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

Lahaina, Maui

5/9/2024 – 5/15/2024
[Report Updated 6/24/2024}

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 1.2 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 (May 9 - May 15), WW Pump Station #4 (May 9 - May 15), Lahaina Intermediate School (May 9 - May 15), Lahaina Boys & Girls Club (May 9 - May 15).

The PM_{10} monitoring results were found to have exceeded the screening level at Lahaina Intermediate School on 5/15, as shown in **Table 2**. Winds at this location averaged about 2.5 mph with gusts up to 7 mph throughout the day. No debris crews were working nearby, and visible dust was not observed in the area during the times of the exceedance, therefore this exceedance was not related to USACE operations.

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. Of the 28 samples collected, one sample collected at Leialii Hawaiian Homelands on May 14 was voided due to a greater than 10 percent (%) discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling standard operating procedure (SOP). 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 WW Pump Station #4 on May 11 and 13.

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 from May 9 though May 15 were not collected due to complications with the Tisch sampler that have persisted since the previous week. During the reporting week of May 2 through May 8, the field team observed that the power source appeared to be overloading once residents returned to the home. This resulted in the fuse blowing and creating issues with the motor and mass flow controller within the Tisch. After troubleshooting the issue, it was determined a new mass flow controller was needed and has since been installed. Sampling at this location has resumed as of May 16. With the exception of the metals samples that were not able to be collected from Leialii Hawaiian Homelands from May 9 through May 15, 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

Basemap: ESRI ArcGIS World Street Map

Table 1
HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results by Date
Maui Wildfire, Lahaina
5/9/2024-5/15/2024

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
5/9/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0027	0.000149	0.000558	0.00618	0.0000179	ND	0.00269	0.000552	0.0587	0.00166	0.0164	0.00209	0.00204	0.000254	0.00000218	0.00250	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000993	0.000277	0.00414	0.0000248	ND	0.00245	0.000479	0.0502	0.000602	0.0120	0.00240	0.00165	0.000219	0.00000205	0.00176	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000115	0.000412	0.00464	0.0000152	ND	0.00319	0.000514	0.0298	0.000844	0.0165	0.00186	0.00184	0.000251	0.00000225	0.00206	ND
5/10/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0027	0.0000597	0.000489	0.00314	0.00000934	ND	0.00238	0.000319	0.0562	0.00121	0.00871	0.00225	0.00112	0.000143	0.000000709	0.00112	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000504	0.000160	0.00256	0.0000122	ND	0.00242	0.000295	0.0509	0.000472	0.00704	0.00237	0.00106	0.000135	0.000000658	0.000900	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000850	0.000496	0.00292	0.00000800	ND	0.00246	0.000262	0.0314	0.00104	0.00813	0.00171	0.000948	0.000127	0.000000690	0.000833	ND
5/11/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000803	0.000544	0.00431	0.00000682	ND	0.00200	0.000207	0.0806	0.00101	0.00588	0.00289	0.000866	0.000165	0.00000119	0.000904	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000544	0.000163	0.00274	0.00000832	ND	0.00218	0.000292	0.0596	0.000440	0.00616	0.00288	0.00110	0.000142	0.00000107	0.00104	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000189	0.00131	0.00466	0.0000114	ND	0.00318	0.000372	0.0330	0.00176	0.0115	0.00160	0.00142	0.000174	0.00000159	0.00121	ND
5/12/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000961	0.000182	0.00290	0.00000583	ND	ND	0.000162	0.0795	0.000456	0.00484	0.00276	0.000815	0.000127	0.000000782	0.00101	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000381	0.000146	0.00154	0.00000610	ND	ND	0.000135	0.0540	0.000243	0.00334	0.00289	0.000814	0.000108	0.000000669	0.00101	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000777	0.000231	0.00261	0.00000694	ND	0.00221	0.000218	0.0261	0.000593	0.00703	0.00167	0.00125	0.000140	0.000000771	0.00136	ND
5/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000852	0.000219	0.00358	0.00000739	0.000834	0.00178	0.000212	0.0643	0.000737	0.00623	0.00235	0.000925	0.000138	0.000000581	0.00102	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000480	0.000158	0.00258	0.00000886	ND	0.00227	0.000310	0.0672	0.000527	0.00702	0.00287	0.00122	0.000115	ND	0.000976	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000945	0.000712	0.00409	0.0000124	ND	0.00269	0.000431	0.0239	0.00112	0.0119	0.00119	0.00142	0.000147	0.000000650	0.00119	ND
5/14/2024	Leialii Hawaiian Homelands (AM-01)																	
	WW Pump Station #4 (AM-02)	<0.0024	0.000122	0.00235	0.00268	0.00000733	ND	0.00250	0.000264	0.0715	0.000831	0.00737	0.00254	0.000904	0.000189	0.000000726	0.000859	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000623	0.000187	0.00220	0.00000969	ND	0.00225	0.000259	0.0453	0.000386	0.00579	0.00191	0.00114	0.000178	0.000000651	0.000723	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.00151	0.00324	0.00000927	ND	0.00250	0.000338	0.0316	0.000837	0.00915	0.00172	0.00104	0.000198	0.000000749	0.000833	ND
5/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000578	0.000475	0.00214	0.00000488	ND	0.00192	0.000146	0.0632	0.000746	0.00408	0.00212	0.000817	0.000208	0.000000821	0.000372	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000505	0.0000865	0.00180	0.00000758	ND	ND	0.000153	0.0376	0.000360	0.00349	0.00176	0.000643	0.000176	0.000000687	0.000310	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000702	0.000410	0.00273	0.00000443	ND	ND	0.000161	0.0328	0.000722	0.00430	0.00201	0.000657	0.000180	0.000000646	0.000332	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000810	0.00369	0.0000120	NA	0.00259	0.000350	0.0588	0.00100	0.0104	0.00241	0.000128	0.000180	0.00000120	0.00137	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

Asbestos samples voided due to a greater than 10% discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling standard operating procedure (SOP).

Heavy Metal samples voided due to equipment malfunction and mass flow controller replacement.

Table 2
HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results for PM_{10}
Maui Wildfire, Lahaina
5/9/2024 - 5/15/2024

Screening Level		**150 µg/m^3**
5/9/2024	Leialii Hawaiian Homelands (AM-01)	8.3
	WW Pump Station #4 (AM-02)	8.0
	Lahaina Intermediate School (AM-03)	6.9
	Lahaina Boys & Girls Club (AM-04)	13
5/10/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	100
	Lahaina Boys & Girls Club (AM-04)	12
5/11/2024	Leialii Hawaiian Homelands (AM-01)	7.3
	WW Pump Station #4 (AM-02)	9.0
	Lahaina Intermediate School (AM-03)	98
	Lahaina Boys & Girls Club (AM-04)	10
5/12/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	8.3
	Lahaina Intermediate School (AM-03)	5.8
	Lahaina Boys & Girls Club (AM-04)	6.5
5/13/2024	Leialii Hawaiian Homelands (AM-01)	7.6
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Boys & Girls Club (AM-04)	5.3
5/14/2024	Leialii Hawaiian Homelands (AM-01)	8.0
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	8.4
5/15/2024	Leialii Hawaiian Homelands (AM-01)	9
	WW Pump Station #4 (AM-02)	9.9
	Lahaina Intermediate School (AM-03)	**170**
	Lahaina Boys & Girls Club (AM-04)	9.5

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 all stations on 5/12 are based on a 23 hr. TWA because of equipment maintenance.

Results for Lahaina Boys & Girls Club (AM-04) on 5/10 are based on a 22 hr. TWA because of equipment maintenance.

As discussed on Page 1 of this report, regarding the exceedance at Lahaina Intermediate School (AM-03) on 5/15, no debris crews were working nearby, and visible dust was not observed in the area during the times of the exceedance, therefore this exceedance was not related to USACE operations.

Table 3
Maui Wildfire - Lahaina
Meteorological Data
5/9/2024-5/15/2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
5/9/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	79	65	759.1
5/9/2024	AM-02	WW Pump Station #4	1.0	SSE	78	68	761.4
5/9/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	72	752.1
5/9/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	76	69	761.0
5/10/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	77	68	758.9
5/10/2024	AM-02	WW Pump Station #4	0.9	SE	77	72	761.2
5/10/2024	AM-03	Lahaina Intermediate School	1.7	ESE	74	76	751.9
5/10/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSE	76	71	760.9
5/11/2024	AM-01	Leialii Hawaiian Homelands	1.2	SSE	78	64	759.1
5/11/2024	AM-02	WW Pump Station #4	0.8	S	78	67	761.4
5/11/2024	AM-03	Lahaina Intermediate School	1.2	SSE	75	71	752.0
5/11/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	76	69	761.1
5/12/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	80	62	759.9
5/12/2024	AM-02	WW Pump Station #4	0.9	S	80	67	762.0
5/12/2024	AM-03	Lahaina Intermediate School	1.3	SE	77	68	752.7
5/12/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	76	69	761.7
5/13/2024	AM-01	Leialii Hawaiian Homelands	1.1	S	80	65	760.6
5/13/2024	AM-02	WW Pump Station #4	0.8	S	82	69	762.7
5/13/2024	AM-03	Lahaina Intermediate School	1.3	SSE	78	70	753.4
5/13/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	78	68	762.3
5/14/2024	AM-01	Leialii Hawaiian Homelands	0.8	SE	81	67	760.3
5/14/2024	AM-02	WW Pump Station #4	1.0	SSE	80	74	762.4
5/14/2024	AM-03	Lahaina Intermediate School	1.4	SE	78	76	753.1
5/14/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	77	73	762.1
5/15/2024	AM-01	Leialii Hawaiian Homelands	1.6	SSE	80	73	758.4
5/15/2024	AM-02	WW Pump Station #4	1.3	SE	80	79	760.6
5/15/2024	AM-03	Lahaina Intermediate School	2.5	SE	77	82	751.3
5/15/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSE	77	78	760.3

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

Appendix 1

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

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

EMSL Order:	042409835
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:	05/15/2024 09:50 AM
Analysis Date:	05/17/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-050924-AB**		**Sample Description:**	**DK797522**
EMSL Sample Number:	042409835-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7132.3
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

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: 042409835
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: 042409835-0001 **Customer Sample:** MFL-AM01-050924-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	H3	None Detected									
B1	E7	None Detected									
B1	A6	None Detected									
B2	G6	None Detected									
B2	C3	None Detected									

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

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EMSL Order:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/17/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-050924-AB** **Sample Description: DK797533**

EMSL Sample Number:	042409835-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7008.3
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 %:	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

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EMSL Order ID: 042409835
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: 042409835-0002 **Customer Sample:** MFL-AM02-050924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	D2	None Detected									
B6	F7	None Detected									
B6	I5	None Detected									
B7	G4	None Detected									
B7	B5	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:	05/15/2024 09:50 AM
Analysis Date:	05/17/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-050924-AB** **Sample Description: DK797556**

EMSL Sample Number:	042409835-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7406.9
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 %:	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: 042409835-0003 **Customer Sample:** MFL-AM03-050924-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	J7	None Detected									
C2	G3	None Detected									
C2	C6	None Detected									
C3	H6	None Detected									
C3	B5	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:	05/15/2024 09:50 AM
Analysis Date:	05/16/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-050924-AB**		**Sample Description:**	**DK797541**
EMSL Sample Number:	042409835-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.7
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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EMSL Order ID: 042409835
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: 042409835-0004 **Customer Sample:** MFL-AM04-050924-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	B6	None Detected									
C5	E5	None Detected									
C5	I3	None Detected									
C6	A6	None Detected									
C6	G7	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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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/18/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050924-AB** **Sample Description:** **DK797077**

