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

Lahaina, Maui

3/21/2024 – 3/27/2024

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 1.3 mph in a generally SE 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 (March 21-March 27), WW Pump Station #4 (March 21-March 27), Lahaina Intermediate School (March 21-March 27), Lahaina Boys & Girls Club (March 21-March 27).

The PM_{10} monitoring results were not found to have exceeded the screening level during this reporting period, as shown in **Table 2**.

Please note that ambient air monitoring for fine particulate matter, with a particle size diameter of 2.5 micrometers or less (PM2.5) 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 Lahaina Intermediate School on March 26 was voided due to a sample deployment error: the sample cassette cap was inadvertently left on for the duration of collection. All asbestos results were below the Site Screening Action Level (SSAL) of 0.003 fibers/cc and less than the lab's analytical sensitivity (see Table 1). Notably, the laboratory commented "Numerous gypsum fibers present" on samples collected at all monitoring stations from March 21 - March 27, except for the following samples:

- Leialii Hawaiian Homelands on March 21
- WW Pump Station #4 on March 22
- Lahaina Intermediate School on March 21, 22, and 24
- Lahaina Boys & Girls Club on March 22 and 24

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.

Low levels of heavy metals were detected in ambient air samples at all community sampling locations (see Table 1). 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 sampling according to the manufacturer's procedures.

For asbestos sampling, Tetra Tech uses a Casella Vortex 3 or similar air sampling pump. Sampling flow rates will be 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" (Appendix A) and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

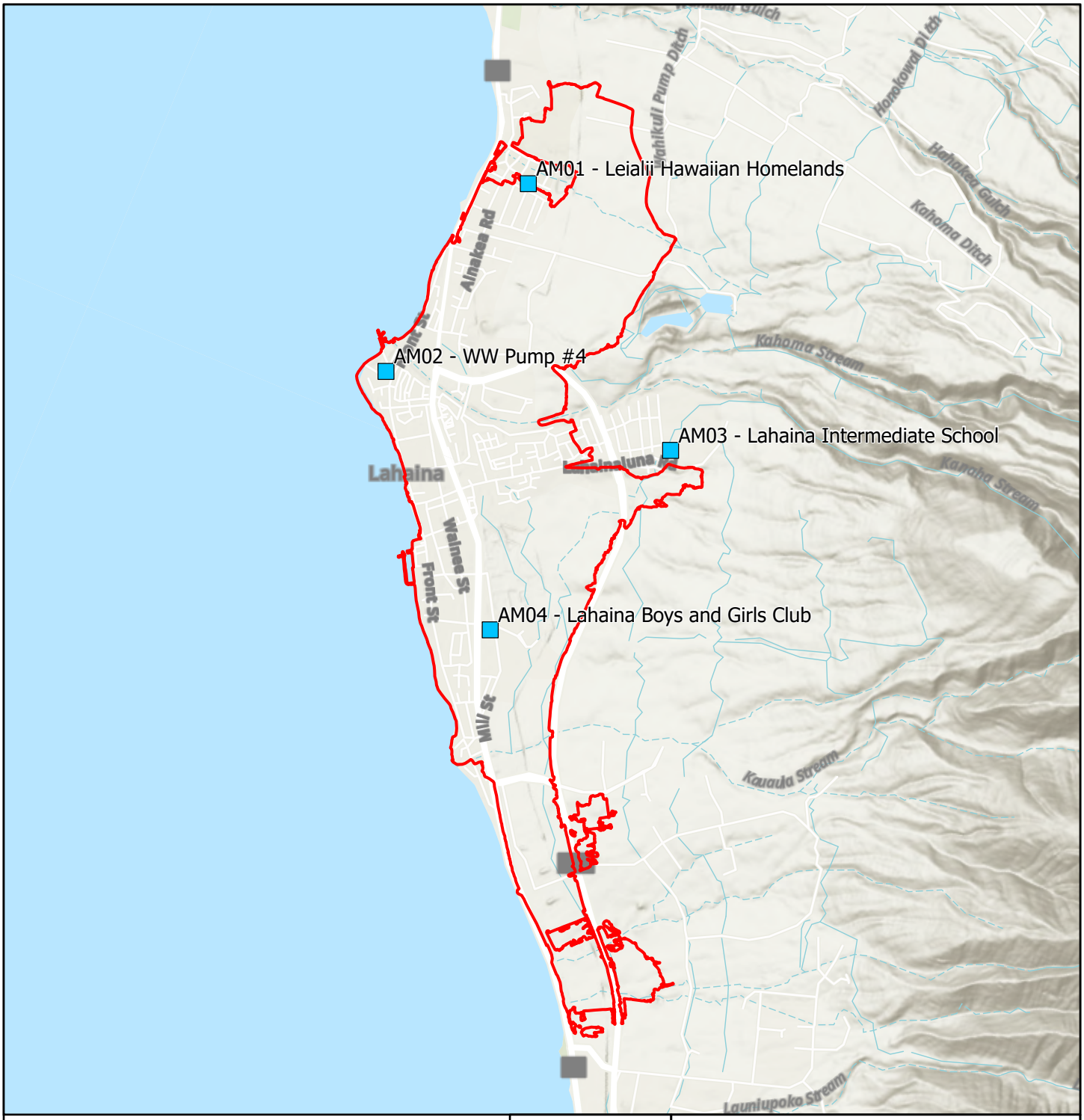
Tetra Tech is using Tisch Environmental High Volume Air Samplers, or equivalent, collocated with the real-time particulate monitors and asbestos samplers described above. Air samples for elemental metals at community locations are collected and analyzed in accordance with the following methods:

