled: 05/01/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 10:53

Comments: Q8533003 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.301**		**0.00757**
Barium	**7440-39-3**	**4.64**	QB-01	**0.864**
Beryllium	**7440-41-7**	**0.0127**		**0.00258**
Cadmium	7440-43-9	0.0109	U	0.0598
Chromium	**7440-47-3**	**2.27**		**1.78**
Cobalt	**7440-48-4**	**0.467**		**0.0352**
Copper	**7440-50-8**	**31.0**		**2.12**
Lead	**7439-92-1**	**0.803**		**0.173**
Manganese	**7439-96-5**	**12.3**		**1.53**
Molybdenum	**7439-98-7**	**1.49**		**0.290**
Nickel	**7440-02-0**	**1.84**		**0.527**
Selenium	**7782-49-2**	**0.216**	B, LL, QB-04	**0.00724**
Thallium	**7440-28-0**	**0.00135**		**4.76E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0427**
Zinc	7440-66-6	21.9	GC-BS, QB-01, U	62.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050124-HM
Matrix: Air
Lab ID: 4050626-30
Sample Volume: 1971.577 m³
Filter ID:
Sampled: 05/01/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 11:08

Comments: Q8533002 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0871**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.295**		**0.00773**
Barium	**7440-39-3**	**3.90**	QB-01	**0.883**
Beryllium	**7440-41-7**	**0.0182**		**0.00264**
Cadmium	7440-43-9	0.0161	U	0.0611
Chromium	**7440-47-3**	**2.27**		**1.82**
Cobalt	**7440-48-4**	**0.403**		**0.0360**
Copper	**7440-50-8**	**42.2**		**2.17**
Lead	**7439-92-1**	**0.625**		**0.177**
Manganese	**7439-96-5**	**10.5**		**1.56**
Molybdenum	**7439-98-7**	**1.55**		**0.296**
Nickel	**7440-02-0**	**1.42**		**0.538**
Selenium	**7782-49-2**	**0.197**	B, LL, QB-04	**0.00739**
Thallium	**7440-28-0**	**0.00139**		**4.86E-4**
Vanadium	**7440-62-2**	**1.29**		**0.0437**
Zinc	7440-66-6	27.1	GC-BS, QB-01, U	63.4

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050124-HM
Matrix: Air
Lab ID: 4050626-31
Sample Volume: 1769.365 m³
Filter ID:
Sampled: 05/01/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 11:22

Comments: Q8533001 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.337**		**0.00862**
Barium	**7440-39-3**	**4.31**	QB-01	**0.984**
Beryllium	**7440-41-7**	**0.0134**		**0.00294**
Cadmium	7440-43-9	0.0152	U	0.0681
Chromium	**7440-47-3**	**2.26**		**2.03**
Cobalt	**7440-48-4**	**0.388**		**0.0401**
Copper	**7440-50-8**	**23.5**		**2.42**
Lead	**7439-92-1**	**1.09**		**0.197**
Manganese	**7439-96-5**	**12.5**		**1.74**
Molybdenum	**7439-98-7**	**0.996**		**0.330**
Nickel	**7440-02-0**	**1.45**		**0.600**
Selenium	**7782-49-2**	**0.205**	B, LL, QB-04	**0.00824**
Thallium	**7440-28-0**	**0.00141**		**5.42E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0486**
Zinc	7440-66-6	25.4	GC-BS, QB-01, U	70.6

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-050124-HM
Matrix: Air
Lab ID: 4050626-32
Sample Volume: 1970.557 m³
Filter ID:
Sampled: 05/01/24 00:00
Received: 05/06/24 14:28
Analysis Date: 05/08/24 12:30

Comments: Q8532996 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0202	SL, U	0.0319
Arsenic	7440-38-2	0.00377	U	0.00774
Barium	7440-39-3	0.875	QB-01, U	0.883
Beryllium	7440-41-7	5.74E-4	U	0.00264
Cadmium	7440-43-9	8.77E-4	U	0.0612
Chromium	7440-47-3	0.793	U	1.82
Cobalt	7440-48-4	0.0113	U	0.0360
Copper	7440-50-8	0.530	U	2.17
Lead	7439-92-1	0.0309	U	0.177
Manganese	7439-96-5	0.231	U	1.56
Molybdenum	7439-98-7	0.142	U	0.296
Nickel	7440-02-0	0.412	U	0.538
Selenium	7782-49-2	ND	B, BR, LL, QB-04, U	0.00740
Thallium	7440-28-0	1.50E-4	U	4.86E-4
Vanadium	7440-62-2	0.0169	U	0.0437
Zinc	7440-66-6	11.5	GC-BS, QB-01, U	63.4