EMSL Sample Number:	042409835-0005		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 %:	0			
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: 042409835
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: 042409835-0005 **Customer Sample:** MFL-FB01-050924-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	J4	None Detected									
D1	G7	None Detected									
D1	D5	None Detected									
D1	A8	None Detected									
D2	I6	None Detected									
D2	F3	None Detected									
D2	C5	None Detected									
D3	H4	None Detected									
D3	E8	None Detected									
D3	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:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/18/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-051024-AB** **Sample Description: DK797545**

EMSL Sample Number:	042409835-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7100.1
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 %:	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: 042409835
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: 042409835-0006 **Customer Sample:** MFL-AM01-051024-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	I7	None Detected									
D6	E4	None Detected									
D6	A5	None Detected									
D7	D6	None Detected									
D7	H8	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:	042409835
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:	05/15/2024 09:50 AM
Analysis Date:	05/18/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-051024-AB**	**Sample Description:**	**DK797544**
EMSL Sample Number:	042409835-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7074.1
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):	**0.0009**	**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: 042409835
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: 042409835-0007 **Customer Sample:** MFL-AM02-051024-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	B8	None Detected									
F1	F6	None Detected									
F1	J4	None Detected									
F2	J7	None Detected									
F2	G3	None Detected									

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

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EMSL Order:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051024-AB** **Sample Description: DK797538**

EMSL Sample Number:	042409835-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7339.9
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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EMSL Order ID: 042409835
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: 042409835-0008 **Customer Sample:** MFL-AM03-051024-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	B7	None Detected									
E5	F6	None Detected									
E5	H3	None Detected									
E6	J8	None Detected									
E6	E3	None Detected									

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

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EMSL Order:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-051024-AB**	**Sample Description:**	**DK797082**
EMSL Sample Number:	042409835-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7014.8
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 %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected 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: 042409835
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: 042409835-0009 **Customer Sample:** MFL-AM04-051024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I4	None Detected									
F1	G7	None Detected									
F1	D4	None Detected									
F2	G3	None Detected									
F2	C5	None Detected									

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

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Customer ID:	TTDC42
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Project ID:	N/A

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

Phone:	(703) 489-2674
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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-051024-AB**		**Sample Description:**	**DK797081**
EMSL Sample Number:	042409835-0010		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 %:	0			
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: 042409835
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: 042409835-0010 **Customer Sample:** MFL-FB01-051024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J2	None Detected									
F5	H6	None Detected									
F5	E9	None Detected									
F5	C6	None Detected									
F6	A4	None Detected									
F6	F7	None Detected									
F6	I7	None Detected									
F7	B3	None Detected									
F7	E8	None Detected									
F7	J5	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:	042409835
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Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051124-AB**	**Sample Description:**	**DK797106**
EMSL Sample Number:	042409835-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7214.4
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

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EMSL Order ID: 042409835
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: 042409835-0011 **Customer Sample:** MFL-AM01-051124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J4	None Detected									
G2	F7	None Detected									
G2	B2	None Detected									
G3	H6	None Detected									
G3	D3	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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

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Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-051124-AB**	**Sample Description:**	**DK797094**
EMSL Sample Number:	042409835-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7378.1
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 %:	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

Numerous gypsum fibers present.

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EMSL Order ID: 042409835
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: 042409835-0012 **Customer Sample:** MFL-AM02-051124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A7	None Detected									
G5	F7	None Detected									
G5	J7	None Detected									
G7	H4	None Detected									
G7	D5	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051124-AB** **Sample Description: DK797127**

EMSL Sample Number:	042409835-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7269.9
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 %:	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: 042409835-0013 **Customer Sample:** MFL-AM03-051124-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	A6	None Detected									
H1	D3	None Detected									
H1	H6	None Detected									
H2	B4	None Detected									
H2	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 PO:	1207085
Project ID:	N/A

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051124-AB** **Sample Description:** **DK797087**

EMSL Sample Number:	042409835-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7350.5
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

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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: 042409835-0014 **Customer Sample:** MFL-AM04-051124-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	H4	None Detected									
H6	J7	None Detected									
H6	F8	None Detected									
H6	C6	None Detected									
H7	B5	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-051124-AB**		**Sample Description:**	**DK797107**
EMSL Sample Number:	042409835-0015		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 %:	0			
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: 042409835
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: 042409835-0015 **Customer Sample:** MFL-FB01-051124-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	I8	None Detected									
I1	G2	None Detected									
I1	E7	None Detected									
I1	B3	None Detected									
I2	J6	None Detected									
I2	G3	None Detected									
I2	D6	None Detected									
I3	A3	None Detected									
I3	B9	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:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051224-AB**	**Sample Description:**	**DK797092**
EMSL Sample Number:	042409835-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7116.0
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: 042409835
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: 042409835-0016 **Customer Sample:** MFL-AM01-051224-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	J7	None Detected									
I5	F3	None Detected									
I5	C6	None Detected									
I6	H4	None Detected									
I6	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:	042409835
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**

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Fax:	N/A
Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/22/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-051224-AB**		**Sample Description:**	**DK797136**
EMSL Sample Number:	042409835-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.8
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 %:	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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EMSL Order ID: 042409835
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: 042409835-0017 **Customer Sample:** MFL-AM02-051224-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	J8	None Detected									
J1	F4	None Detected									
J1	A5	None Detected									
J2	I6	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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Project: **Maui Fires - Lahaina**

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/22/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051224-AB** **Sample Description: DK797076**

EMSL Sample Number:	042409835-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7289.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
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

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EMSL Order ID: 042409835
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: 042409835-0018 **Customer Sample:** MFL-AM03-051224-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	B6	None Detected									
J5	E8	None Detected									
J5	I4	None Detected									
J6	C3	None Detected									
J6	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:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/22/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051224-AB** **Sample Description:** **DK797083**

EMSL Sample Number:	042409835-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7017.6
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 %:	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

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EMSL Order ID: 042409835
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: 042409835-0019 **Customer Sample:** MFL-AM04-051224-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	J5	None Detected									
K1	G3	None Detected									
K1	C7	None Detected									
K2	D4	None Detected									
K2	G7	None Detected									

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

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EMSL Order:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/22/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-051224-AB**		**Sample Description:**	**DK797089**
EMSL Sample Number:	042409835-0020		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 %:	0			
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: 042409835
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: 042409835-0020 **Customer Sample:** MFL-FB01-051224-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	J4	None Detected									
K5	I8	None Detected									
K5	E7	None Detected									
K5	A3	None Detected									
K6	H6	None Detected									
K6	F10	None Detected									
K6	G4	None Detected									
K7	A6	None Detected									
K7	E5	None Detected									
K7	J6	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:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/17/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042409835-0021		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: 042409835
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: 042409835-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J8	None Detected									
A1	G4	None Detected									
A1	D6	None Detected									
A1	A5	None Detected									
A2	H9	None Detected									
A2	F3	None Detected									
A2	C5	None Detected									
A3	I5	None Detected									
A3	E7	None Detected									
A3	B4	None Detected									

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

OrderID: 042409835

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409835

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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:	ITAI BOJDAK-YATES
Sampled By 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 2024 MAY 10 CINNAMINSON NJ

*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-AM01-050924-AB	DK797522	7132.336	05/09/24 1107
MFL-AM02-050924-AB	DK797533	7008.336	05/09/24 1126
MFL-AM03-050924-AB	DK797556	7406.928	05/09/24 1311
MFL-AM04-050924-AB	DK797541	7205.674	05/09/24 1332
MFL-~~X~~FB01-050924-AB (FB)	DK797077	0	05/09/24 1200
MFL-AM01-051024-AB	DK797545	7100.093	05/10/24 1100
MFL-AM02-051024-AB	DK797544	7074.058	05/10/24 1115
MFL-AM03-051024-AB	DK797538	7339.920	05/10/24 1302

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:		Date/Time: 05/13/24 1100	Received by: FX Date/Time: 5/15/24 950
Relinquished by:		Date/Time:	Received by: Date/Time

(20) AP

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: 042409835

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409835

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-AM04-051024-AB	DK797082	7014.779	05/10/24 1321
MFL-FB01-051024-AB	DK797081	0	05/10/24 1200
MFL-AM01-051124-AB	DK797106	7214.400	05/11/24 1103
MFL-AM02-051124-AB	DK797094	7378.127	05/11/24 1118
MFL-AM03-051124-AB	DK797127	7269.881	05/11/24 1304
MFL-AM04-051124-AB	DK797087	7350.480	05/11/24 1324
MFL-~~AM~~ FB01-051124-AB	DK797107	0	05/11/24 1200
MFL-~~AB~~ AM 01-051224-AB	DK797092	7115.976	05/12/24 1107
MFL-~~AB~~ AM 02-051224-AB	DK797136	7149.816	05/12/24 1124
MFL-~~AB~~ AM 03-051224-AB	DK797076	7289.182	05/12/24 1306
MFL-~~AB~~ AM 04-051224-AB	DK797083	7017.555	05/12/24 1328
MFL-FB01-051224-AB	DK797089	0	05/12/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 MAY 15 P 12:01

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/13/24 1100	Received by: FX	Date/Time 5/13/24 9:59A
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 05/22/2024 and Shanna Vasser 5/23/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/09/2024 – 05/12/2024
Report No: 42409835

√	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:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/22/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051324-AB**		**Sample Description:**	**DK797096**
EMSL Sample Number:	042410174-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
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
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: 042410174
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: 042410174-0001 **Customer Sample:** MFL-AM01-051324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	H4	None Detected									
B1	E7	None Detected									
B1	B4	None Detected									
B2	G5	None Detected									
B2	A3	None Detected									

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

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

EMSL Order:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/22/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-051324-AB** **Sample Description: DK797141**

EMSL Sample Number:	042410174-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7133.3
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

Numerous gypsum fibers present.

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: 042410174
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: 042410174-0002 **Customer Sample:** MFL-AM02-051324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	E4	None Detected									
B5	I7	None Detected									
B6	H6	None Detected									
B6	I4	None Detected									

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

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

EMSL Order:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/22/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-051324-AB**		**Sample Description:**	**DK797123**
EMSL Sample Number:	042410174-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.4
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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EMSL Order ID: 042410174
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: 042410174-0003 **Customer Sample:** MFL-AM03-051324-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	G7	None Detected									
G1	E3	None Detected									
G1	B5	None Detected									
G2	A4	None Detected									
G2	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:	042410174
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051324-AB** **Sample Description: DK797102**

EMSL Sample Number:	042410174-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7141.3
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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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042410174-0004 **Customer Sample:** MFL-AM04-051324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B7	None Detected									
C5	F6	None Detected									
C5	J4	None Detected									
C6	H8	None Detected									
C6	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

Attn: **Chelsea Saber**
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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051324-AB** **Sample Description: DK797084**

EMSL Sample Number:	042410174-0005		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 %:	0			
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: 042410174
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: 042410174-0005 **Customer Sample:** MFL-FB01-051324-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	J4	None Detected									
D1	F7	None Detected									
D1	B5	None Detected									
D1	A2	None Detected									
D2	C8	None Detected									
D2	F6	None Detected									
D2	J5	None Detected									
D3	H7	None Detected									
D3	E3	None Detected									
D3	B7	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-051424-AB** **Sample Description: DK797078**

EMSL Sample Number:	042410174-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.6
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 %:	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: 042410174
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: 042410174-0006 **Customer Sample:** MFL-AM02-051424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A3	None Detected									
D5	D7	None Detected									
D5	I4	None Detected									
D6	B6	None Detected									
D6	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:	042410174
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-051424-AB**		**Sample Description:**	**DK797139**
EMSL Sample Number:	042410174-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7166.5
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

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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: 042410174-0007 **Customer Sample:** MFL-AM03-051424-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	J8	None Detected									
E1	F6	None Detected									
E1	B3	None Detected									
E2	I5	None Detected									
E2	D3	None Detected									

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

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EMSL Order:	042410174
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051424-AB** **Sample Description: DK797090**