- 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
3/21/2024-3/27/2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^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
3/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000481	0.000415	0.00300	0.0000106	ND	0.00192	0.000308	0.0160	0.000524	0.0108	0.000838	0.000754	0.000186	0.00000221	0.000945	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000199	0.00127	0.0102	0.0000385	ND	0.00513	0.00139	0.0333	0.00276	0.0358	0.000944	0.00431	0.000372	0.00000304	0.00366	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000413	0.000284	0.00491	0.0000579	ND	0.00323	0.000872	0.0343	0.000615	0.0249	0.00103	0.00181	0.000362	0.00000284	0.00235	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000135	0.000579	0.00541	0.0000245	ND	0.00314	0.000642	0.0352	0.00126	0.0199	0.00148	0.00184	0.000264	0.00000243	0.00163	ND
3/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.000430	0.00232	0.00382	0.0000126	ND	0.00218	0.000402	0.0225	0.000719	0.0134	0.00113	0.000956	0.000180	0.00000282	0.00110	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000529	0.00305	0.0133	0.0000416	ND	0.00542	0.00150	0.0359	0.00282	0.0397	0.00107	0.00496	0.000362	0.00000353	0.00387	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.000162	0.00114	0.00486	0.0000318	ND	0.00253	0.000490	0.0297	0.000830	0.0130	0.000964	0.00150	0.000201	0.00000250	0.00118	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000191	0.00194	0.00515	0.0000154	ND	0.00274	0.000395	0.0379	0.00153	0.0135	0.00189	0.00141	0.000172	0.00000241	0.00104	ND
3/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.000102	0.00333	0.00734	0.00000996	ND	0.00310	0.000385	0.0269	0.000769	0.0112	0.00141	0.00120	0.000151	0.00000177	0.000947	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000159	0.000443	0.00414	0.0000127	ND	0.00207	0.000382	0.0232	0.000746	0.0111	0.00107	0.00162	0.000173	0.00000185	0.00109	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000746	0.000261	0.00317	0.0000182	ND	0.00187	0.000274	0.0319	0.000613	0.00777	0.00122	0.00107	0.000156	0.00000170	0.000800	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000980	0.000498	0.00329	0.00000959	ND	ND	0.000236	0.0280	0.000912	0.00822	0.00135	0.000761	0.000145	0.00000155	0.000723	ND
3/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000734	0.000621	0.00242	0.00000760	ND	ND	0.000261	0.0219	0.000443	0.00744	0.00134	0.000636	0.000167	0.00000165	0.000758	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000137	0.000381	0.00444	0.0000129	ND	0.00180	0.000354	0.0267	0.000924	0.0108	0.00124	0.00112	0.000205	0.00000185	0.00114	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000573	0.000191	0.00263	0.0000141	ND	ND	0.000224	0.0328	0.000684	0.00626	0.00124	0.000868	0.000190	0.00000158	0.000638	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000129	0.000612	0.00438	0.0000127	ND	0.00236	0.000344	0.0300	0.00186	0.0107	0.00150	0.00121	0.000219	0.00000185	0.000973	ND
3/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000100	0.000797	0.00384	0.00000976	ND	0.00214	0.000327	0.0251	0.00222	0.00977	0.00175	0.00121	0.000253	0.00000298	0.000962	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000137	0.000433	0.00534	0.0000172	ND	0.00241	0.000454	0.0223	0.000941	0.0135	0.00127	0.00188	0.000322	0.00000341	0.00154	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000653	0.000263	0.00379	0.0000178	ND	0.00285	0.000401	0.0278	0.000607	0.0109	0.00122	0.00165	0.000292	0.00000324	0.00119	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000982	0.000512	0.00436	0.0000120	ND	0.00194	0.000295	0.0306	0.00110	0.0102	0.00170	0.00114	0.000284	0.00000321	0.00105	ND
3/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000814	0.000401	0.00363	0.00000839	ND	ND	0.000226	0.0224	0.000710	0.00758	0.00167	0.00100	0.000288	0.00000324	0.00102	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000117	0.000438	0.00471	0.0000129	ND	ND	0.000271	0.0235	0.000949	0.00983	0.00138	0.00121	0.000320	0.00000334	0.00128	ND
	Lahaina Intermediate School (AM-03)		0.0000788	0.000259	0.00382	0.0000163	ND	0.00193	0.000319	0.0365	0.000865	0.00923	0.00125	0.00142	0.000333	0.00000352	0.00121	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000140	0.000614	0.00541	0.0000145	ND	0.00230	0.000373	0.0247	0.00141	0.0124	0.00146	0.00147	0.000351	0.00000335	0.00152	ND
3/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000628	0.000507	0.00430	0.0000125	ND	0.00223	0.000382	0.0270	0.000930	0.0121	0.00159	0.00127	0.000225	0.00000214	0.00115	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000199	0.000585	0.00834	0.0000192	ND	0.00424	0.000526	0.0356	0.00152	0.0172	0.00186	0.00233	0.000291	0.00000262	0.00163	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000908	0.000260	0.00435	0.0000254	ND	0.00240	0.000468	0.0342	0.000797	0.0120	0.00111	0.00146	0.000261	0.00000228	0.00122	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000160	0.000701	0.00509	0.0000103	ND	ND	0.000262	0.0327	0.00115	0.00886	0.00198	0.00129	0.000227	0.00000208	0.000818	ND
95% Upper Confidence Limit[2]		NA	0.000170	0.001080	0.00565	0.0000220	NA	0.00307	0.000530	0.0310	0.00132	0.0156	0.00146	0.00180	0.000280	0.00000280	0.00153	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
The asbestos sample was voided at Leialii Hawaiian Homelands on 3/26 due to a sample deployment error