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Calibration Blank (2405020-CCB1)				Prepared & Analyzed: 05/07/24						
Antimony	0.447		ng/l							
Arsenic	0.0636		ng/l							
Barium	0.166		ng/l							
Beryllium	-0.150		ng/l							U
Cadmium	0.109		ng/l							
Chromium	0.709		ng/l							
Cobalt	0.220		ng/l							
Copper	44.1		ng/l							
Lead	17.7		ng/l							
Manganese	3.19		ng/l							
Molybdenum	12.9		ng/l							
Nickel	-0.710		ng/l							U
Selenium	-27.8		ng/l							LL, QB-04, U
Thallium	0.779		ng/l							
Vanadium	-23.2		ng/l							U
Zinc	-14.5		ng/l							U
Calibration Blank (2405020-CCB2)				Prepared & Analyzed: 05/07/24						
Antimony	0.182		ng/l							
Arsenic	3.63		ng/l							
Barium	-0.0647		ng/l							U
Beryllium	-0.0625		ng/l							U
Cadmium	0.0434		ng/l							
Chromium	0.705		ng/l							
Cobalt	0.0871		ng/l							
Copper	45.1		ng/l							
Lead	4.76		ng/l							
Manganese	1.13		ng/l							
Molybdenum	3.16		ng/l							
Nickel	0.622		ng/l							
Selenium	-36.3		ng/l							LL, QB-04, U
Thallium	0.645		ng/l							
Vanadium	-24.0		ng/l							U
Zinc	-34.6		ng/l							U
Calibration Blank (2405020-CCB3)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.247		ng/l							
Arsenic	1.26		ng/l							
Barium	0.725		ng/l							
Beryllium	0.00473		ng/l							