EMSL Sample Number:	042410174-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7132.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
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: 042410174
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: 042410174-0008 **Customer Sample:** MFL-AM04-051424-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	J8	None Detected									
E5	G6	None Detected									
E5	B3	None Detected									
E6	C6	None Detected									
E6	G7	None Detected									

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

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EMSL Order:	042410174
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051424-AB** **Sample Description: DK797085**

EMSL Sample Number:	042410174-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
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 %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected 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: 042410174
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: 042410174-0009 **Customer Sample:** MFL-FB01-051424-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	A7	None Detected									
F1	B3	None Detected									
F1	E5	None Detected									
F1	H8	None Detected									
F2	J6	None Detected									
F2	G8	None Detected									
F2	C5	None Detected									
F4	A2	None Detected									
F4	D5	None Detected									
F4	J7	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:	042410174
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Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051524-AB**	**Sample Description:**	**DK797100**
EMSL Sample Number:	042410174-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7212.3
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 %:	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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EMSL Order ID: 042410174
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: 042410174-0010 **Customer Sample:** MFL-AM01-051524-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	B7	None Detected									
F5	E4	None Detected									
F5	I6	None Detected									
F6	J5	None Detected									
F6	D8	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:	042410174
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-051524-AB**		**Sample Description:**	**DK797109**
EMSL Sample Number:	042410174-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7187.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
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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EMSL Order ID: 042410174
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: 042410174-0011 **Customer Sample:** MFL-AM02-051524-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	C4	None Detected									
G1	G7	None Detected									
G1	J3	None Detected									
G2	A5	None Detected									
G2	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:	042410174
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-051524-AB**		**Sample Description:**	**DK797080**
EMSL Sample Number:	042410174-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.8
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 %:	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: 042410174-0012 **Customer Sample:** MFL-AM03-051524-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	B8	None Detected									
G5	D3	None Detected									
G5	H6	None Detected									
G6	C5	None Detected									
G6	G8	None Detected									

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

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EMSL Order:	042410174
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-051524-AB**		**Sample Description:**	**DK797101**
EMSL Sample Number:	042410174-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7130.0
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 %:	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

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: 042410174
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: 042410174-0013 **Customer Sample:** MFL-AM04-051524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	B6	None Detected									
H1	E4	None Detected									
H1	I5	None Detected									
H2	J6	None Detected									
H2	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:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051524-AB** **Sample Description: DK797099**

EMSL Sample Number:	042410174-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
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 %:	5			
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:	**042410174**
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: 042410174-0014 **Customer Sample:** MFL-FB01-051524-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	I5	None Detected									
H5	F3	None Detected									
H5	D8	None Detected									
H5	A4	None Detected									
H6	H2	None Detected									
H6	G8	None Detected									
H6	A6	None Detected									
H7	A4	None Detected									
H7	A9	None Detected									
H7	F8	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:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/22/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042410174-0015		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 %:	0			
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: 042410174
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: 042410174-0015 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B4	None Detected									
A1	D7	None Detected									
A1	G3	None Detected									
A1	J6	None Detected									
A2	I7	None Detected									
A2	E4	None Detected									
A2	B8	None Detected									
A3	A5	None Detected									
A3	D2	None Detected									
A3	H6	None Detected									

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

OrderID: 042410174

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410174

RECEIVED EMSL CINNAMINSON, NJ 24 MAY 20 AM 9:29

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: 120708S
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected:
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: ITAI BOJDAK-YATES
Sampled By Signature: [signature]
No. of Samples in Shipment: 14

Turn-Around-Time (TAT)

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

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

Test Selection

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

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-AM01-051324-AB	DK297096	(IBY) ~~716~~ 7176.248	05/13/24 1100
MFL-AM02-051324-AB	DK297141	7133.336	05/13/24 1116
MFL-AM03-051324-AB	DK297~~084~~ 123 (IBY)	7159.436 (CKS)	05/13/24 1301
MFL-AM04-051324-AB	DK297102	7141.277	05/13/24 1323
(IBY) MFL-FB01-051324-AB	DK297084	0	05/13/24 1200
~~MFL-AM01-051424-AB~~	~~DK297108~~	~~7897.536~~	~~05/14/24 1103~~ VOID
MFL-AM02-051424-AB	DK297078	7168.608	05/14/24 1120
MFL-AM03-051424-AB	DK297139	7166.453	05/14/24 1309

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

MFL-AM01-051424-AB voided because post-cal value was greater than 10% deviation from pre-cal value.

All samples received acceptable for analysis.

14CJL

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 05/16/24 400	Received by: Chaleun FX	Date/Time: 5/20/24 9:00
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.)

14CJL

OrderID: 042410174

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410174

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

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAY 20 AM 9:29

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-AM04-051424-AB	DK797090	7132.176	05/14/24 1328
MFL-FB01-051424-AB	DK797085	0	05/14/24 1200
MFL-AM01-051524-AB	DK797~~089~~100	7212.289	05/15/24 1107
MFL-AM02-051524-AB	DK797109	7187.782	05/15/24 1125
MFL-AM03-051524-AB	DK797080	7231.845	05/15/24 1304
MFL-AM04-051524-AB	DK797101	7129.957	05/15/24 1329
MFL-FB01-051524-AB	DK797099	0	05/15/24 1200

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/16/24 1400	Received by: Fx	Date/Time: 5/20/24 9[illegible]
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 05/28/2024 and Shanna Vasser 05/30/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/13/2024 – 05/15/2024
Report No: 42410174

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	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:

4. MFL-AM01-051424-AB was listed on the CoC, crossed out, voided (due to post-cal value exceeding the criteria), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None.

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

May 31, 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 05/20/24 14:25.

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM02-050924-HM	4052040-01	Air	05/09/24 23:59	05/20/24 14:25
MFL-AM03-050924-HM	4052040-02	Air	05/09/24 23:59	05/20/24 14:25
MFL-AM04-050924-HM	4052040-03	Air	05/09/24 23:59	05/20/24 14:25
MFL-FB01-050924-HM	4052040-04	Air	05/09/24 00:00	05/20/24 14:25
MFL-AM02-051024-HM	4052040-05	Air	05/10/24 23:59	05/20/24 14:25
MFL-AM03-051024-HM	4052040-06	Air	05/10/24 23:59	05/20/24 14:25
MFL-AM04-051024-HM	4052040-07	Air	05/10/24 23:59	05/20/24 14:25
MFL-AM02-051124-HM	4052040-08	Air	05/11/24 23:59	05/20/24 14:25
MFL-AM03-051124-HM	4052040-09	Air	05/11/24 23:59	05/20/24 14:25
MFL-AM04-051124-HM	4052040-10	Air	05/11/24 23:59	05/20/24 14:25
MFL-FB01-051124-HM	4052040-11	Air	05/11/24 00:00	05/20/24 14:25
MFL-AM02-051224-HM	4052040-12	Air	05/12/24 23:59	05/20/24 14:25
MFL-AM03-051224-HM	4052040-13	Air	05/12/24 23:59	05/20/24 14:25
MFL-AM04-051224-HM	4052040-14	Air	05/12/24 23:59	05/20/24 14:25
MFL-AM02-051324-HM	4052040-15	Air	05/13/24 23:59	05/20/24 14:25
MFL-AM03-051324-HM	4052040-16	Air	05/13/24 23:59	05/20/24 14:25
MFL-AM04-051324-HM	4052040-17	Air	05/13/24 23:59	05/20/24 14:25
MFL-FB01-051324-HM	4052040-18	Air	05/13/24 00:00	05/20/24 14:25
MFL-AM02-051424-HM	4052040-19	Air	05/14/24 23:59	05/20/24 14:25
MFL-AM03-051424-HM	4052040-20	Air	05/14/24 23:59	05/20/24 14:25
MFL-AM04-051424-HM	4052040-21	Air	05/14/24 23:59	05/20/24 14:25

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM02-051524-HM	4052040-22	Air	05/15/24 23:59	05/20/24 14:25
MFL-AM03-051524-HM	4052040-23	Air	05/15/24 23:59	05/20/24 14:25
MFL-AM04-051524-HM	4052040-24	Air	05/15/24 23:59	05/20/24 14:25
MFL-FB01-051524-HM	4052040-25	Air	05/15/24 00:00	05/20/24 14:25

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050924-HM
Matrix: Air
Lab ID: 4052040-01
Sample Volume: 2063.968 m³
Filter ID:
Sampled: 05/09/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 03:54

Comments: Q8532959 - 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**	**0.149**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.558**		**0.00739**
Barium	**7440-39-3**	**6.18**		**0.843**
Beryllium	**7440-41-7**	**0.0179**		**0.00252**
Cadmium	7440-43-9	0.0221	U	0.0584
Chromium	**7440-47-3**	**2.69**		**1.74**
Cobalt	**7440-48-4**	**0.552**		**0.0344**
Copper	**7440-50-8**	**58.7**		**2.07**
Lead	**7439-92-1**	**1.66**		**0.169**
Manganese	**7439-96-5**	**16.4**		**1.49**
Molybdenum	**7439-98-7**	**2.09**		**0.283**
Nickel	**7440-02-0**	**2.04**		**0.514**
Selenium	**7782-49-2**	**0.254**	B, LJ, QX	**0.00706**
Thallium	**7440-28-0**	**0.00218**		**4.64E-4**
Vanadium	**7440-62-2**	**2.50**		**0.0417**
Zinc	7440-66-6	49.9	U, GC-BS	60.5

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050924-HM
Matrix: Air
Lab ID: 4052040-02
Sample Volume: 1968.279 m³
Filter ID:
Sampled: 05/09/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 01:04

Comments: Q8532957 - 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**	**0.0993**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.277**		**0.00775**
Barium	**7440-39-3**	**4.14**		**0.884**
Beryllium	**7440-41-7**	**0.0248**		**0.00265**
Cadmium	7440-43-9	0.0114	U	0.0613
Chromium	**7440-47-3**	**2.45**		**1.83**
Cobalt	**7440-48-4**	**0.479**		**0.0360**
Copper	**7440-50-8**	**50.2**		**2.17**
Lead	**7439-92-1**	**0.602**		**0.177**
Manganese	**7439-96-5**	**12.0**		**1.56**
Molybdenum	**7439-98-7**	**2.40**		**0.297**
Nickel	**7440-02-0**	**1.65**		**0.539**
Selenium	**7782-49-2**	**0.219**	B, LJ, QX, SRD-01	**0.00741**
Thallium	**7440-28-0**	**0.00205**		**4.87E-4**
Vanadium	**7440-62-2**	**1.76**		**0.0437**
Zinc	7440-66-6	29.5	U, GC-BS	63.5

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050924-HM
Matrix: Air
Lab ID: 4052040-03
Sample Volume: 1786.127 m³
Filter ID:
Sampled: 05/09/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 04:14

Comments: Q8532956 - 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**	**0.115**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.412**		**0.00854**
Barium	**7440-39-3**	**4.64**		**0.975**
Beryllium	**7440-41-7**	**0.0152**		**0.00291**
Cadmium	7440-43-9	0.0145	U	0.0675
Chromium	**7440-47-3**	**3.19**		**2.01**
Cobalt	**7440-48-4**	**0.514**		**0.0397**
Copper	**7440-50-8**	**29.8**		**2.40**
Lead	**7439-92-1**	**0.844**		**0.195**
Manganese	**7439-96-5**	**16.5**		**1.72**
Molybdenum	**7439-98-7**	**1.86**		**0.327**
Nickel	**7440-02-0**	**1.84**		**0.594**
Selenium	**7782-49-2**	**0.251**	B, LJ, QX	**0.00816**
Thallium	**7440-28-0**	**0.00225**		**5.37E-4**
Vanadium	**7440-62-2**	**2.06**		**0.0482**
Zinc	7440-66-6	31.0	U, GC-BS	70.0