Table 2
HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results for PM_{10}
Maui Wildfire, Lahaina
3/21/2024 - 3/27/2024

Screening Level		**150 µg/m^3**
3/21/2024	Leialii Hawaiian Homelands (AM-01)	5.2
	WW Pump Station #4 (AM-02)	8.7
	Lahaina Intermediate School (AM-03)	8.5
	Lahaina Boys & Girls Club (AM-04)	6.6
3/22/2024	Leialii Hawaiian Homelands (AM-01)	7.2
	WW Pump Station #4 (AM-02)	9.0
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Boys & Girls Club (AM-04)	6.6
3/23/2024	Leialii Hawaiian Homelands (AM-01)	7.4
	WW Pump Station #4 (AM-02)	6.5
	Lahaina Intermediate School (AM-03)	7.9
	Lahaina Boys & Girls Club (AM-04)	6.4
3/24/2024	Leialii Hawaiian Homelands (AM-01)	9.4
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	11
3/25/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	19
	Lahaina Intermediate School (AM-03)	18
	Lahaina Boys & Girls Club (AM-04)	18
3/26/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	15
	Lahaina Boys & Girls Club (AM-04)	14
3/27/2024	Leialii Hawaiian Homelands (AM-01)	5.5
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Boys & Girls Club (AM-04)	6.0

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

Table 3
Maui Wildfire - Lahaina
Meteorological Data
3/21/2024-3/27/2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
3/21/2024	AM-01	Leialii Hawaiian Homelands	1.9	SE	74	57	762.6
3/21/2024	AM-02	WW Pump Station #4	1.6	ESE	75	57	764.8
3/21/2024	AM-03	Lahaina Intermediate School	1.4	ESE	72	59	755.2
3/21/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSE	73	56	764.4
3/22/2024	AM-01	Leialii Hawaiian Homelands	1.6	SE	75	52	763.5
3/22/2024	AM-02	WW Pump Station #4	1.4	SE	75	55	765.7
3/22/2024	AM-03	Lahaina Intermediate School	1.3	ESE	72	55	756.2
3/22/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSE	73	54	765.3
3/23/2024	AM-01	Leialii Hawaiian Homelands	1.5	SE	75	55	764.0
3/23/2024	AM-02	WW Pump Station #4	1.3	SE	75	57	766.2
3/23/2024	AM-03	Lahaina Intermediate School	1.3	ESE	72	59	756.6
3/23/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	73	57	765.8
3/24/2024	AM-01	Leialii Hawaiian Homelands	1.3	SE	76	55	764.2
3/24/2024	AM-02	WW Pump Station #4	1.2	SE	76	58	766.4
3/24/2024	AM-03	Lahaina Intermediate School	1.2	SE	73	60	756.9
3/24/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	58	766.0
3/25/2024	AM-01	Leialii Hawaiian Homelands	1.3	SE	76	56	764.3
3/25/2024	AM-02	WW Pump Station #4	1.2	SE	76	60	766.5
3/25/2024	AM-03	Lahaina Intermediate School	1.2	SE	73	61	756.9
3/25/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	59	766.1
3/26/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	77	57	764.1
3/26/2024	AM-02	WW Pump Station #4	1.2	SE	76	61	766.3
3/26/2024	AM-03	Lahaina Intermediate School	1.2	SE	73	63	756.8
3/26/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	61	765.9
3/27/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	77	58	763.9
3/27/2024	AM-02	WW Pump Station #4	1.1	SE	76	62	766.1
3/27/2024	AM-03	Lahaina Intermediate School	1.1	SE	73	64	756.6
3/27/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	62	765.7

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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/28/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7395.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	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) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/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


Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0001 **Customer Sample:** MFL-AM01-032124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J9	None Detected									
A5	G7	None Detected									
A5	B6	None Detected									
A6	H4	None Detected									
A6	D3	None Detected									

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

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

EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7297.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.


Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0002 **Customer Sample:** MFL-AM02-032124-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	E1	None Detected									
B1	C3	None Detected									
B2	A9	None Detected									
B2	G7	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment


Approved Signatory

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

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406300-0003 **Customer Sample:** MFL-AM03-032124-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	A7	None Detected									
B5	F9	None Detected									
B5	H6	None Detected									
B6	G5	None Detected									
B6	B2	None Detected									

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

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

EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0004 **Customer Sample:** MFL-AM04-032124-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	C9	None Detected									
C1	E7	None Detected									
C1	H8	None Detected									
C2	I2	None Detected									
C2	B6	None Detected									

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

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

EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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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: 042406300-0005 **Customer Sample:** MFL-FB01-032124-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	J7	None Detected									
C5	H6	None Detected									
C5	F7	None Detected									
C5	D8	None Detected									
C5	B6	None Detected									
C6	J5	None Detected									
C6	H7	None Detected									
C6	F8	None Detected									
C6	D9	None Detected									
C6	B8	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
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EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7030.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.