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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REPORTED: 05/14/24 12:01
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Calibration Blank (2405020-CCB3) Contin				Prepared: 05/07/24 Analyzed: 05/08/24						
Cadmium	0.0657		ng/l							
Chromium	0.634		ng/l							
Cobalt	-0.0256		ng/l							U
Copper	37.5		ng/l							
Lead	3.51		ng/l							
Manganese	1.33		ng/l							
Molybdenum	3.04		ng/l							
Nickel	0.0239		ng/l							
Selenium	-47.7		ng/l							LL, QB-04, U
Thallium	0.704		ng/l							
Vanadium	-26.8		ng/l							U
Zinc	-11.9		ng/l							U
Calibration Blank (2405020-CCB4)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.160		ng/l							
Arsenic	3.36		ng/l							
Barium	0.656		ng/l							
Beryllium	-0.188		ng/l							U
Cadmium	0.105		ng/l							
Chromium	1.21		ng/l							
Cobalt	0.184		ng/l							
Copper	68.6		ng/l							
Lead	2.10		ng/l							
Manganese	0.981		ng/l							
Molybdenum	3.31		ng/l							
Nickel	0.127		ng/l							
Selenium	-35.3		ng/l							LL, QB-04, U
Thallium	0.519		ng/l							
Vanadium	-30.6		ng/l							U
Zinc	-31.4		ng/l							U
Calibration Blank (2405020-CCB5)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.225		ng/l							
Arsenic	0.869		ng/l							
Barium	0.967		ng/l							
Beryllium	-0.143		ng/l							U
Cadmium	0.174		ng/l							
Chromium	1.77		ng/l							
Cobalt	0.222		ng/l							
Copper	63.7		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Calibration Blank (2405020-CCB5) Contin				Prepared: 05/07/24 Analyzed: 05/08/24						
Lead	2.09		ng/l							
Manganese	3.31		ng/l							
Molybdenum	3.03		ng/l							
Nickel	0.446		ng/l							
Selenium	-24.5		ng/l							U
Thallium	0.617		ng/l							
Vanadium	-33.3		ng/l							U
Zinc	-30.2		ng/l							U
Calibration Blank (2405020-CCB6)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.585		ng/l							
Arsenic	-1.59		ng/l							U
Barium	1.56		ng/l							
Beryllium	-0.173		ng/l							U
Cadmium	0.216		ng/l							
Chromium	0.893		ng/l							
Cobalt	0.411		ng/l							
Copper	78.5		ng/l							
Lead	2.05		ng/l							
Manganese	4.69		ng/l							
Molybdenum	3.26		ng/l							
Nickel	0.405		ng/l							
Selenium	-32.5		ng/l							LL, QB-04, U
Thallium	0.679		ng/l							
Vanadium	-41.0		ng/l							U
Zinc	-14.4		ng/l							U
Calibration Blank (2405020-CCB7)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.241		ng/l							
Arsenic	-2.86		ng/l							U
Barium	1.14		ng/l							
Beryllium	-0.278		ng/l							U
Cadmium	0.0793		ng/l							
Chromium	-0.0865		ng/l							U
Cobalt	0.189		ng/l							
Copper	71.4		ng/l							
Lead	4.08		ng/l							
Manganese	2.36		ng/l							
Molybdenum	5.10		ng/l							
Nickel	-0.0701		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Calibration Blank (2405020-CCB7) Contin				Prepared: 05/07/24 Analyzed: 05/08/24						
Selenium	-40.5		ng/l							LL, QB-04, U
Thallium	1.16		ng/l							
Vanadium	-47.2		ng/l							U
Zinc	12.8		ng/l							
Calibration Check (2405020-CCV1)				Prepared & Analyzed: 05/07/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	5320		ng/l	5000.0		106	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.4	90-110			
Manganese	493000		ng/l	500000		98.5	90-110			
Molybdenum	49100		ng/l	50000		98.2	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	481		ng/l	500.00		96.2	90-110			
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Calibration Check (2405020-CCV2)				Prepared & Analyzed: 05/07/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4660		ng/l	5000.0		93.2	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	514000		ng/l	500000		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Calibration Check (2405020-CCV3)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	19800		ng/l	20000		99.1	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	48500		ng/l	50000		96.9	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			
Thallium	469		ng/l	500.00		93.9	90-110			
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2405020-CCV4)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	215000		ng/l	200000		107	90-110			
Beryllium	4970		ng/l	5000.0		99.4	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2405020-CCV5)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	213000		ng/l	200000		107	90-110			
Beryllium	4940		ng/l	5000.0		98.8	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Calibration Check (2405020-CCV5) Contin					Prepared: 05/07/24 Analyzed: 05/08/24					
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51900		ng/l	50000		104	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	470		ng/l	500.00		93.9	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2405020-CCV6)					Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4900		ng/l	5000.0		97.9	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	53200		ng/l	50000		106	90-110			
Copper	2.17E6		ng/l	2.0000E6		108	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	52400		ng/l	50000		105	90-110			
Nickel	129000		ng/l	120000		107	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	474		ng/l	500.00		94.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Calibration Check (2405020-CCV7)					Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	217000		ng/l	200000		108	90-110			
Beryllium	4870		ng/l	5000.0		97.4	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	260000		ng/l	240000		108	90-110			
Cobalt	53600		ng/l	50000		107	90-110			
Copper	2.20E6		ng/l	2.0000E6		110	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Calibration Check (2405020-CCV7) Contin				Prepared: 05/07/24 Analyzed: 05/08/24						
Lead	204000		ng/l	200000		102	90-110			
Manganese	537000		ng/l	500000		107	90-110			
Molybdenum	53400		ng/l	50000		107	90-110			
Nickel	129000		ng/l	120000		108	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	478		ng/l	500.00		95.5	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	544000		ng/l	500000		109	90-110			
High Cal Check (2405020-HCV1)				Prepared & Analyzed: 05/07/24						
Antimony	41000		ng/l	40000		102	95-105			
Arsenic	40300		ng/l	40000		101	95-105			
Barium	408000		ng/l	400000		102	95-105			
Beryllium	9930		ng/l	10000		99.3	95-105			
Cadmium	40600		ng/l	40000		102	95-105			
Chromium	490000		ng/l	480000		102	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.04E6		ng/l	4.0000E6		101	95-105			
Lead	406000		ng/l	400000		102	95-105			
Manganese	1.02E6		ng/l	1.0000E6		102	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Selenium	40400		ng/l	40000		101	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40400		ng/l	40000		101	95-105			
Zinc	1.02E6		ng/l	1.0000E6		102	95-105			
Initial Cal Blank (2405020-ICB1)				Prepared & Analyzed: 05/07/24						
Antimony	2.09		ng/l							
Arsenic	-1.30		ng/l							U
Barium	2.81		ng/l							
Beryllium	-0.0299		ng/l							U
Cadmium	0.393		ng/l							
Chromium	3.15		ng/l							
Cobalt	0.645		ng/l							
Copper	64.4		ng/l							
Lead	34.6		ng/l							
Manganese	8.89		ng/l							
Molybdenum	14.9		ng/l							
Nickel	1.10		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Initial Cal Blank (2405020-ICB1) Continu				Prepared & Analyzed: 05/07/24						
Selenium	-6.93		ng/l							U
Thallium	1.08		ng/l							
Vanadium	-29.8		ng/l							U
Zinc	14.0		ng/l							
Initial Cal Check (2405020-ICV1)				Prepared & Analyzed: 05/07/24						
Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5430		ng/l	5000.0		109	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	240000		ng/l	240000		99.8	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	49200		ng/l	50000		98.5	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	498		ng/l	500.00		99.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Interference Check A (2405020-IFA1)				Prepared & Analyzed: 05/07/24						
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	292000		ng/l	300000		97.4	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405020 - B4E0704										
Interference Check B (2405020-IFB1)				Prepared & Analyzed: 05/07/24						
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	215000		ng/l	200000		107	80-120			
Beryllium	4770		ng/l	5000.0		95.4	80-120			
Cadmium	19400		ng/l	20000		96.8	80-120			
Chromium	233000		ng/l	240000		97.1	80-120			
Cobalt	51000		ng/l	50000		102	80-120			
Copper	1.92E6		ng/l	2.0000E6		95.9	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	484000		ng/l	500000		96.7	80-120			
Molybdenum	348000		ng/l	350000		99.4	80-120			
Nickel	119000		ng/l	120000		98.8	80-120			
Selenium	19200		ng/l	20000		96.2	80-120			
Thallium	517		ng/l	500.00		103	80-120			
Vanadium	18600		ng/l	20000		93.0	80-120			
Zinc	471000		ng/l	500000		94.2	80-120			
Batch B4E0704 - ICP-MS Extraction										
Blank (B4E0704-BLK1)				Prepared & Analyzed: 05/07/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							B, LL, QB-04, U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							GC-BS, QB-01 U
LCS (B4E0704-BS1)				Prepared & Analyzed: 05/07/24						
Antimony	0.759	0.0386	ng/m³ Air	1.3829		54.9	80-120			SL