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1777 Sentry Pkwy, Bldg 12
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-050924-HM
Matrix: Air
Lab ID: 4052040-04
Sample Volume: 2063.968 m³
Filter ID:
Sampled: 05/09/24 00:00
Received: 05/20/24 14:25
Analysis Date: 05/22/24 04:33

Comments: Q9546674 - 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	0.00844	SL, U	0.0304
Arsenic	**7440-38-2**	**0.00744**	FB-01	**0.00739**
Barium	7440-39-3	0.609	U	0.843
Beryllium	7440-41-7	6.99E-4	U	0.00252
Cadmium	7440-43-9	0.00164	U	0.0584
Chromium	7440-47-3	1.38	U	1.74
Cobalt	7440-48-4	0.0271	U	0.0344
Copper	**7440-50-8**	**3.24**	FB-01	**2.07**
Lead	7439-92-1	0.137	U	0.169
Manganese	7439-96-5	0.223	U	1.49
Molybdenum	7439-98-7	0.255	U	0.283
Nickel	7440-02-0	0.287	U	0.514
Selenium	**7782-49-2**	**0.00732**	B, FB-01, LJ, QX	**0.00706**
Thallium	7440-28-0	ND	U	4.64E-4
Vanadium	7440-62-2	0.0193	U	0.0417
Zinc	7440-66-6	18.5	GC-BS, U	60.5

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051024-HM
Matrix: Air
Lab ID: 4052040-05
Sample Volume: 2065.429 m³
Filter ID:
Sampled: 05/10/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 04:49

Comments: Q9546677 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0597**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.489**		**0.00738**
Barium	**7440-39-3**	**3.14**		**0.843**
Beryllium	**7440-41-7**	**0.00934**		**0.00252**
Cadmium	7440-43-9	0.0201	U	0.0584
Chromium	**7440-47-3**	**2.38**		**1.74**
Cobalt	**7440-48-4**	**0.319**		**0.0343**
Copper	**7440-50-8**	**56.2**		**2.07**
Lead	**7439-92-1**	**1.21**		**0.169**
Manganese	**7439-96-5**	**8.71**		**1.49**
Molybdenum	**7439-98-7**	**2.25**		**0.283**
Nickel	**7440-02-0**	**1.12**		**0.514**
Selenium	**7782-49-2**	**0.143**	B, LJ, QX	**0.00706**
Thallium	**7440-28-0**	**7.09E-4**		**4.64E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0417**
Zinc	7440-66-6	24.1	GC-BS, U	60.5

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051024-HM
Matrix: Air
Lab ID: 4052040-06
Sample Volume: 1986.778 m³
Filter ID:
Sampled: 05/10/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 05:06

Comments: Q9546675 - 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**	**0.0504**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.160**		**0.00767**
Barium	**7440-39-3**	**2.56**		**0.876**
Beryllium	**7440-41-7**	**0.0122**		**0.00262**
Cadmium	7440-43-9	0.00926	U	0.0607
Chromium	**7440-47-3**	**2.42**		**1.81**
Cobalt	**7440-48-4**	**0.295**		**0.0357**
Copper	**7440-50-8**	**50.9**		**2.15**
Lead	**7439-92-1**	**0.472**		**0.175**
Manganese	**7439-96-5**	**7.04**		**1.55**
Molybdenum	**7439-98-7**	**2.37**		**0.294**
Nickel	**7440-02-0**	**1.06**		**0.534**
Selenium	**7782-49-2**	**0.135**	B, LJ, QX	**0.00734**
Thallium	**7440-28-0**	**6.58E-4**		**4.82E-4**
Vanadium	**7440-62-2**	**0.900**		**0.0433**
Zinc	7440-66-6	21.8	GC-BS, U	62.9

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051024-HM
Matrix: Air
Lab ID: 4052040-07
Sample Volume: 1794.355 m³
Filter ID:
Sampled: 05/10/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 05:22

Comments: Q9546673 - 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**	**0.0850**	SL	**0.0350**
Arsenic	**7440-38-2**	**0.496**		**0.00850**
Barium	**7440-39-3**	**2.92**		**0.970**
Beryllium	**7440-41-7**	**0.00800**		**0.00290**
Cadmium	7440-43-9	0.0123	U	0.0672
Chromium	**7440-47-3**	**2.46**		**2.00**
Cobalt	**7440-48-4**	**0.262**		**0.0395**
Copper	**7440-50-8**	**31.4**		**2.38**
Lead	**7439-92-1**	**1.04**		**0.194**
Manganese	**7439-96-5**	**8.13**		**1.71**
Molybdenum	**7439-98-7**	**1.71**		**0.326**
Nickel	**7440-02-0**	**0.948**		**0.591**
Selenium	**7782-49-2**	**0.127**	B, LJ, QX	**0.00812**
Thallium	**7440-28-0**	**6.90E-4**		**5.34E-4**
Vanadium	**7440-62-2**	**0.833**		**0.0480**
Zinc	7440-66-6	25.4	GC-BS, U	69.6

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FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051124-HM
Matrix: Air
Lab ID: 4052040-08
Sample Volume: 2082.012 m³
Filter ID:
Sampled: 05/11/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 05:39

Comments: Q9546672 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0803**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.544**		**0.00732**
Barium	**7440-39-3**	**4.31**		**0.836**
Beryllium	**7440-41-7**	**0.00682**		**0.00250**
Cadmium	7440-43-9	0.0151	U	0.0579
Chromium	**7440-47-3**	**2.00**		**1.73**
Cobalt	**7440-48-4**	**0.207**		**0.0341**
Copper	**7440-50-8**	**80.6**		**2.06**
Lead	**7439-92-1**	**1.01**		**0.167**
Manganese	**7439-96-5**	**5.88**		**1.48**
Molybdenum	**7439-98-7**	**2.89**		**0.281**
Nickel	**7440-02-0**	**0.866**		**0.510**
Selenium	**7782-49-2**	**0.165**	B, LJ, QX	**0.00700**
Thallium	**7440-28-0**	**0.00119**		**4.60E-4**
Vanadium	**7440-62-2**	**0.904**		**0.0413**
Zinc	7440-66-6	27.1	GC-BS, U	60.0

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051124-HM
Matrix: Air
Lab ID: 4052040-09
Sample Volume: 1991.782 m³
Filter ID:
Sampled: 05/11/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 05:59

Comments: Q9543352 - 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**	**0.0544**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.163**		**0.00765**
Barium	**7440-39-3**	**2.74**		**0.874**
Beryllium	**7440-41-7**	**0.00832**		**0.00261**
Cadmium	7440-43-9	0.0111	U	0.0605
Chromium	**7440-47-3**	**2.18**		**1.81**
Cobalt	**7440-48-4**	**0.292**		**0.0356**
Copper	**7440-50-8**	**59.6**		**2.15**
Lead	**7439-92-1**	**0.440**		**0.175**
Manganese	**7439-96-5**	**6.16**		**1.54**
Molybdenum	**7439-98-7**	**2.88**		**0.293**
Nickel	**7440-02-0**	**1.10**		**0.533**
Selenium	**7782-49-2**	**0.142**	B, LJ, QX	**0.00732**
Thallium	**7440-28-0**	**0.00107**		**4.81E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0432**
Zinc	7440-66-6	24.5	GC-BS, U	62.7

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051124-HM
Matrix: Air
Lab ID: 4052040-10
Sample Volume: 1832.227 m³
Filter ID:
Sampled: 05/11/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 06:13

Comments: Q9543351 - 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**	**0.189**	SL	**0.0343**
Arsenic	**7440-38-2**	**1.31**		**0.00832**
Barium	**7440-39-3**	**4.66**		**0.950**
Beryllium	**7440-41-7**	**0.0114**		**0.00284**
Cadmium	7440-43-9	0.0300	U	0.0658
Chromium	**7440-47-3**	**3.18**		**1.96**
Cobalt	**7440-48-4**	**0.372**		**0.0387**
Copper	**7440-50-8**	**33.0**		**2.34**
Lead	**7439-92-1**	**1.76**		**0.190**
Manganese	**7439-96-5**	**11.5**		**1.68**
Molybdenum	**7439-98-7**	**1.60**		**0.319**
Nickel	**7440-02-0**	**1.42**		**0.579**
Selenium	**7782-49-2**	**0.174**	B, LJ, QX	**0.00796**
Thallium	**7440-28-0**	**0.00159**		**5.23E-4**
Vanadium	**7440-62-2**	**1.21**		**0.0470**
Zinc	7440-66-6	28.8	GC-BS, U	68.2

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051124-HM
Matrix: Air
Lab ID: 4052040-11
Sample Volume: 2082.012 m³
Filter ID:
Sampled: 05/11/24 00:00
Received: 05/20/24 14:25
Analysis Date: 05/22/24 07:41

Comments: Q9543341 - 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	0.00982	SL, U	0.0302
Arsenic	7440-38-2	0.00591	U	0.00732
Barium	7440-39-3	0.436	U	0.836
Beryllium	7440-41-7	7.88E-4	U	0.00250
Cadmium	7440-43-9	0.00225	U	0.0579
Chromium	7440-47-3	1.06	U	1.73
Cobalt	7440-48-4	0.0213	U	0.0341
Copper	7440-50-8	0.230	U	2.06
Lead	7439-92-1	0.0304	U	0.167
Manganese	7439-96-5	0.146	U	1.48
Molybdenum	7439-98-7	0.162	U	0.281
Nickel	7440-02-0	0.247	U	0.510
Selenium	**7782-49-2**	**0.0141**	B, FB-01, LJ, QB-04, QX	**0.00700**
Thallium	7440-28-0	ND	U	4.60E-4
Vanadium	7440-62-2	0.0173	U	0.0413
Zinc	7440-66-6	14.6	GC-BS, U	60.0

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051224-HM
Matrix: Air
Lab ID: 4052040-12
Sample Volume: 2068.763 m³
Filter ID:
Sampled: 05/12/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 07:55

Comments: Q9543348 - 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**	**0.0961**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.182**		**0.00737**
Barium	**7440-39-3**	**2.90**		**0.842**
Beryllium	**7440-41-7**	**0.00583**		**0.00252**
Cadmium	7440-43-9	0.0112	U	0.0583
Chromium	7440-47-3	1.57	U	1.74
Cobalt	**7440-48-4**	**0.162**		**0.0343**
Copper	**7440-50-8**	**79.5**		**2.07**
Lead	**7439-92-1**	**0.456**		**0.168**
Manganese	**7439-96-5**	**4.84**		**1.49**
Molybdenum	**7439-98-7**	**2.76**		**0.282**
Nickel	**7440-02-0**	**0.815**		**0.513**
Selenium	**7782-49-2**	**0.127**	B, LJ, QB-04, QX	**0.00705**
Thallium	**7440-28-0**	**7.82E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0416**
Zinc	7440-66-6	19.3	GC-BS, U	60.4

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051224-HM
Matrix: Air
Lab ID: 4052040-13
Sample Volume: 2012.028 m³
Filter ID:
Sampled: 05/12/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 08:10

Comments: Q9543347 - 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**	**0.0381**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.146**		**0.00758**
Barium	**7440-39-3**	**1.54**		**0.865**
Beryllium	**7440-41-7**	**0.00610**		**0.00259**
Cadmium	7440-43-9	0.0103	U	0.0599
Chromium	7440-47-3	1.60	U	1.79
Cobalt	**7440-48-4**	**0.135**		**0.0353**
Copper	**7440-50-8**	**54.0**		**2.13**
Lead	**7439-92-1**	**0.243**		**0.173**
Manganese	**7439-96-5**	**3.34**		**1.53**
Molybdenum	**7439-98-7**	**2.89**		**0.290**
Nickel	**7440-02-0**	**0.814**		**0.527**
Selenium	**7782-49-2**	**0.108**	B, LJ, QB-04, QX	**0.00725**
Thallium	**7440-28-0**	**6.69E-4**		**4.76E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0428**
Zinc	7440-66-6	19.5	GC-BS, U	62.1