Approved Signatory

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

EMSL Order ID:	**042406300**
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: 042406300-0006 **Customer Sample:** MFL-AM01-032224-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	J6	None Detected									
D1	G8	None Detected									
D1	B9	None Detected									
D2	G8	None Detected									
D2	B9	None Detected									

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

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

EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7222.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment


Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0007 **Customer Sample:** MFL-AM02-032224-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	A2	None Detected									
D5	D4	None Detected									
D5	I6	None Detected									
D6	H3	None Detected									
D6	B4	None Detected									

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

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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7245.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment


Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0008 **Customer Sample:** MFL-AM03-032224-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	B10	None Detected									
E1	E8	None Detected									
E1	I6	None Detected									
E2	A7	None Detected									
E2	J10	None Detected									

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

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

EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment


Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0009 **Customer Sample:** MFL-AM04-032224-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	I7	None Detected									
E5	F8	None Detected									
E5	D6	None Detected									
E6	I5	None Detected									
E6	C7	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment


Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0010 **Customer Sample:** MFL-FB01-032224-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	J6	None Detected									
F1	H5	None Detected									
F1	F3	None Detected									
F1	D4	None Detected									
F1	B2	None Detected									
F2	J2	None Detected									
F2	H4	None Detected									
F2	F3	None Detected									
F2	D1	None Detected									
F2	B3	None Detected									

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

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

EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7125.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.


Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0011 **Customer Sample:** MFL-AM01-032324-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	I2	None Detected									
F5	G4	None Detected									
F5	B4	None Detected									
F6	D7	None Detected									
F6	I4	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7187.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0012 **Customer Sample:** MFL-AM02-032324-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	I3	None Detected									
G1	F1	None Detected									
G1	D4	None Detected									
G2	H4	None Detected									
G2	C5	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042406300**
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: 042406300-0013 **Customer Sample:** MFL-AM03-032324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A6	None Detected									
G5	E7	None Detected									
G5	I9	None Detected									
G6	C7	None Detected									
G6	I6	None Detected									

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

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EMSL Order:	042406300
Customer ID:	TTDC42
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Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7193.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0014 **Customer Sample:** MFL-AM04-032324-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	J4	None Detected									
H1	E2	None Detected									
H1	B1	None Detected									
H2	G4	None Detected									
H2	D6	None Detected									

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

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Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0015 **Customer Sample:** MFL-FB01-032324-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	J4	None Detected									
H5	H6	None Detected									
H5	F7	None Detected									
H5	D8	None Detected									
H5	B10	None Detected									
H6	A3	None Detected									
H6	C3	None Detected									
H6	E7	None Detected									
H6	G4	None Detected									
H6	I5	None Detected									

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

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EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Tetra Tech
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6924.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.


Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0016 **Customer Sample:** MFL-AM01-032424-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					
I3	A4	None Detected									
I3	C2	None Detected									
I3	H3	None Detected									
I4	J10	None Detected									
I4	E10	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7264.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0017 **Customer Sample:** MFL-AM02-032424-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					
I7	G9	None Detected									
I7	E8	None Detected									
I7	C5	None Detected									
I8	F1	None Detected									
I8	I3	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:	042406300
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Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7185.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment


Approved Signatory

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EMSL Order ID:	**042406300**
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: 042406300-0018 **Customer Sample:** MFL-AM03-032424-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					
G6	H2	None Detected									
G6	F4	None Detected									
G6	C6	None Detected									
G7	I6	None Detected									
G7	G8	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7211.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment


Approved Signatory

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

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

EMSL Order ID: 042406300
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: 042406300-0019 **Customer Sample:** MFL-AM04-032424-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	J7	None Detected									
H1	H5	None Detected									
H1	C3	None Detected									
H2	H3	None Detected									
H2	D2	None Detected									

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

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

EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0020		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	S / mm²	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment


Approved Signatory

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

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

EMSL Order ID: 042406300
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: 042406300-0020 **Customer Sample:** MFL-FB01-032424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A7	None Detected									
H5	C6	None Detected									
H5	E8	None Detected									
H5	G7	None Detected									
H5	I9	None Detected									
H6	J6	None Detected									
H6	H2	None Detected									
H6	F4	None Detected									
H6	D3	None Detected									
H6	B2	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/28/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042406300-0021		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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

EMSL Order ID: 042406300
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: 042406300-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J9	None Detected									
A2	H8	None Detected									
A2	F7	None Detected									
A2	D10	None Detected									
A2	B8	None Detected									
A3	A2	None Detected									
A3	C3	None Detected									
A3	E3	None Detected									
A3	G6	None Detected									
A3	I7	None Detected									

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

OrderID: 042406300

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406300

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		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Suber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	Country:
Country:	USA		
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.suber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	E. Langston Saldaña	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

*Please call with your project-specific requirements.

RECEIVED EMSL CINNAMINSON, N.J. 2024 MAR 27 P 12:00

☐ 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-AM01-032124-AB		7,395.211	03/21/24 1100
MFL-AM02-032124-AB		7,297.758	03/21/24 1119
MFL-AM03-032124-AB		7,208.688	03/21/24 1303
MFL-AM04-032124-AB		7,178.759	03/21/24 1323
MFL-FB01-032124-AB		0	03/21/24 1200
MFL-AM01-032224-AB		7,030.382	03/22/24 1106
MFL-AM02-032224-AB		7,222.320	03/22/24 1122
MFL-AM03-032224-AB		7,245.792	03/22/24 1306

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:		Received by:	Date/Time: 03/25/24 1100
Relinquished by:	Date/Time:	Received by:	Date/Time: 3/27 PM