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E0704 - ICP-MS Extraction										
LCS (B4E0704-BS1) Continued				Prepared & Analyzed: 05/07/24						
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.4	80-120			
Barium	30.5	1.07	ng/m³ Air	27.658		110	80-120			QB-01
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		94.9	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	16.0	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.5	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.5	80-120			
Manganese	8.28	1.89	ng/m³ Air	8.2975		99.8	80-120			
Molybdenum	1.50	0.359	ng/m³ Air	1.3829		109	80-120			
Nickel	3.27	0.652	ng/m³ Air	2.7658		118	80-120			
Selenium	2.75	0.00896	ng/m³ Air	2.7658		99.4	80-120			B, LL, QB-04
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.0	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	131	76.8	ng/m³ Air	82.975		158	80-120			GC-BS, QB-01
LCS (B4E0704-BS2)				Prepared & Analyzed: 05/07/24						
Antimony	0.703	0.0386	ng/m³ Air	1.3829		50.8	80-120			SL
Arsenic	2.65	0.00937	ng/m³ Air	2.7658		95.8	80-120			
Barium	29.6	1.07	ng/m³ Air	27.658		107	80-120			QB-01
Beryllium	1.28	0.00320	ng/m³ Air	1.3829		92.7	80-120			
Cadmium	1.37	0.0741	ng/m³ Air	1.3829		98.8	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	29.0	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.9	80-120			
Manganese	8.03	1.89	ng/m³ Air	8.2975		96.8	80-120			
Molybdenum	1.50	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	3.22	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.64	0.00896	ng/m³ Air	2.7658		95.5	80-120			B, LL, QB-04
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.6	80-120			
Vanadium	2.71	0.0529	ng/m³ Air	2.7658		98.1	80-120			
Zinc	139	76.8	ng/m³ Air	82.975		168	80-120			GC-BS, QB-01
Duplicate (B4E0704-DUP1)		**Source: 4050626-08**		Prepared & Analyzed: 05/07/24						
Antimony	0.0912	0.0327	ng/m³ Air		0.100			9.22	10	SL
Arsenic	0.364	0.00793	ng/m³ Air		0.330			9.66	10	
Barium	4.99	0.906	ng/m³ Air		4.73			5.23	10	QB-01
Beryllium	0.0168	0.00271	ng/m³ Air		0.0169			0.545	10	
Cadmium	ND	0.0627	ng/m³ Air		ND				10	U

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E0704 - ICP-MS Extraction										
Duplicate (B4E0704-DUP1) Continued			**Source: 4050626-08**		Prepared & Analyzed: 05/07/24					
Chromium	2.57	1.87	ng/m³ Air		2.46			4.07	10	
Cobalt	0.471	0.0369	ng/m³ Air		0.465			1.20	10	
Copper	78.6	2.23	ng/m³ Air		76.0			3.35	10	
Lead	0.859	0.181	ng/m³ Air		0.822			4.36	10	
Manganese	11.9	1.60	ng/m³ Air		11.6			2.44	10	
Molybdenum	2.51	0.304	ng/m³ Air		2.48			1.28	10	
Nickel	1.38	0.552	ng/m³ Air		1.39			0.346	10	
Selenium	0.216	0.00758	ng/m³ Air		0.200			8.12	10	B, LL, QB-04
Thallium	0.00271	4.99E-4	ng/m³ Air		0.00254			6.57	10	
Vanadium	1.19	0.0448	ng/m³ Air		1.16			3.03	10	
Zinc	68.0	65.0	ng/m³ Air		65.6			3.65	10	GC-BS, QB-01
Duplicate (B4E0704-DUP2)			**Source: 4050626-28**		Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	0.0801	0.0319	ng/m³ Air		0.0824			2.83	10	SL
Arsenic	0.601	0.00774	ng/m³ Air		0.596			0.907	10	
Barium	3.56	0.883	ng/m³ Air		3.60			1.13	10	QB-01
Beryllium	0.00751	0.00264	ng/m³ Air		0.00774			3.11	10	
Cadmium	0.133	0.0612	ng/m³ Air		ND				10	
Chromium	1.93	1.82	ng/m³ Air		1.99			3.35	10	
Cobalt	0.323	0.0360	ng/m³ Air		0.316			2.12	10	
Copper	44.0	2.17	ng/m³ Air		44.1			0.146	10	
Lead	0.501	0.177	ng/m³ Air		0.532			6.09	10	
Manganese	9.04	1.56	ng/m³ Air		8.87			1.92	10	
Molybdenum	2.55	0.296	ng/m³ Air		2.50			2.10	10	
Nickel	1.21	0.538	ng/m³ Air		1.22			0.776	10	
Selenium	0.173	0.00740	ng/m³ Air		0.174			0.787	10	B, LL, QB-04
Thallium	0.00119	4.86E-4	ng/m³ Air		0.00124			4.37	10	
Vanadium	1.07	0.0437	ng/m³ Air		1.08			0.997	10	
Zinc	ND	63.4	ng/m³ Air		ND				10	GC-BS, QB-01 U
Duplicate (B4E0704-DUP3)			**Source: 4050626-16**		Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	0.130	0.0300	ng/m³ Air		0.130			0.367	10	SL
Arsenic	0.450	0.00728	ng/m³ Air		0.441			2.06	10	
Barium	6.12	0.831	ng/m³ Air		6.07			0.846	10	QB-01
Beryllium	0.0175	0.00249	ng/m³ Air		0.0179			2.08	10	
Cadmium	ND	0.0575	ng/m³ Air		ND				10	U
Chromium	2.99	1.72	ng/m³ Air		2.98			0.352	10	
Cobalt	0.492	0.0339	ng/m³ Air		0.490			0.441	10	
Copper	36.0	2.04	ng/m³ Air		35.8			0.603	10	