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051224-HM
Matrix: Air
Lab ID: 4052040-14
Sample Volume: 1806.832 m³
Filter ID:
Sampled: 05/12/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 08:24

Comments: Q9543343 - 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**	**0.0777**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.231**		**0.00844**
Barium	**7440-39-3**	**2.61**		**0.964**
Beryllium	**7440-41-7**	**0.00694**		**0.00288**
Cadmium	7440-43-9	0.0332	U	0.0667
Chromium	**7440-47-3**	**2.21**		**1.99**
Cobalt	**7440-48-4**	**0.218**		**0.0393**
Copper	**7440-50-8**	**26.1**		**2.37**
Lead	**7439-92-1**	**0.593**		**0.193**
Manganese	**7439-96-5**	**7.03**		**1.70**
Molybdenum	**7439-98-7**	**1.67**		**0.323**
Nickel	**7440-02-0**	**1.25**		**0.587**
Selenium	**7782-49-2**	**0.140**	B, LJ, QB-04, QX	**0.00807**
Thallium	**7440-28-0**	**7.71E-4**		**5.30E-4**
Vanadium	**7440-62-2**	**1.36**		**0.0476**
Zinc	7440-66-6	32.2	GC-BS, U	69.2

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051324-HM
Matrix: Air
Lab ID: 4052040-15
Sample Volume: 2051.691 m³
Filter ID:
Sampled: 05/13/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 08:41

Comments: Q9543340 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0852**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.219**		**0.00743**
Barium	**7440-39-3**	**3.58**		**0.849**
Beryllium	**7440-41-7**	**0.00739**		**0.00254**
Cadmium	**7440-43-9**	**0.834**		**0.0588**
Chromium	**7440-47-3**	**1.78**		**1.75**
Cobalt	**7440-48-4**	**0.212**		**0.0346**
Copper	**7440-50-8**	**64.3**		**2.09**
Lead	**7439-92-1**	**0.737**		**0.170**
Manganese	**7439-96-5**	**6.23**		**1.50**
Molybdenum	**7439-98-7**	**2.35**		**0.285**
Nickel	**7440-02-0**	**0.925**		**0.517**
Selenium	**7782-49-2**	**0.138**	B, LJ, QB-04, QX	**0.00711**
Thallium	**7440-28-0**	**5.81E-4**		**4.67E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0419**
Zinc	7440-66-6	28.1	GC-BS, U	60.9

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051324-HM
Matrix: Air
Lab ID: 4052040-16
Sample Volume: 1997.163 m³
Filter ID:
Sampled: 05/13/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 08:59

Comments: Q9543339 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0480**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.158**		**0.00763**
Barium	**7440-39-3**	**2.58**		**0.872**
Beryllium	**7440-41-7**	**0.00886**		**0.00261**
Cadmium	7440-43-9	0.00784	U	0.0604
Chromium	**7440-47-3**	**2.27**		**1.80**
Cobalt	**7440-48-4**	**0.310**		**0.0355**
Copper	**7440-50-8**	**67.2**		**2.14**
Lead	**7439-92-1**	**0.527**		**0.174**
Manganese	**7439-96-5**	**7.02**		**1.54**
Molybdenum	**7439-98-7**	**2.87**		**0.292**
Nickel	**7440-02-0**	**1.22**		**0.531**
Selenium	**7782-49-2**	**0.115**	B, LJ, QB-04, QX	**0.00730**
Thallium	7440-28-0	4.79E-4	U	4.80E-4
Vanadium	**7440-62-2**	**0.976**		**0.0431**
Zinc	7440-66-6	27.5	GC-BS, U	62.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051324-HM
Matrix: Air
Lab ID: 4052040-17
Sample Volume: 1851.759 m³
Filter ID:
Sampled: 05/13/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 09:17

Comments: Q9543338 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0945**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.712**		**0.00823**
Barium	**7440-39-3**	**4.09**		**0.940**
Beryllium	**7440-41-7**	**0.0124**		**0.00281**
Cadmium	7440-43-9	0.0168	U	0.0651
Chromium	**7440-47-3**	**2.69**		**1.94**
Cobalt	**7440-48-4**	**0.431**		**0.0383**
Copper	**7440-50-8**	**23.9**		**2.31**
Lead	**7439-92-1**	**1.12**		**0.188**
Manganese	**7439-96-5**	**11.9**		**1.66**
Molybdenum	**7439-98-7**	**1.19**		**0.315**
Nickel	**7440-02-0**	**1.42**		**0.573**
Selenium	**7782-49-2**	**0.147**	B, LJ, QB-04, QX	**0.00787**
Thallium	**7440-28-0**	**6.50E-4**		**5.18E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0465**
Zinc	7440-66-6	29.1	GC-BS, U	67.5

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051324-HM
Matrix: Air
Lab ID: 4052040-18
Sample Volume: 2051.691 m³
Filter ID:
Sampled: 05/13/24 00:00
Received: 05/20/24 14:25
Analysis Date: 05/22/24 09:33

Comments: Q9543337 - 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	0.0100	SL, U	0.0306
Arsenic	7440-38-2	0.00633	U	0.00743
Barium	7440-39-3	0.633	U	0.849
Beryllium	7440-41-7	8.98E-4	U	0.00254
Cadmium	7440-43-9	0.00268	U	0.0588
Chromium	7440-47-3	1.32	U	1.75
Cobalt	7440-48-4	0.0250	U	0.0346
Copper	7440-50-8	0.276	U	2.09
Lead	7439-92-1	0.0346	U	0.170
Manganese	7439-96-5	0.155	U	1.50
Molybdenum	7439-98-7	0.195	U	0.285
Nickel	7440-02-0	0.371	U	0.517
Selenium	**7782-49-2**	**0.0132**	B, FB-01, LJ, QB-04, QX	**0.00711**
Thallium	7440-28-0	ND	U	4.67E-4
Vanadium	7440-62-2	0.0235	U	0.0419
Zinc	7440-66-6	14.7	GC-BS, U	60.9

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051424-HM
Matrix: Air
Lab ID: 4052040-19
Sample Volume: 2091.597 m³
Filter ID:
Sampled: 05/14/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 09:47

Comments: Q9543336 - 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**	**0.122**	SL	**0.0300**
Arsenic	**7440-38-2**	**2.35**		**0.00729**
Barium	**7440-39-3**	**2.68**		**0.832**
Beryllium	**7440-41-7**	**0.00733**		**0.00249**
Cadmium	7440-43-9	0.0124	U	0.0576
Chromium	**7440-47-3**	**2.50**		**1.72**
Cobalt	**7440-48-4**	**0.264**		**0.0339**
Copper	**7440-50-8**	**71.5**		**2.05**
Lead	**7439-92-1**	**0.831**		**0.166**
Manganese	**7439-96-5**	**7.37**		**1.47**
Molybdenum	**7439-98-7**	**2.54**		**0.279**
Nickel	**7440-02-0**	**0.904**		**0.507**
Selenium	**7782-49-2**	**0.189**	B, LJ, QB-04, QX	**0.00697**
Thallium	**7440-28-0**	**7.26E-4**		**4.58E-4**
Vanadium	**7440-62-2**	**0.859**		**0.0411**
Zinc	7440-66-6	19.7	GC-BS, U	59.7

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051424-HM
Matrix: Air
Lab ID: 4052040-20
Sample Volume: 2037.486 m³
Filter ID:
Sampled: 05/14/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/21/24 20:58

Comments: Q9543334 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0623**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.187**		**0.00748**
Barium	**7440-39-3**	**2.20**		**0.854**
Beryllium	**7440-41-7**	**0.00969**		**0.00256**
Cadmium	7440-43-9	0.0217	U	0.0592
Chromium	**7440-47-3**	**2.25**		**1.76**
Cobalt	**7440-48-4**	**0.259**		**0.0348**
Copper	**7440-50-8**	**45.3**		**2.10**
Lead	**7439-92-1**	**0.386**		**0.171**
Manganese	**7439-96-5**	**5.79**		**1.51**
Molybdenum	**7439-98-7**	**1.91**		**0.287**
Nickel	**7440-02-0**	**1.14**		**0.521**
Selenium	**7782-49-2**	**0.178**	B, LJ, QB-04, QX	**0.00715**
Thallium	**7440-28-0**	**6.51E-4**		**4.70E-4**
Vanadium	**7440-62-2**	**0.723**		**0.0422**
Zinc	7440-66-6	16.7	GC-BS, U	61.3

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051424-HM
Matrix: Air
Lab ID: 4052040-21
Sample Volume: 1847.565 m³
Filter ID:
Sampled: 05/14/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 10:02

Comments: Q9543333 - 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	**0.0340**
Arsenic	**7440-38-2**	**1.51**		**0.00825**
Barium	**7440-39-3**	**3.24**		**0.942**
Beryllium	**7440-41-7**	**0.00927**		**0.00282**
Cadmium	7440-43-9	0.0169	U	0.0653
Chromium	**7440-47-3**	**2.50**		**1.95**
Cobalt	**7440-48-4**	**0.338**		**0.0384**
Copper	**7440-50-8**	**31.6**		**2.32**
Lead	**7439-92-1**	**0.837**		**0.188**
Manganese	**7439-96-5**	**9.15**		**1.66**
Molybdenum	**7439-98-7**	**1.72**		**0.316**
Nickel	**7440-02-0**	**1.04**		**0.574**
Selenium	**7782-49-2**	**0.198**	B, LJ, QB-04, QX	**0.00789**
Thallium	**7440-28-0**	**7.49E-4**		**5.19E-4**
Vanadium	**7440-62-2**	**0.833**		**0.0466**
Zinc	7440-66-6	25.9	GC-BS, U	67.6

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051524-HM
Matrix: Air
Lab ID: 4052040-22
Sample Volume: 2068.174 m³
Filter ID:
Sampled: 05/15/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 11:09

Comments: Q9543331 - 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**	**0.0578**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.475**		**0.00737**
Barium	**7440-39-3**	**2.14**		**0.842**
Beryllium	**7440-41-7**	**0.00488**		**0.00252**
Cadmium	7440-43-9	0.0458	U	0.0583
Chromium	**7440-47-3**	**1.92**		**1.74**
Cobalt	**7440-48-4**	**0.146**		**0.0343**
Copper	**7440-50-8**	**63.2**		**2.07**
Lead	**7439-92-1**	**0.746**		**0.168**
Manganese	**7439-96-5**	**4.08**		**1.49**
Molybdenum	**7439-98-7**	**2.12**		**0.282**
Nickel	**7440-02-0**	**0.817**		**0.513**
Selenium	**7782-49-2**	**0.208**	B, LJ, QB-04, QX	**0.00705**
Thallium	**7440-28-0**	**8.21E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**0.372**		**0.0416**
Zinc	7440-66-6	17.7	GC-BS, U	60.4

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051524-HM
Matrix: Air
Lab ID: 4052040-23
Sample Volume: 2040.432 m³
Filter ID:
Sampled: 05/15/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 11:40

Comments: Q9543330 - 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**	**0.0505**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.0865**		**0.00747**
Barium	**7440-39-3**	**1.80**		**0.853**
Beryllium	**7440-41-7**	**0.00758**		**0.00255**
Cadmium	7440-43-9	0.0107	U	0.0591
Chromium	7440-47-3	1.72	U	1.76
Cobalt	**7440-48-4**	**0.153**		**0.0348**
Copper	**7440-50-8**	**37.6**		**2.10**
Lead	**7439-92-1**	**0.360**		**0.171**
Manganese	**7439-96-5**	**3.49**		**1.51**
Molybdenum	**7439-98-7**	**1.76**		**0.286**
Nickel	**7440-02-0**	**0.643**		**0.520**
Selenium	**7782-49-2**	**0.176**	B, LJ, QB-04, QX	**0.00714**
Thallium	**7440-28-0**	**6.87E-4**		**4.70E-4**
Vanadium	**7440-62-2**	**0.310**		**0.0422**
Zinc	7440-66-6	18.4	GC-BS, U	61.2