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: 042406300

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406300

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-AM04-032224-AB		7,225.920	03/22/24 1328
MFL-FB01-032224-AB		0	03/22/24 1200
MFL-AM01-032324-AB		7,125.403	03/23/24 1103
MFL-AM02-032324-AB		7,187.208	03/23/24 1122
MFL-AM03-032324-AB		7,219.737	03/23/24 1300
MFL-AM04-032324-AB		7,193.693	03/23/24 1325
MFL-FB01-032324-AB		0	03/23/24 1200
MFL-AM01-032424-AB		6,924.603	03/24/24 1059
MFL-AM02-032424-AB		7,264.522	03/24/24 1115
MFL-AM03-032424-AB		7,185.862	03/24/24 1305
MFL-AM04-032424-AB		7,211.736	03/24/24 1324
MFL-FB01-032424-AB		0	03/24/24 1200

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 MAR 27 P 12:00

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/25/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 4/3/2024 and Shanna Vasser 4/3/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/21/2024 – 3/24/2024
Report No: 42406300

√	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-032524-AB**

EMSL Sample Number:	042406645-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6948.3
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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042406645
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: 042406645-0001 **Customer Sample:** MFL-AM01-032524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A8	None Detected									
B2	D6	None Detected									
B2	G4	None Detected									
B3	C4	None Detected									
B3	I7	None Detected									

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

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-032524-AB**

EMSL Sample Number:	042406645-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.3
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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0002 **Customer Sample:** MFL-AM02-032524-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	I3	None Detected									
B5	G5	None Detected									
B5	B3	None Detected									
B6	C8	None Detected									
B6	H5	None Detected									

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

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-032524-AB**

EMSL Sample Number:	042406645-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7288.3
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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042406645
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: 042406645-0003 **Customer Sample:** MFL-AM03-032524-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	I3	None Detected									
C2	F7	None Detected									
C2	C4	None Detected									
C3	H3	None Detected									
C3	C1	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-032524-AB**

EMSL Sample Number:	042406645-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7265.1
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
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0004 **Customer Sample:** MFL-AM04-032524-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	J2	None Detected									
C5	G4	None Detected									
C5	E2	None Detected									
C6	H4	None Detected									
C6	C6	None Detected									

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

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-032524-AB**

EMSL Sample Number:	042406645-0005		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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected 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

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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: 042406645-0005 **Customer Sample:** MFL-FB01-032524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J6	None Detected									
D2	H5	None Detected									
D2	F3	None Detected									
D2	D6	None Detected									
D2	B4	None Detected									
D3	J2	None Detected									
D3	H4	None Detected									
D3	F7	None Detected									
D3	D5	None Detected									
D3	B3	None Detected									

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

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-032624-AB**

EMSL Sample Number:	042406645-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7273.8
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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
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

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

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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: 042406645
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: 042406645-0006 **Customer Sample:** MFL-AM01-032624-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	J6	None Detected									
D5	G7	None Detected									
D5	C6	None Detected									
D6	H7	None Detected									
D6	B9	None Detected									

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

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

EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-032624-AB**

EMSL Sample Number:	042406645-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.1
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:	P. Harrison
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.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042406645
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: 042406645-0007 **Customer Sample:** MFL-AM02-032624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	J8	None Detected									
E2	G6	None Detected									
E2	C8	None Detected									
E3	H8	None Detected									
E3	C5	None Detected									

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

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

EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-032624-AB**

EMSL Sample Number:	042406645-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7121.4
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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042406645
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: 042406645-0008 **Customer Sample:** MFL-AM04-032624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I3	None Detected									
E5	E4	None Detected									
E5	B2	None Detected									
E6	C9	None Detected									
E6	I6	None Detected									

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

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EMSL Order:	042406645
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
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-032624-AB**

EMSL Sample Number:	042406645-0009		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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected 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

Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0009 **Customer Sample:** MFL-FB01-032624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J2	None Detected									
F2	H1	None Detected									
F2	F2	None Detected									
F2	D1	None Detected									
F2	B2	None Detected									
F3	J1	None Detected									
F3	H3	None Detected									
F3	F1	None Detected									
F3	D4	None Detected									
F3	B5	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-032724-AB**

EMSL Sample Number:	042406645-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.6
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:	P. Harrison
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.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042406645
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: 042406645-0010 **Customer Sample:** MFL-AM01-032724-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	A6	None Detected									
F5	D7	None Detected									
F5	H9	None Detected									
F6	H3	None Detected									
F6	D6	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-032724-AB**

EMSL Sample Number:	042406645-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7210.5
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:	P. Harrison
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.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042406645
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: 042406645-0011 **Customer Sample:** MFL-AM02-032724-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	J6	None Detected									
G2	H5	None Detected									
G2	C6	None Detected									
G3	C7	None Detected									
G3	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-032724-AB**

EMSL Sample Number:	042406645-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.7
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
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042406645
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: 042406645-0012 **Customer Sample:** MFL-AM03-032724-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	E10	None Detected									
G5	H7	None Detected									
G6	C7	None Detected									
G6	H5	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-032724-AB**

EMSL Sample Number:	042406645-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0013 **Customer Sample:** MFL-AM04-032724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	C9	None Detected									
H2	F7	None Detected									
H2	I3	None Detected									
H3	H6	None Detected									
H3	C4	None Detected									

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

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-032724-AB**

EMSL Sample Number:	042406645-0014		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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected 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


Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0014 **Customer Sample:** MFL-FB01-032724-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	J4	None Detected									
H5	H3	None Detected									
H5	F2	None Detected									
H5	D1	None Detected									
H5	B3	None Detected									
H6	J3	None Detected									
H6	H4	None Detected									
H6	F4	None Detected									
H6	D5	None Detected									
H6	B4	None Detected									

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

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042406645-0015		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:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected 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