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E0704 - ICP-MS Extraction										
Duplicate (B4E0704-DUP3) Continued	**Source: 4050626-16**			Prepared: 05/07/24 Analyzed: 05/08/24						
Lead	3.08	0.166	ng/m³ Air		3.07			0.143	10	
Manganese	15.5	1.47	ng/m³ Air		15.4			0.581	10	
Molybdenum	1.17	0.279	ng/m³ Air		1.16			0.824	10	
Nickel	1.74	0.506	ng/m³ Air		1.73			0.107	10	
Selenium	0.178	0.00696	ng/m³ Air		0.173			2.95	10	B, LL, QB-04
Thallium	0.00149	4.57E-4	ng/m³ Air		0.00145			2.14	10	
Vanadium	1.71	0.0411	ng/m³ Air		1.71			0.0724	10	
Zinc	ND	59.6	ng/m³ Air		ND				10	GC-BS, QB-01 U
Duplicate (B4E0704-DUP4)	**Source: 4050626-22**			Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.0915	0.0357	ng/m³ Air		0.0950			3.70	10	SL
Arsenic	0.298	0.00868	ng/m³ Air		0.299			0.473	10	
Barium	3.87	0.991	ng/m³ Air		3.88			0.0143	10	QB-01
Beryllium	0.00912	0.00296	ng/m³ Air		0.00972			6.42	10	
Cadmium	ND	0.0686	ng/m³ Air		ND				10	U
Chromium	2.11	2.05	ng/m³ Air		2.13			0.899	10	
Cobalt	0.314	0.0404	ng/m³ Air		0.314			0.118	10	
Copper	30.4	2.44	ng/m³ Air		30.4			0.172	10	
Lead	0.830	0.198	ng/m³ Air		0.845			1.73	10	
Manganese	9.85	1.75	ng/m³ Air		9.88			0.330	10	
Molybdenum	1.14	0.332	ng/m³ Air		1.15			1.02	10	
Nickel	1.25	0.604	ng/m³ Air		1.26			0.184	10	
Selenium	0.197	0.00830	ng/m³ Air		0.201			1.58	10	B, LL, QB-04
Thallium	0.00131	5.45E-4	ng/m³ Air		0.00125			4.56	10	
Vanadium	1.14	0.0490	ng/m³ Air		1.15			0.799	10	
Zinc	ND	71.1	ng/m³ Air		ND				10	GC-BS, QB-01 U
Matrix Spike (B4E0704-MS1)	**Source: 4050626-08**			Prepared & Analyzed: 05/07/24						
Antimony	0.662	0.0327	ng/m³ Air	1.1706	0.100	48.0	80-120			SL
Arsenic	2.54	0.00793	ng/m³ Air	2.3413	0.330	94.6	80-120			
Barium	28.9	0.906	ng/m³ Air	23.413	4.73	103	80-120			QB-01
Beryllium	1.12	0.00271	ng/m³ Air	1.1706	0.0169	94.3	80-120			
Cadmium	1.15	0.0627	ng/m³ Air	1.1706	ND	98.1	80-120			
Chromium	14.2	1.87	ng/m³ Air	11.706	2.46	100	80-120			
Cobalt	1.62	0.0369	ng/m³ Air	1.1706	0.465	98.9	80-120			
Copper	99.7	2.23	ng/m³ Air	23.413	76.0	101	80-120			
Lead	12.4	0.181	ng/m³ Air	11.706	0.822	99.0	80-120			
Manganese	18.2	1.60	ng/m³ Air	7.0239	11.6	93.0	80-120			