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051524-HM
Matrix: Air
Lab ID: 4052040-24
Sample Volume: 1803.364 m³
Filter ID:
Sampled: 05/15/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 11:55

Comments: Q9543328 - 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**	**0.0702**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.410**		**0.00845**
Barium	**7440-39-3**	**2.73**		**0.965**
Beryllium	**7440-41-7**	**0.00443**		**0.00289**
Cadmium	7440-43-9	0.0183	U	0.0669
Chromium	7440-47-3	1.96	U	1.99
Cobalt	**7440-48-4**	**0.161**		**0.0393**
Copper	**7440-50-8**	**32.8**		**2.37**
Lead	**7439-92-1**	**0.722**		**0.193**
Manganese	**7439-96-5**	**4.30**		**1.71**
Molybdenum	**7439-98-7**	**2.01**		**0.324**
Nickel	**7440-02-0**	**0.657**		**0.588**
Selenium	**7782-49-2**	**0.180**	B, LJ, QB-04, QX	**0.00808**
Thallium	**7440-28-0**	**6.46E-4**		**5.31E-4**
Vanadium	**7440-62-2**	**0.332**		**0.0477**
Zinc	7440-66-6	19.4	GC-BS, U	69.3

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FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051524-HM
Matrix: Air
Lab ID: 4052040-25
Sample Volume: 2068.174 m³
Filter ID:
Sampled: 05/15/24 00:00
Received: 05/20/24 14:25
Analysis Date: 05/22/24 12:11

Comments: Q9543323 - 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	0.0145	SL, U	0.0304
Arsenic	**7440-38-2**	**0.00859**	FB-01	**0.00737**
Barium	7440-39-3	0.422	U	0.842
Beryllium	7440-41-7	8.26E-4	U	0.00252
Cadmium	7440-43-9	0.00290	U	0.0583
Chromium	7440-47-3	1.17	U	1.74
Cobalt	7440-48-4	0.0238	U	0.0343
Copper	7440-50-8	1.22	U	2.07
Lead	7439-92-1	0.0373	U	0.168
Manganese	7439-96-5	0.201	U	1.49
Molybdenum	7439-98-7	0.217	U	0.282
Nickel	7440-02-0	0.257	U	0.513
Selenium	**7782-49-2**	**0.00789**	B, FB-01, LJ, QB-04, QX	**0.00705**
Thallium	7440-28-0	ND	U	4.63E-4
Vanadium	7440-62-2	0.0269	U	0.0416
Zinc	7440-66-6	10.0	GC-BS, U	60.4

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405068 - B4D2904										
Calibration Blank (2405068-CCB1)				Prepared & Analyzed: 05/21/24						
Antimony	0.0295		ng/l							
Arsenic	13.5		ng/l							
Barium	0.0354		ng/l							
Beryllium	-0.424		ng/l							U
Cadmium	-0.0144		ng/l							U
Chromium	1.68		ng/l							
Cobalt	0.291		ng/l							
Copper	156		ng/l							
Lead	-5.60		ng/l							U
Manganese	3.30		ng/l							
Molybdenum	7.08		ng/l							
Nickel	3.12		ng/l							
Selenium	34.2		ng/l							LJ, QB-04, QX
Thallium	0.226		ng/l							
Vanadium	-11.2		ng/l							U
Zinc	-1020		ng/l							U
Calibration Blank (2405068-CCB2)				Prepared & Analyzed: 05/21/24						
Antimony	-0.645		ng/l							U
Arsenic	9.11		ng/l							
Barium	-1.77		ng/l							U
Beryllium	-0.247		ng/l							U
Cadmium	-0.137		ng/l							U
Chromium	-0.340		ng/l							U
Cobalt	-0.194		ng/l							U
Copper	-137		ng/l							U
Lead	-9.58		ng/l							U
Manganese	-1.59		ng/l							U
Molybdenum	-5.57		ng/l							U
Nickel	2.59		ng/l							
Selenium	4.83		ng/l							LJ, QX
Thallium	-0.0110		ng/l							U
Vanadium	-12.6		ng/l							U
Zinc	-1060		ng/l							U
Calibration Blank (2405068-CCB3)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	-0.549		ng/l							U
Arsenic	14.3		ng/l							
Barium	0.281		ng/l							
Beryllium	-0.534		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 2405068 - B4D2904										
Calibration Blank (2405068-CCB3) Contin				Prepared: 05/21/24 Analyzed: 05/22/24						
Cadmium	0.0606		ng/l							
Chromium	1.49		ng/l							
Cobalt	-0.0812		ng/l							U
Copper	-209		ng/l							U
Lead	-8.57		ng/l							U
Manganese	-1.37		ng/l							U
Molybdenum	-4.82		ng/l							U
Nickel	3.98		ng/l							
Selenium	4.62		ng/l							LJ, QX
Thallium	0.0759		ng/l							
Vanadium	-16.9		ng/l							U
Zinc	-1050		ng/l							U
Calibration Blank (2405068-CCB4)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	-0.468		ng/l							U
Arsenic	13.5		ng/l							
Barium	0.00173		ng/l							
Beryllium	-0.884		ng/l							U
Cadmium	-0.0505		ng/l							U
Chromium	1.43		ng/l							
Cobalt	0.0642		ng/l							
Copper	-224		ng/l							U
Lead	-9.07		ng/l							U
Manganese	0.617		ng/l							
Molybdenum	-7.46		ng/l							U
Nickel	6.03		ng/l							
Selenium	18.5		ng/l							LJ, QX
Thallium	-0.199		ng/l							U
Vanadium	-16.6		ng/l							U
Zinc	-1060		ng/l							U
Calibration Blank (2405068-CCB5)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	0.429		ng/l							
Arsenic	13.9		ng/l							
Barium	0.592		ng/l							
Beryllium	-1.01		ng/l							U
Cadmium	0.151		ng/l							
Chromium	3.03		ng/l							
Cobalt	0.632		ng/l							
Copper	-201		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 2405068 - B4D2904										
Calibration Blank (2405068-CCB5) Contin				Prepared: 05/21/24 Analyzed: 05/22/24						
Lead	-3.66		ng/l							U
Manganese	5.74		ng/l							
Molybdenum	9.19		ng/l							
Nickel	6.47		ng/l							
Selenium	35.5		ng/l							LJ, QB-04, QX
Thallium	1.21		ng/l							
Vanadium	-28.7		ng/l							U
Zinc	-1040		ng/l							U
Calibration Blank (2405068-CCB6)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	-0.725		ng/l							U
Arsenic	13.9		ng/l							
Barium	-1.77		ng/l							U
Beryllium	-1.38		ng/l							U
Cadmium	-0.00852		ng/l							U
Chromium	-0.00927		ng/l							U
Cobalt	0.0241		ng/l							
Copper	-283		ng/l							U
Lead	-9.65		ng/l							U
Manganese	-1.74		ng/l							U
Molybdenum	-5.35		ng/l							U
Nickel	4.84		ng/l							
Selenium	31.1		ng/l							LJ, QB-04, QX
Thallium	-0.213		ng/l							U
Vanadium	-27.6		ng/l							U
Zinc	-1040		ng/l							U
Calibration Check (2405068-CCV1)				Prepared & Analyzed: 05/21/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4650		ng/l	5000.0		93.0	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	236000		ng/l	240000		98.3	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49800		ng/l	50000		99.6	90-110			
Nickel	122000		ng/l	120000		102	90-110			

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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 2405068 - B4D2904										
Calibration Check (2405068-CCV1) Contin				Prepared & Analyzed: 05/21/24						
Selenium	20400		ng/l	20000		102	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2405068-CCV2)				Prepared & Analyzed: 05/21/24						
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4840		ng/l	5000.0		96.9	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20600		ng/l	20000		103	90-110			LJ, QX
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2405068-CCV3)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.1	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Thallium	484		ng/l	500.00		96.9	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	507000		ng/l	500000		101	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 2405068 - B4D2904										
Calibration Check (2405068-CCV4)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4900		ng/l	5000.0		98.1	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2405068-CCV5)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	4850		ng/l	5000.0		96.9	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	52700		ng/l	50000		105	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	478		ng/l	500.00		95.6	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	526000		ng/l	500000		105	90-110			
Calibration Check (2405068-CCV6)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	4830		ng/l	5000.0		96.6	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 2405068 - B4D2904										
Calibration Check (2405068-CCV6) Contin				Prepared: 05/21/24 Analyzed: 05/22/24						
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	52100		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		102	90-110			LJ, QX
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	527000		ng/l	500000		105	90-110			
High Cal Check (2405068-HCV1)				Prepared & Analyzed: 05/21/24						
Antimony	40400		ng/l	40000		101	95-105			
Arsenic	40300		ng/l	40000		101	95-105			
Barium	417000		ng/l	400000		104	95-105			
Beryllium	9890		ng/l	10000		98.9	95-105			
Cadmium	39800		ng/l	40000		99.5	95-105			
Chromium	480000		ng/l	480000		100	95-105			
Cobalt	99700		ng/l	100000		99.7	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.3	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	237000		ng/l	240000		98.6	95-105			
Selenium	40200		ng/l	40000		100	95-105			LJ, QX
Thallium	993		ng/l	1000.0		99.3	95-105			
Vanadium	40000		ng/l	40000		99.9	95-105			
Zinc	1.00E6		ng/l	1.0000E6		100	95-105			
Initial Cal Blank (2405068-ICB1)				Prepared & Analyzed: 05/21/24						
Antimony	-0.438		ng/l							U
Arsenic	1.49		ng/l							
Barium	-1.00		ng/l							U
Beryllium	-0.746		ng/l							U
Cadmium	-0.00367		ng/l							U
Chromium	-0.143		ng/l							U
Cobalt	-0.0873		ng/l							U
Copper	-38.4		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 2405068 - B4D2904										
Initial Cal Blank (2405068-ICB1) Continu				Prepared & Analyzed: 05/21/24						
Lead	-7.80		ng/l							U
Manganese	0.279		ng/l							
Molybdenum	-6.54		ng/l							U
Nickel	-0.0124		ng/l							U
Selenium	17.0		ng/l							LJ, QX
Thallium	-0.243		ng/l							U
Vanadium	-8.01		ng/l							U
Zinc	-1050		ng/l							U
Initial Cal Check (2405068-ICV1)				Prepared & Analyzed: 05/21/24						
Antimony	19700		ng/l	20000		98.7	90-110			
Arsenic	19600		ng/l	20000		97.8	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	4870		ng/l	5000.0		97.5	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	237000		ng/l	240000		98.9	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	49500		ng/l	50000		98.9	90-110			
Nickel	120000		ng/l	120000		99.8	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			LJ, QX
Thallium	507		ng/l	500.00		101	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Interference Check A (2405068-IFA1)				Prepared & Analyzed: 05/21/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	304000		ng/l	300000		101	80-120			
Nickel	0.00		ng/l				80-120			U