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

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

EMSL Order ID: 042406645
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: 042406645-0015 **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	A8	None Detected									
A1	J10	None Detected									
A2	J10	None Detected									
A2	I4	None Detected									
A2	G2	None Detected									
A2	E1	None Detected									
A2	C5	None Detected									
A2	A4	None Detected									
A3	A9	None Detected									
A3	C10	None Detected									

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

OrderID: 042406645

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042406645

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

RECEIVED EMSL CINNAMINSON, NJ 24 APR -1 AM 9:24

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 Suber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.suber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Elan Kenyon-Schein	Sampled By Signature:	
No. of Samples in Shipment	~~15~~ 14 (EKS)		

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-AM01-032524-AB		6,948.302	03/25/24 1109
MFL-AM02-032524-AB		7,205.328	03/25/24 1118
MFL-AM03-032524-AB		7,288.272	03/25/24 1308
MFL-AM04-032524-AB		7,265.088	03/25/24 1328
MFL-FB01-032524-AB		0	03/25/24 1200
MFL-AM01-032624-AB		7,273.773	03/26/24 1105
MFL-AM02-032624-AB		7,197.089	03/26/24 1133
~~MFL-AM03-032624-AB~~ (EKS)	VOID	7,185.476	03/26/24 1315

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

All samples received acceptable for analysis.

14 (EKS)

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 03/28/24 1100	Received by: FedEx
Date/Time: 4/1/24 9AM			
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.

OrderID: 042406645

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406645

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-AM04-032624-AB		7,121.387	03/26/24 1344
~~MFL-AM05~~ (EKS)	MFL-FB01-032624-AB	0	03/26/24 1200
MFL-AM01-032724-AB		7,134.574	03/27/24 1100
MFL-AM02-032724-AB		7,210.483	03/27/24 1125
MFL-AM03-032724-AB		7,221.747	03/27/24 1310
MFL-AM04-032724-AB		7,128.402	03/27/24 1333
MFL-FB01-032724-AB		0	03/27/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 APR -1 AM 9:24

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/28/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 4/9/2024 and Shanna Vasser 4/9/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/25/2024 – 3/27/2024
Report No: 42406645

√	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:

4. MFL-AM03-032624-AB was listed on the CoC with a note that it was void.
No results were present in the laboratory report for this sample because it was not shipped.

Notes: None

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

April 10, 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 04/01/24 11:42.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

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

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-032124-HM	4040126-01	Air	03/21/24 23:59	04/01/24 11:42
MFL-AM02-032124-HM	4040126-02	Air	03/21/24 23:59	04/01/24 11:42
MFL-AM03-032124-HM/MS/I	4040126-03	Air	03/21/24 23:59	04/01/24 11:42
MFL-AM04-032124-HM	4040126-04	Air	03/21/24 23:59	04/01/24 11:42
MFL-AM01-032224-HM	4040126-05	Air	03/22/24 23:59	04/01/24 11:42
MFL-AM02-032224-HM	4040126-06	Air	03/22/24 23:59	04/01/24 11:42
MFL-AM03-032224-HM	4040126-07	Air	03/22/24 23:59	04/01/24 11:42
MFL-AM04-032224-HM	4040126-08	Air	03/22/24 23:59	04/01/24 11:42
MFL-FB01-032224-HM	4040126-09	Air	03/22/24 00:00	04/01/24 11:42
MFL-AM01-032324-HM	4040126-10	Air	03/23/24 23:59	04/01/24 11:42
MFL-AM02-032324-HM	4040126-11	Air	03/23/24 23:59	04/01/24 11:42
MFL-AM03-032324-HM	4040126-12	Air	03/23/24 23:59	04/01/24 11:42
MFL-AM04-032324-HM	4040126-13	Air	03/23/24 23:59	04/01/24 11:42
MFL-AM01-032424-HM	4040126-14	Air	03/24/24 23:59	04/01/24 11:42
MFL-AM02-032424-HM	4040126-15	Air	03/24/24 23:59	04/01/24 11:42
MFL-AM03-032424-HM	4040126-16	Air	03/24/24 23:59	04/01/24 11:42
MFL-AM04-032424-HM	4040126-17	Air	03/24/24 23:59	04/01/24 11:42
MFL-FB01-032424-HM	4040126-18	Air	03/24/24 00:00	04/01/24 11:42
MFL-AM01-032524-HM	4040126-19	Air	03/25/24 23:59	04/01/24 11:42
MFL-AM02-032524-HM	4040126-20	Air	03/25/24 23:59	04/01/24 11:42
MFL-AM03-032524-HM	4040126-21	Air	03/25/24 23:59	04/01/24 11:42

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-032524-HM	4040126-22	Air	03/25/24 23:59	04/01/24 11:42
MFL-AM01-032624-HM/MS/I	4040126-23	Air	03/26/24 23:59	04/01/24 11:42
MFL-AM02-032624-HM	4040126-24	Air	03/26/24 23:59	04/01/24 11:42
MFL-AM03-032624-HM	4040126-25	Air	03/26/24 23:59	04/01/24 11:42
MFL-AM04-032624-HM	4040126-26	Air	03/26/24 23:59	04/01/24 11:42
MFL-FB01-032624-HM	4040126-27	Air	03/26/24 00:00	04/01/24 11:42
MFL-AM01-032724-HM	4040126-28	Air	03/27/24 23:59	04/01/24 11:42
MFL-AM02-032724-HM	4040126-29	Air	03/27/24 23:59	04/01/24 11:42
MFL-AM03-032724-HM	4040126-30	Air	03/27/24 23:59	04/01/24 11:42
MFL-AM04-032724-HM	4040126-31	Air	03/27/24 23:59	04/01/24 11:42