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E0704 - ICP-MS Extraction										
Matrix Spike (B4E0704-MS1) Continued		**Source: 4050626-08**			Prepared & Analyzed: 05/07/24					
Molybdenum	3.56	0.304	ng/m³ Air	1.1706	2.48	92.6	80-120			
Nickel	3.65	0.552	ng/m³ Air	2.3413	1.39	96.5	80-120			
Selenium	2.46	0.00758	ng/m³ Air	2.3413	0.200	96.6	80-120			B, LL, QB-04
Thallium	0.113	4.99E-4	ng/m³ Air	0.11706	0.00254	94.2	80-120			
Vanadium	3.40	0.0448	ng/m³ Air	2.3413	1.16	95.6	80-120			
Zinc	126	65.0	ng/m³ Air	70.239	65.6	86.5	80-120			GC-BS, QB-01
Matrix Spike (B4E0704-MS2)		**Source: 4050626-28**			Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	0.726	0.0319	ng/m³ Air	1.1418	0.0824	56.4	80-120			SL
Arsenic	2.84	0.00774	ng/m³ Air	2.2836	0.596	98.2	80-120			
Barium	27.6	0.883	ng/m³ Air	22.836	3.60	105	80-120			QB-01
Beryllium	1.11	0.00264	ng/m³ Air	1.1418	0.00774	96.2	80-120			
Cadmium	1.16	0.0612	ng/m³ Air	1.1418	ND	101	80-120			
Chromium	13.8	1.82	ng/m³ Air	11.418	1.99	103	80-120			
Cobalt	1.48	0.0360	ng/m³ Air	1.1418	0.316	102	80-120			
Copper	68.7	2.17	ng/m³ Air	22.836	44.1	108	80-120			
Lead	11.9	0.177	ng/m³ Air	11.418	0.532	99.9	80-120			
Manganese	15.4	1.56	ng/m³ Air	6.8509	8.87	95.2	80-120			
Molybdenum	3.67	0.296	ng/m³ Air	1.1418	2.50	103	80-120			
Nickel	3.48	0.538	ng/m³ Air	2.2836	1.22	99.1	80-120			
Selenium	2.42	0.00740	ng/m³ Air	2.2836	0.174	98.3	80-120			B, LL, QB-04
Thallium	0.110	4.86E-4	ng/m³ Air	0.11418	0.00124	95.3	80-120			
Vanadium	3.30	0.0437	ng/m³ Air	2.2836	1.08	97.5	80-120			
Zinc	89.1	63.4	ng/m³ Air	68.509	ND	130	80-120			GC-BS, QB-01
Matrix Spike Dup (B4E0704-MSD1)		**Source: 4050626-08**			Prepared & Analyzed: 05/07/24					
Antimony	0.690	0.0327	ng/m³ Air	1.1706	0.100	50.4	80-120	4.16	20	SL
Arsenic	2.52	0.00793	ng/m³ Air	2.3413	0.330	93.6	80-120	0.882	20	
Barium	28.9	0.906	ng/m³ Air	23.413	4.73	103	80-120	0.0575	20	QB-01
Beryllium	1.12	0.00271	ng/m³ Air	1.1706	0.0169	94.1	80-120	0.233	20	
Cadmium	1.16	0.0627	ng/m³ Air	1.1706	ND	98.7	80-120	0.667	20	
Chromium	14.5	1.87	ng/m³ Air	11.706	2.46	103	80-120	1.77	20	
Cobalt	1.65	0.0369	ng/m³ Air	1.1706	0.465	101	80-120	1.78	20	
Copper	101	2.23	ng/m³ Air	23.413	76.0	107	80-120	1.47	20	
Lead	12.4	0.181	ng/m³ Air	11.706	0.822	99.2	80-120	0.237	20	
Manganese	18.8	1.60	ng/m³ Air	7.0239	11.6	101	80-120	3.23	20	
Molybdenum	3.62	0.304	ng/m³ Air	1.1706	2.48	97.2	80-120	1.48	20	
Nickel	3.76	0.552	ng/m³ Air	2.3413	1.39	102	80-120	3.19	20	
Selenium	2.44	0.00758	ng/m³ Air	2.3413	0.200	95.5	80-120	1.06	20	B, LL, QB-04
Thallium	0.114	4.99E-4	ng/m³ Air	0.11706	0.00254	95.1	80-120	0.997	20	