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

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
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 2405068 - B4D2904										
Interference Check A (2405068-IFA1) Co					Prepared & Analyzed: 05/21/24					
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2405068-IFB1)					Prepared & Analyzed: 05/21/24					
Antimony	20700		ng/l	20000		104	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	212000		ng/l	200000		106	80-120			
Beryllium	4620		ng/l	5000.0		92.5	80-120			
Cadmium	19700		ng/l	20000		98.3	80-120			
Chromium	228000		ng/l	240000		95.1	80-120			
Cobalt	49000		ng/l	50000		97.9	80-120			
Copper	1.88E6		ng/l	2.0000E6		94.2	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	505000		ng/l	500000		101	80-120			
Molybdenum	352000		ng/l	350000		101	80-120			
Nickel	115000		ng/l	120000		96.0	80-120			
Selenium	19000		ng/l	20000		95.1	80-120			LJ, QX
Thallium	516		ng/l	500.00		103	80-120			
Vanadium	19300		ng/l	20000		96.6	80-120			
Zinc	463000		ng/l	500000		92.5	80-120			
Batch B4E2105 - ICP-MS Extraction										
Blank (B4E2105-BLK1)					Prepared & Analyzed: 05/21/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							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	0.0102	0.00896	ng/m³ Air							B, LJ, QB-04, QX
Thallium	ND	5.89E-4	ng/m³ Air							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 B4E2105 - ICP-MS Extraction										
Blank (B4E2105-BLK1) Continued					Prepared & Analyzed: 05/21/24					
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							GC-BS, U
LCS (B4E2105-BS1)					Prepared & Analyzed: 05/21/24					
Antimony	0.693	0.0386	ng/m³ Air	1.3829		50.1	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	29.6	1.07	ng/m³ Air	27.658		107	80-120			
Beryllium	1.40	0.00320	ng/m³ Air	1.3829		102	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.4	80-120			
Chromium	15.8	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.45	0.0436	ng/m³ Air	1.3829		105	80-120			
Copper	29.5	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.53	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		113	80-120			
Nickel	3.12	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.83	0.00896	ng/m³ Air	2.7658		102	80-120			B, LJ, QB-04, QX
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.6	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.9	80-120			
Zinc	126	76.8	ng/m³ Air	82.975		151	80-120			GC-BS
LCS (B4E2105-BS2)					Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.696	0.0386	ng/m³ Air	1.3829		50.3	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	29.5	1.07	ng/m³ Air	27.658		107	80-120			
Beryllium	1.30	0.00320	ng/m³ Air	1.3829		94.3	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.0	80-120			
Chromium	15.7	2.21	ng/m³ Air	13.829		113	80-120			
Cobalt	1.44	0.0436	ng/m³ Air	1.3829		104	80-120			
Copper	29.5	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.64	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.56	0.359	ng/m³ Air	1.3829		113	80-120			
Nickel	3.10	0.652	ng/m³ Air	2.7658		112	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			B, LJ, QX
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.8	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.9	80-120			
Zinc	131	76.8	ng/m³ Air	82.975		158	80-120			GC-BS
Duplicate (B4E2105-DUP1)				**Source: 4052040-20**	Prepared & Analyzed: 05/21/24					

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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 B4E2105 - ICP-MS Extraction										
Duplicate (B4E2105-DUP1) Continued			**Source: 4052040-20**		Prepared & Analyzed: 05/21/24					
Antimony	0.0543	0.0308	ng/m³ Air		0.0623			13.6	10	SL
Arsenic	0.158	0.00748	ng/m³ Air		0.187			17.2	10	
Barium	2.48	0.854	ng/m³ Air		2.20			11.8	10	
Beryllium	0.00994	0.00256	ng/m³ Air		0.00969			2.57	10	
Cadmium	ND	0.0592	ng/m³ Air		ND				10	U
Chromium	1.99	1.76	ng/m³ Air		2.25			12.4	10	
Cobalt	0.262	0.0348	ng/m³ Air		0.259			1.29	10	
Copper	45.8	2.10	ng/m³ Air		45.3			1.04	10	
Lead	0.429	0.171	ng/m³ Air		0.386			10.6	10	
Manganese	5.75	1.51	ng/m³ Air		5.79			0.614	10	
Molybdenum	1.88	0.287	ng/m³ Air		1.91			1.38	10	
Nickel	1.02	0.521	ng/m³ Air		1.14			11.6	10	
Selenium	0.192	0.00715	ng/m³ Air		0.178			7.66	10	B, LJ, QB-04, QX
Thallium	6.82E-4	4.70E-4	ng/m³ Air		6.51E-4			4.63	10	
Vanadium	0.717	0.0422	ng/m³ Air		0.723			0.813	10	
Zinc	ND	61.3	ng/m³ Air		ND				10	GC-BS, U
Duplicate (B4E2105-DUP2)			**Source: 4052040-02**		Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.107	0.0319	ng/m³ Air		0.0993			7.39	10	SL
Arsenic	0.284	0.00775	ng/m³ Air		0.277			2.68	10	
Barium	4.67	0.884	ng/m³ Air		4.14			12.1	10	
Beryllium	0.0263	0.00265	ng/m³ Air		0.0248			5.58	10	
Cadmium	ND	0.0613	ng/m³ Air		ND				10	U
Chromium	2.55	1.83	ng/m³ Air		2.45			4.09	10	
Cobalt	0.488	0.0360	ng/m³ Air		0.479			1.74	10	
Copper	50.8	2.17	ng/m³ Air		50.2			1.14	10	
Lead	0.624	0.177	ng/m³ Air		0.602			3.55	10	
Manganese	12.2	1.56	ng/m³ Air		12.0			2.20	10	
Molybdenum	2.54	0.297	ng/m³ Air		2.40			5.64	10	
Nickel	1.76	0.539	ng/m³ Air		1.65			6.38	10	
Selenium	0.245	0.00741	ng/m³ Air		0.219			11.4	10	B, LJ, QX
Thallium	0.00204	4.87E-4	ng/m³ Air		0.00205			0.683	10	
Vanadium	1.81	0.0437	ng/m³ Air		1.76			2.71	10	
Zinc	ND	63.5	ng/m³ Air		ND				10	GC-BS, U
Duplicate (B4E2105-DUP3)			**Source: 4052040-10**		Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.191	0.0343	ng/m³ Air		0.189			0.927	10	SL
Arsenic	1.31	0.00832	ng/m³ Air		1.31			0.0795	10	
Barium	4.68	0.950	ng/m³ Air		4.66			0.377	10	

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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 B4E2105 - ICP-MS Extraction										
Duplicate (B4E2105-DUP3) Continued		**Source: 4052040-10**		Prepared: 05/21/24 Analyzed: 05/22/24						
Beryllium	0.0112	0.00284	ng/m³ Air		0.0114			1.49	10	
Cadmium	ND	0.0658	ng/m³ Air		ND				10	U
Chromium	3.15	1.96	ng/m³ Air		3.18			0.836	10	
Cobalt	0.371	0.0387	ng/m³ Air		0.372			0.275	10	
Copper	33.1	2.34	ng/m³ Air		33.0			0.340	10	
Lead	1.76	0.190	ng/m³ Air		1.76			0.0117	10	
Manganese	11.5	1.68	ng/m³ Air		11.5			0.0660	10	
Molybdenum	1.60	0.319	ng/m³ Air		1.60			0.383	10	
Nickel	1.43	0.579	ng/m³ Air		1.42			0.405	10	
Selenium	0.174	0.00796	ng/m³ Air		0.174			0.343	10	B, LJ, QX
Thallium	0.00158	5.23E-4	ng/m³ Air		0.00159			0.239	10	
Vanadium	1.21	0.0470	ng/m³ Air		1.21			0.176	10	
Zinc	ND	68.2	ng/m³ Air		ND				10	GC-BS, U
Duplicate (B4E2105-DUP4)		**Source: 4052040-22**		Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	0.0579	0.0304	ng/m³ Air		0.0578			0.219	10	SL
Arsenic	0.476	0.00737	ng/m³ Air		0.475			0.194	10	
Barium	2.13	0.842	ng/m³ Air		2.14			0.358	10	
Beryllium	0.00492	0.00252	ng/m³ Air		0.00488			0.772	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	1.91	1.74	ng/m³ Air		1.92			0.511	10	
Cobalt	0.146	0.0343	ng/m³ Air		0.146			0.0643	10	
Copper	63.3	2.07	ng/m³ Air		63.2			0.170	10	
Lead	0.749	0.168	ng/m³ Air		0.746			0.438	10	
Manganese	4.10	1.49	ng/m³ Air		4.08			0.553	10	
Molybdenum	2.13	0.282	ng/m³ Air		2.12			0.0490	10	
Nickel	0.819	0.513	ng/m³ Air		0.817			0.263	10	
Selenium	0.205	0.00705	ng/m³ Air		0.208			1.65	10	QX, B, LJ, QB-04
Thallium	8.04E-4	4.63E-4	ng/m³ Air		8.21E-4			2.04	10	
Vanadium	0.372	0.0416	ng/m³ Air		0.372			0.0585	10	
Zinc	ND	60.4	ng/m³ Air		ND				10	GC-BS, U
Matrix Spike (B4E2105-MS1)		**Source: 4052040-20**		Prepared & Analyzed: 05/21/24						
Antimony	0.617	0.0308	ng/m³ Air	1.1043	0.0623	50.3	80-120			SL
Arsenic	2.33	0.00748	ng/m³ Air	2.2086	0.187	96.9	80-120			
Barium	25.2	0.854	ng/m³ Air	22.086	2.20	104	80-120			
Beryllium	1.03	0.00256	ng/m³ Air	1.1043	0.00969	92.5	80-120			
Cadmium	1.05	0.0592	ng/m³ Air	1.1043	ND	95.2	80-120			
Chromium	13.1	1.76	ng/m³ Air	11.043	2.25	98.4	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E2105 - ICP-MS Extraction										
Matrix Spike (B4E2105-MS1) Continued		**Source: 4052040-20**		Prepared & Analyzed: 05/21/24						
Cobalt	1.37	0.0348	ng/m³ Air	1.1043	0.259	100	80-120			
Copper	69.2	2.10	ng/m³ Air	22.086	45.3	108	80-120			
Lead	11.6	0.171	ng/m³ Air	11.043	0.386	101	80-120			
Manganese	12.2	1.51	ng/m³ Air	6.6258	5.79	96.8	80-120			
Molybdenum	2.95	0.287	ng/m³ Air	1.1043	1.91	93.9	80-120			
Nickel	3.14	0.521	ng/m³ Air	2.2086	1.14	90.5	80-120			
Selenium	2.38	0.00715	ng/m³ Air	2.2086	0.178	99.5	80-120			B, LJ, QB-04, QX
Thallium	0.109	4.70E-4	ng/m³ Air	0.11043	6.51E-4	98.0	80-120			
Vanadium	2.84	0.0422	ng/m³ Air	2.2086	0.723	95.7	80-120			
Zinc	85.6	61.3	ng/m³ Air	66.258	ND	129	80-120			GC-BS
Matrix Spike (B4E2105-MS2)		**Source: 4052040-02**		Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	0.747	0.0319	ng/m³ Air	1.1431	0.0993	56.7	80-120			SL
Arsenic	2.49	0.00775	ng/m³ Air	2.2863	0.277	96.7	80-120			
Barium	27.6	0.884	ng/m³ Air	22.863	4.14	102	80-120			
Beryllium	1.10	0.00265	ng/m³ Air	1.1431	0.0248	94.4	80-120			
Cadmium	1.08	0.0613	ng/m³ Air	1.1431	ND	94.3	80-120			
Chromium	13.7	1.83	ng/m³ Air	11.431	2.45	98.5	80-120			
Cobalt	1.62	0.0360	ng/m³ Air	1.1431	0.479	99.5	80-120			
Copper	72.8	2.17	ng/m³ Air	22.863	50.2	98.7	80-120			
Lead	12.1	0.177	ng/m³ Air	11.431	0.602	101	80-120			
Manganese	18.7	1.56	ng/m³ Air	6.8588	12.0	98.2	80-120			
Molybdenum	3.45	0.297	ng/m³ Air	1.1431	2.40	91.8	80-120			
Nickel	3.87	0.539	ng/m³ Air	2.2863	1.65	97.4	80-120			
Selenium	2.46	0.00741	ng/m³ Air	2.2863	0.219	98.2	80-120			B, LJ, QX
Thallium	0.112	4.87E-4	ng/m³ Air	0.11431	0.00205	96.3	80-120			
Vanadium	3.91	0.0437	ng/m³ Air	2.2863	1.76	94.0	80-120			
Zinc	96.1	63.5	ng/m³ Air	68.588	ND	140	80-120			GC-BS
Matrix Spike Dup (B4E2105-MSD1)		**Source: 4052040-20**		Prepared & Analyzed: 05/21/24						
Antimony	0.596	0.0308	ng/m³ Air	1.1043	0.0623	48.4	80-120	3.43	20	SL
Arsenic	2.32	0.00748	ng/m³ Air	2.2086	0.187	96.8	80-120	0.109	20	
Barium	25.1	0.854	ng/m³ Air	22.086	2.20	104	80-120	0.129	20	
Beryllium	1.03	0.00256	ng/m³ Air	1.1043	0.00969	92.8	80-120	0.278	20	
Cadmium	1.06	0.0592	ng/m³ Air	1.1043	ND	95.9	80-120	0.728	20	
Chromium	13.0	1.76	ng/m³ Air	11.043	2.25	97.2	80-120	0.990	20	
Cobalt	1.37	0.0348	ng/m³ Air	1.1043	0.259	100	80-120	0.187	20	
Copper	71.2	2.10	ng/m³ Air	22.086	45.3	117	80-120	2.91	20	
Lead	11.5	0.171	ng/m³ Air	11.043	0.386	101	80-120	0.534	20	