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032124-HM
Matrix: Air
Lab ID: 4040126-01
Sample Volume: 2150.756 m³
Filter ID:
Sampled: 03/21/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 02:32

Comments: Q9516911 - 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**	**0.0481**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.415**		**0.00709**
Barium	**7440-39-3**	**3.00**		**0.809**
Beryllium	**7440-41-7**	**0.0106**		**0.00242**
Cadmium	7440-43-9	0.0159	U	0.0561
Chromium	**7440-47-3**	**1.92**		**1.67**
Cobalt	**7440-48-4**	**0.308**		**0.0330**
Copper	**7440-50-8**	**16.0**		**1.99**
Lead	**7439-92-1**	**0.524**		**0.162**
Manganese	**7439-96-5**	**10.8**		**1.43**
Molybdenum	**7439-98-7**	**0.838**		**0.272**
Nickel	**7440-02-0**	**0.754**		**0.493**
Selenium	**7782-49-2**	**0.186**		**0.00678**
Thallium	**7440-28-0**	**0.00221**	QB-04	**4.46E-4**
Vanadium	**7440-62-2**	**0.945**		**0.0400**
Zinc	7440-66-6	9.27	U	58.1

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032124-HM
Matrix: Air
Lab ID: 4040126-02
Sample Volume: 2165.271 m³
Filter ID:
Sampled: 03/21/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 02:46

Comments: Q9516910 - 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**	**0.199**	SL	**0.0290**
Arsenic	**7440-38-2**	**1.27**		**0.00704**
Barium	**7440-39-3**	**10.2**		**0.804**
Beryllium	**7440-41-7**	**0.0385**		**0.00240**
Cadmium	7440-43-9	0.0424	U	0.0557
Chromium	**7440-47-3**	**5.13**		**1.66**
Cobalt	**7440-48-4**	**1.39**		**0.0328**
Copper	**7440-50-8**	**33.3**		**1.98**
Lead	**7439-92-1**	**2.76**		**0.161**
Manganese	**7439-96-5**	**35.8**		**1.42**
Molybdenum	**7439-98-7**	**0.944**		**0.270**
Nickel	**7440-02-0**	**4.31**		**0.490**
Selenium	**7782-49-2**	**0.372**		**0.00673**
Thallium	**7440-28-0**	**0.00304**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**3.66**		**0.0397**
Zinc	7440-66-6	36.2	U	57.7

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032124-HM/MS/MS **Lab ID:** 4040126-03 **Sampled:** 03/21/24 23:59
Matrix: Air **Sample Volume:** 2157.564 m³ **Received:** 04/01/24 11:42
Filter ID: **Analysis Date:** 04/03/24 20:16

Comments: Q9516909 - 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**	**0.0413**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.284**		**0.00707**
Barium	**7440-39-3**	**4.91**		**0.807**
Beryllium	**7440-41-7**	**0.0579**		**0.00241**
Cadmium	7440-43-9	0.0168	U	0.0559
Chromium	**7440-47-3**	**3.23**		**1.67**
Cobalt	**7440-48-4**	**0.872**		**0.0329**
Copper	**7440-50-8**	**34.3**		**1.98**
Lead	**7439-92-1**	**0.615**		**0.161**
Manganese	**7439-96-5**	**24.9**		**1.43**
Molybdenum	**7439-98-7**	**1.03**		**0.271**
Nickel	**7440-02-0**	**1.81**		**0.492**
Selenium	**7782-49-2**	**0.362**	SRD-01	**0.00676**
Thallium	**7440-28-0**	**0.00284**	QB-04	**4.44E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0399**
Zinc	7440-66-6	9.09	U	57.9

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032124-HM
Matrix: Air
Lab ID: 4040126-04
Sample Volume: 1950.663 m³
Filter ID:
Sampled: 03/21/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 03:02

Comments: Q9516908 - 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**	**0.135**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.579**		**0.00782**
Barium	**7440-39-3**	**5.41**		**0.892**
Beryllium	**7440-41-7**	**0.0245**		**0.00267**
Cadmium	7440-43-9	0.0191	U	0.0618
Chromium	**7440-47-3**	**3.14**		**1.84**
Cobalt	**7440-48-4**	**0.642**		**0.0364**
Copper	**7440-50-8**	**35.2**		**2.19**
Lead	**7439-92-1**	**1.26**		**0.178**
Manganese	**7439-96-5**	**19.9**		**1.58**
Molybdenum	**7439-98-7**	**1.48**		**0.299**
Nickel	**7440-02-0**	**1.84**		**0.544**
Selenium	**7782-49-2**	**0.264**		**0.00747**
Thallium	**7440-28-0**	**0.00243**	QB-04	**4.91E-4**
Vanadium	**7440-62-2**	**1.63**		**0.0441**
Zinc	7440-66-6	22.3	U	64.1

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032224-HM
Matrix: Air
Lab ID: 4040126-05
Sample Volume: 2161.577 m³
Filter ID:
Sampled: 03/22/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 03:18