CERTIFICATE OF ANALYSIS

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1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E0704 - ICP-MS Extraction										
Matrix Spike Dup (B4E0704-MSD1) Contir		**Source: 4050626-08**			Prepared & Analyzed: 05/07/24					
Vanadium	3.42	0.0448	ng/m³ Air	2.3413	1.16	96.7	80-120	0.769	20	
Zinc	123	65.0	ng/m³ Air	70.239	65.6	81.1	80-120	3.06	20	GC-BS, QB-01
Matrix Spike Dup (B4E0704-MSD2)		**Source: 4050626-28**			Prepared: 05/07/24		Analyzed: 05/08/24			
Antimony	0.733	0.0319	ng/m³ Air	1.1418	0.0824	57.0	80-120	0.917	20	SL
Arsenic	2.82	0.00774	ng/m³ Air	2.2836	0.596	97.2	80-120	0.778	20	
Barium	27.1	0.883	ng/m³ Air	22.836	3.60	103	80-120	1.47	20	QB-01
Beryllium	1.10	0.00264	ng/m³ Air	1.1418	0.00774	95.2	80-120	0.999	20	
Cadmium	1.14	0.0612	ng/m³ Air	1.1418	ND	99.5	80-120	1.68	20	
Chromium	13.8	1.82	ng/m³ Air	11.418	1.99	103	80-120	8.72E-4	20	
Cobalt	1.46	0.0360	ng/m³ Air	1.1418	0.316	100	80-120	1.13	20	
Copper	70.6	2.17	ng/m³ Air	22.836	44.1	116	80-120	2.70	20	
Lead	11.7	0.177	ng/m³ Air	11.418	0.532	98.0	80-120	1.84	20	
Manganese	15.2	1.56	ng/m³ Air	6.8509	8.87	92.4	80-120	1.22	20	
Molybdenum	3.81	0.296	ng/m³ Air	1.1418	2.50	115	80-120	3.52	20	
Nickel	3.57	0.538	ng/m³ Air	2.2836	1.22	103	80-120	2.38	20	
Selenium	2.42	0.00740	ng/m³ Air	2.2836	0.174	98.2	80-120	0.0826	20	B, LL, QB-04
Thallium	0.109	4.86E-4	ng/m³ Air	0.11418	0.00124	94.7	80-120	0.535	20	
Vanadium	3.28	0.0437	ng/m³ Air	2.2836	1.08	96.3	80-120	0.808	20	
Zinc	88.2	63.4	ng/m³ Air	68.509	ND	129	80-120	0.988	20	GC-BS, QB-01
Post Spike (B4E0704-PS1)		**Source: 4050626-08**			Prepared & Analyzed: 05/07/24					
Antimony	0.337	0.0327	ng/m³ Air	0.23413	0.100	101	75-125			SL
Arsenic	1.47	0.00793	ng/m³ Air	1.1706	0.330	97.6	75-125			
Barium	7.23	0.906	ng/m³ Air	2.3413	4.73	107	75-125			QB-01
Beryllium	0.239	0.00271	ng/m³ Air	0.23413	0.0169	94.9	75-125			
Cadmium	0.130	0.0627	ng/m³ Air	0.11706	ND	111	75-125			
Chromium	3.65	1.87	ng/m³ Air	1.1706	2.46	101	75-125			
Cobalt	0.708	0.0369	ng/m³ Air	0.23413	0.465	104	75-125			
Copper	89.5	2.23	ng/m³ Air	11.706	76.0	115	75-125			
Lead	24.2	0.181	ng/m³ Air	23.413	0.822	99.8	75-125			
Manganese	14.0	1.60	ng/m³ Air	2.3413	11.6	98.8	75-125			
Molybdenum	3.62	0.304	ng/m³ Air	1.1706	2.48	97.5	75-125			
Nickel	3.78	0.552	ng/m³ Air	2.3413	1.39	102	75-125			
Selenium	1.37	0.00758	ng/m³ Air	1.1706	0.200	99.8	75-125			B, LL, QB-04
Thallium	0.0597	4.99E-4	ng/m³ Air	5.8532E-2	0.00254	97.7	75-125			
Vanadium	2.27	0.0448	ng/m³ Air	1.1706	1.16	95.3	75-125			
Zinc	89.2	65.0	ng/m³ Air	23.413	65.6	101	75-125			GC-BS, QB-01
Post Spike (B4E0704-PS2)		**Source: 4050626-28**			Prepared: 05/07/24		Analyzed: 05/08/24			
Antimony	0.307	0.0319	ng/m³ Air	0.22836	0.0824	98.2	75-125			SL