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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E2105 - ICP-MS Extraction										
Matrix Spike Dup (B4E2105-MSD1) Contir		**Source: 4052040-20**			Prepared & Analyzed: 05/21/24					
Manganese	12.1	1.51	ng/m³ Air	6.6258	5.79	95.3	80-120	0.823	20	
Molybdenum	3.11	0.287	ng/m³ Air	1.1043	1.91	109	80-120	5.40	20	
Nickel	3.16	0.521	ng/m³ Air	2.2086	1.14	91.2	80-120	0.459	20	
Selenium	2.38	0.00715	ng/m³ Air	2.2086	0.178	99.6	80-120	0.123	20	B, LJ, QB-04, QX
Thallium	0.109	4.70E-4	ng/m³ Air	0.11043	6.51E-4	98.2	80-120	0.226	20	
Vanadium	2.83	0.0422	ng/m³ Air	2.2086	0.723	95.2	80-120	0.387	20	
Zinc	82.4	61.3	ng/m³ Air	66.258	ND	124	80-120	3.86	20	GC-BS
Matrix Spike Dup (B4E2105-MSD2)		**Source: 4052040-02**			Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.720	0.0319	ng/m³ Air	1.1431	0.0993	54.3	80-120	3.69	20	SL
Arsenic	2.45	0.00775	ng/m³ Air	2.2863	0.277	95.0	80-120	1.63	20	
Barium	27.7	0.884	ng/m³ Air	22.863	4.14	103	80-120	0.643	20	
Beryllium	1.09	0.00265	ng/m³ Air	1.1431	0.0248	92.8	80-120	1.74	20	
Cadmium	1.08	0.0613	ng/m³ Air	1.1431	ND	94.9	80-120	0.590	20	
Chromium	13.8	1.83	ng/m³ Air	11.431	2.45	99.6	80-120	0.965	20	
Cobalt	1.63	0.0360	ng/m³ Air	1.1431	0.479	101	80-120	0.922	20	
Copper	74.0	2.17	ng/m³ Air	22.863	50.2	104	80-120	1.68	20	
Lead	12.1	0.177	ng/m³ Air	11.431	0.602	100	80-120	0.282	20	
Manganese	19.2	1.56	ng/m³ Air	6.8588	12.0	105	80-120	2.39	20	
Molybdenum	3.66	0.297	ng/m³ Air	1.1431	2.40	110	80-120	6.00	20	
Nickel	3.97	0.539	ng/m³ Air	2.2863	1.65	102	80-120	2.42	20	
Selenium	2.45	0.00741	ng/m³ Air	2.2863	0.219	97.5	80-120	0.617	20	B, LJ, QX
Thallium	0.112	4.87E-4	ng/m³ Air	0.11431	0.00205	96.1	80-120	0.210	20	
Vanadium	3.99	0.0437	ng/m³ Air	2.2863	1.76	97.5	80-120	2.02	20	
Zinc	94.2	63.5	ng/m³ Air	68.588	ND	137	80-120	1.94	20	GC-BS
Post Spike (B4E2105-PS1)		**Source: 4052040-20**			Prepared & Analyzed: 05/21/24					
Antimony	0.275	0.0308	ng/m³ Air	0.22086	0.0623	96.3	75-125			SL
Arsenic	1.25	0.00748	ng/m³ Air	1.1043	0.187	96.4	75-125			
Barium	4.36	0.854	ng/m³ Air	2.2086	2.20	98.0	75-125			
Beryllium	0.216	0.00256	ng/m³ Air	0.22086	0.00969	93.6	75-125			
Cadmium	0.128	0.0592	ng/m³ Air	0.11043	ND	116	75-125			
Chromium	3.32	1.76	ng/m³ Air	1.1043	2.25	97.3	75-125			
Cobalt	0.475	0.0348	ng/m³ Air	0.22086	0.259	97.8	75-125			
Copper	56.8	2.10	ng/m³ Air	11.043	45.3	104	75-125			
Lead	22.2	0.171	ng/m³ Air	22.086	0.386	98.6	75-125			
Manganese	7.96	1.51	ng/m³ Air	2.2086	5.79	98.1	75-125			
Molybdenum	2.92	0.287	ng/m³ Air	1.1043	1.91	91.5	75-125			
Nickel	3.31	0.521	ng/m³ Air	2.2086	1.14	98.2	75-125			

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: 05/31/24 09:23
SUBMITTED: 05/20/24
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 B4E2105 - ICP-MS Extraction										
Post Spike (B4E2105-PS1) Continued			**Source: 4052040-20**		Prepared & Analyzed: 05/21/24					
Selenium	1.23	0.00715	ng/m³ Air	1.1043	0.178	95.3	75-125			B, LJ, QB-04, QX
Thallium	0.0554	4.70E-4	ng/m³ Air	5.5215E-2	6.51E-4	99.2	75-125			
Vanadium	1.78	0.0422	ng/m³ Air	1.1043	0.723	95.5	75-125			
Zinc	ND	61.3	ng/m³ Air	22.086	ND		75-125			GC-BS, U
Post Spike (B4E2105-PS2)			**Source: 4052040-02**		Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.333	0.0319	ng/m³ Air	0.22863	0.0993	102	75-125			SL
Arsenic	1.39	0.00775	ng/m³ Air	1.1431	0.277	97.2	75-125			
Barium	6.50	0.884	ng/m³ Air	2.2863	4.14	103	75-125			
Beryllium	0.240	0.00265	ng/m³ Air	0.22863	0.0248	94.1	75-125			
Cadmium	0.125	0.0613	ng/m³ Air	0.11431	ND	110	75-125			
Chromium	3.56	1.83	ng/m³ Air	1.1431	2.45	96.9	75-125			
Cobalt	0.704	0.0360	ng/m³ Air	0.22863	0.479	98.1	75-125			
Copper	62.0	2.17	ng/m³ Air	11.431	50.2	103	75-125			
Lead	23.4	0.177	ng/m³ Air	22.863	0.602	99.8	75-125			
Manganese	14.3	1.56	ng/m³ Air	2.2863	12.0	100	75-125			
Molybdenum	3.48	0.297	ng/m³ Air	1.1431	2.40	94.3	75-125			
Nickel	3.92	0.539	ng/m³ Air	2.2863	1.65	99.4	75-125			
Selenium	1.32	0.00741	ng/m³ Air	1.1431	0.219	96.7	75-125			QX, B, LJ
Thallium	0.0582	4.87E-4	ng/m³ Air	5.7157E-2	0.00205	98.2	75-125			
Vanadium	2.85	0.0437	ng/m³ Air	1.1431	1.76	96.0	75-125			
Zinc	ND	63.5	ng/m³ Air	22.863	ND		75-125			GC-BS, U
Dilution Check (B4E2105-SRL1)			**Source: 4052040-20**		Prepared & Analyzed: 05/21/24					
Antimony	ND	0.154	ng/m³ Air		ND				10	SL, U
Arsenic	0.190	0.0374	ng/m³ Air		0.187			1.49	10	
Barium	ND	4.27	ng/m³ Air		ND				10	U
Beryllium	ND	0.0128	ng/m³ Air		ND				10	U
Cadmium	ND	0.296	ng/m³ Air		ND				10	U
Chromium	ND	8.82	ng/m³ Air		ND				10	U
Cobalt	0.261	0.174	ng/m³ Air		0.259			0.857	10	
Copper	46.0	10.5	ng/m³ Air		45.3			1.56	10	
Lead	ND	0.854	ng/m³ Air		ND				10	U
Manganese	ND	7.55	ng/m³ Air		ND				10	U
Molybdenum	1.89	1.43	ng/m³ Air		1.91			0.824	10	
Nickel	ND	2.60	ng/m³ Air		ND				10	U
Selenium	0.234	0.0358	ng/m³ Air		0.178			27.3	10	B, LJ, QB-04, QX
Thallium	ND	0.00235	ng/m³ Air		ND				10	U

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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 B4E2105 - ICP-MS Extraction										
Dilution Check (B4E2105-SRL1) Continue				**Source: 4052040-20**			Prepared & Analyzed: 05/21/24			
Vanadium	0.770	0.211	ng/m³ Air		0.723			6.21	10	
Zinc	ND	307	ng/m³ Air		ND				10	GC-BS, U
Dilution Check (B4E2105-SRL2)				**Source: 4052040-02**			Prepared: 05/21/24 Analyzed: 05/22/24			
Antimony	ND	0.160	ng/m³ Air		ND				10	SL, U
Arsenic	0.290	0.0387	ng/m³ Air		0.277			4.57	10	
Barium	ND	4.42	ng/m³ Air		ND				10	U
Beryllium	0.0246	0.0132	ng/m³ Air		0.0248			0.967	10	
Cadmium	ND	0.306	ng/m³ Air		ND				10	U
Chromium	ND	9.13	ng/m³ Air		ND				10	U
Cobalt	0.485	0.180	ng/m³ Air		0.479			1.09	10	
Copper	51.7	10.9	ng/m³ Air		50.2			2.87	10	
Lead	ND	0.884	ng/m³ Air		ND				10	U
Manganese	12.1	7.81	ng/m³ Air		12.0			1.41	10	
Molybdenum	2.44	1.48	ng/m³ Air		2.40			1.65	10	
Nickel	ND	2.69	ng/m³ Air		ND				10	U
Selenium	0.250	0.0370	ng/m³ Air		0.219			13.5	10	B, LJ, QX, SRD-01
Thallium	0.00278	0.00243	ng/m³ Air		ND			30.0	10	
Vanadium	1.81	0.219	ng/m³ Air		1.76			2.83	10	
Zinc	ND	317	ng/m³ Air		ND				10	GC-BS, 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.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
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 05/30/2024 & Shanna Vasser 06/03/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 05/09/2024-05/14
Report No: 4052040

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
X	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.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, copper, and selenium in MFL-FB01-050924-HM, for selenium in MFL-FB01-051124-HM, for selenium in MFL-FB01-051324-HM, and arsenic and selenium MFL-FB01-051524-HM.

Notes:

1. Report was revised on 05/31/2024 to correct sample ID for MFL-FB01-051524-HM.
2. The laboratory noted that samples MFL-AM02-051024-HM, MFL-AM02-051124-HM, MFL-AM02-051324-HM, MFL-AM03-051324-HM, MFL-AM04-051324-HM, and MFL-AM03-051424-HM were nonhomogeneous. There were no additional details; therefore, it is assumed the other samples met method criteria for analysis.