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E0704 - ICP-MS Extraction										
Post Spike (B4E0704-PS2) Continued			**Source: 4050626-28**		Prepared: 05/07/24 Analyzed: 05/08/24					
Arsenic	1.69	0.00774	ng/m³ Air	1.1418	0.596	96.0	75-125			
Barium	5.96	0.883	ng/m³ Air	2.2836	3.60	103	75-125			QB-01
Beryllium	0.210	0.00264	ng/m³ Air	0.22836	0.00774	88.4	75-125			
Cadmium	0.123	0.0612	ng/m³ Air	0.11418	ND	108	75-125			
Chromium	3.10	1.82	ng/m³ Air	1.1418	1.99	96.7	75-125			
Cobalt	0.542	0.0360	ng/m³ Air	0.22836	0.316	98.9	75-125			
Copper	55.9	2.17	ng/m³ Air	11.418	44.1	103	75-125			
Lead	23.1	0.177	ng/m³ Air	22.836	0.532	98.6	75-125			
Manganese	11.0	1.56	ng/m³ Air	2.2836	8.87	94.5	75-125			
Molybdenum	3.58	0.296	ng/m³ Air	1.1418	2.50	94.9	75-125			
Nickel	3.50	0.538	ng/m³ Air	2.2836	1.22	100	75-125			
Selenium	1.25	0.00740	ng/m³ Air	1.1418	0.174	94.3	75-125			B, LL, QB-04
Thallium	0.0569	4.86E-4	ng/m³ Air	5.7090E-2	0.00124	97.6	75-125			
Vanadium	2.16	0.0437	ng/m³ Air	1.1418	1.08	95.0	75-125			
Zinc	ND	63.4	ng/m³ Air	22.836	ND		75-125			GC-BS, QB-01 U
Dilution Check (B4E0704-SRL1)			**Source: 4050626-08**		Prepared & Analyzed: 05/07/24					
Antimony	ND	0.163	ng/m³ Air		ND				10	SL, U
Arsenic	0.338	0.0397	ng/m³ Air		0.330			2.29	10	
Barium	4.76	4.53	ng/m³ Air		4.73			0.490	10	QB-01
Beryllium	0.0174	0.0135	ng/m³ Air		0.0169			3.04	10	
Cadmium	ND	0.314	ng/m³ Air		ND				10	U
Chromium	ND	9.35	ng/m³ Air		ND				10	U
Cobalt	0.474	0.185	ng/m³ Air		0.465			1.80	10	
Copper	80.6	11.1	ng/m³ Air		76.0			5.84	10	
Lead	ND	0.906	ng/m³ Air		ND				10	U
Manganese	11.9	8.00	ng/m³ Air		11.6			1.92	10	
Molybdenum	2.52	1.52	ng/m³ Air		2.48			1.82	10	
Nickel	ND	2.76	ng/m³ Air		ND				10	U
Selenium	0.163	0.0379	ng/m³ Air		0.200			20.4	10	QB-04, SRD-01, B, LL
Thallium	0.00394	0.00249	ng/m³ Air		0.00254			43.5	10	
Vanadium	1.17	0.224	ng/m³ Air		1.16			0.968	10	
Zinc	ND	325	ng/m³ Air		ND				10	GC-BS, QB-01 U
Dilution Check (B4E0704-SRL2)			**Source: 4050626-28**		Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	ND	0.159	ng/m³ Air		ND				10	SL, U
Arsenic	0.593	0.0387	ng/m³ Air		0.596			0.467	10	
Barium	ND	4.42	ng/m³ Air		ND				10	QB-01, U

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E0704 - ICP-MS Extraction										
Dilution Check (B4E0704-SRL2) Continue Source: 4050626-28 Prepared: 05/07/24 Analyzed: 05/08/24										
Beryllium	ND	0.0132	ng/m³ Air		ND				10	U
Cadmium	ND	0.306	ng/m³ Air		ND				10	U
Chromium	ND	9.12	ng/m³ Air		ND				10	U
Cobalt	0.318	0.180	ng/m³ Air		0.316			0.400	10	
Copper	45.6	10.9	ng/m³ Air		44.1			3.28	10	
Lead	ND	0.883	ng/m³ Air		ND				10	U
Manganese	8.88	7.80	ng/m³ Air		8.87			0.106	10	
Molybdenum	2.47	1.48	ng/m³ Air		2.50			1.03	10	
Nickel	ND	2.69	ng/m³ Air		ND				10	U
Selenium	0.165	0.0370	ng/m³ Air		0.174			5.29	10	B, LL, QB-04
Thallium	ND	0.00243	ng/m³ Air		ND				10	U
Vanadium	1.10	0.218	ng/m³ Air		1.08			1.65	10	
Zinc	ND	317	ng/m³ Air		ND				10	GC-BS, QB-01 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.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
LL	Analyte identified; Reported value may be biased low.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
BR	Sample Value Below Acceptable Range
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
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 05/14/2024 and Shanna Vasser 5/16/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 04/25/2024 – 05/01/2024
Report No: 4050626

√	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:

4. MFL-AM01-042724-HM and MFL-AM01-042824-HM were listed on the CoC, crossed out, voided, and not shipped to the laboratory. The sample volumes were insufficient, and the end times were uncertain. No results were present in the laboratory report for either sample because they were not shipped.
13. Field blank detections above the method detection limit were reported for barium in MFL-FB01-042524-HM for barium in MFL-FB01-042724-HM, and for barium, copper, and nickel in MFL-FB01-042924-HM.

Notes: None.