Comments: Q9516907 - 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**	**0.430**	SL	**0.0291**
Arsenic	**7440-38-2**	**2.32**		**0.00705**
Barium	**7440-39-3**	**3.82**		**0.805**
Beryllium	**7440-41-7**	**0.0126**		**0.00241**
Cadmium	7440-43-9	0.0224	U	0.0558
Chromium	**7440-47-3**	**2.18**		**1.66**
Cobalt	**7440-48-4**	**0.402**		**0.0328**
Copper	**7440-50-8**	**22.5**		**1.98**
Lead	**7439-92-1**	**0.719**		**0.161**
Manganese	**7439-96-5**	**13.4**		**1.42**
Molybdenum	**7439-98-7**	**1.13**		**0.270**
Nickel	**7440-02-0**	**0.956**		**0.491**
Selenium	**7782-49-2**	**0.180**		**0.00674**
Thallium	**7440-28-0**	**0.00282**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0398**
Zinc	7440-66-6	11.1	U	57.8

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032224-HM
Matrix: Air
Lab ID: 4040126-06
Sample Volume: 2115.726 m³
Filter ID:
Sampled: 03/22/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 03:32

Comments: Q9516905 - Filter damaged during collection

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.529**	SL	**0.0297**
Arsenic	**7440-38-2**	**3.05**		**0.00721**
Barium	**7440-39-3**	**13.3**		**0.823**
Beryllium	**7440-41-7**	**0.0416**		**0.00246**
Cadmium	7440-43-9	0.0505	U	0.0570
Chromium	**7440-47-3**	**5.42**		**1.70**
Cobalt	**7440-48-4**	**1.50**		**0.0335**
Copper	**7440-50-8**	**35.9**		**2.02**
Lead	**7439-92-1**	**2.82**		**0.165**
Manganese	**7439-96-5**	**39.7**		**1.45**
Molybdenum	**7439-98-7**	**1.07**		**0.276**
Nickel	**7440-02-0**	**4.96**		**0.501**
Selenium	**7782-49-2**	**0.362**		**0.00689**
Thallium	**7440-28-0**	**0.00353**	QB-04	**4.53E-4**
Vanadium	**7440-62-2**	**3.87**		**0.0407**
Zinc	7440-66-6	33.0	U	59.1

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032224-HM
Matrix: Air
Lab ID: 4040126-07
Sample Volume: 2076.459 m³
Filter ID:
Sampled: 03/22/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 03:50

Comments: Q8507600 - 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**	**0.162**	SL	**0.0302**
Arsenic	**7440-38-2**	**1.14**		**0.00734**
Barium	**7440-39-3**	**4.86**		**0.838**
Beryllium	**7440-41-7**	**0.0318**		**0.00251**
Cadmium	7440-43-9	0.0172	U	0.0581
Chromium	**7440-47-3**	**2.53**		**1.73**
Cobalt	**7440-48-4**	**0.490**		**0.0342**
Copper	**7440-50-8**	**29.7**		**2.06**
Lead	**7439-92-1**	**0.830**		**0.168**
Manganese	**7439-96-5**	**13.0**		**1.48**
Molybdenum	**7439-98-7**	**0.964**		**0.281**
Nickel	**7440-02-0**	**1.50**		**0.511**
Selenium	**7782-49-2**	**0.201**		**0.00702**
Thallium	**7440-28-0**	**0.00250**	QB-04	**4.62E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0414**
Zinc	7440-66-6	11.5	U	60.2

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032224-HM
Matrix: Air
Lab ID: 4040126-08
Sample Volume: 1892.914 m³
Filter ID:
Sampled: 03/22/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 04:05

Comments: Q8507605 - 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**	**0.191**	SL	**0.0332**
Arsenic	**7440-38-2**	**1.94**		**0.00805**
Barium	**7440-39-3**	**5.15**		**0.920**
Beryllium	**7440-41-7**	**0.0154**		**0.00275**
Cadmium	7440-43-9	0.0284	U	0.0637
Chromium	**7440-47-3**	**2.74**		**1.90**
Cobalt	**7440-48-4**	**0.395**		**0.0375**
Copper	**7440-50-8**	**37.9**		**2.26**
Lead	**7439-92-1**	**1.53**		**0.184**
Manganese	**7439-96-5**	**13.5**		**1.62**
Molybdenum	**7439-98-7**	**1.89**		**0.309**
Nickel	**7440-02-0**	**1.41**		**0.560**
Selenium	**7782-49-2**	**0.172**		**0.00770**
Thallium	**7440-28-0**	**0.00241**	QB-04	**5.06E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0455**
Zinc	7440-66-6	18.7	U	66.0

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-032224-HM
Matrix: Air
Lab ID: 4040126-09
Sample Volume: 2161.577 m³
Filter ID:
Sampled: 03/22/24 00:00
Received: 04/01/24 11:42
Analysis Date: 04/04/24 04:19

Comments: Q8507602 - 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	0.0157	SL, U	0.0291
Arsenic	**7440-38-2**	**0.00757**	FB-01	**0.00705**
Barium	7440-39-3	0.728	U	0.805
Beryllium	7440-41-7	6.57E-4	U	0.00241
Cadmium	7440-43-9	5.90E-4	U	0.0558
Chromium	7440-47-3	0.767	U	1.66
Cobalt	7440-48-4	0.0113	U	0.0328
Copper	7440-50-8	1.30	U	1.98
Lead	7439-92-1	0.0525	U	0.161
Manganese	7439-96-5	0.214	U	1.42
Molybdenum	7439-98-7	0.123	U	0.270
Nickel	7440-02-0	0.328	U	0.491
Selenium	7782-49-2	0.00233	U	0.00674
Thallium	7440-28-0	1.17E-4	QB-04, U	4.43E-4
Vanadium	7440-62-2	0.0159	U	0.0398
Zinc	7440-66-6	3.18	U	57.8

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032324-HM
Matrix: Air
Lab ID: 4040126-10
Sample Volume: 2004.509 m³
Filter ID:
Sampled: 03/23/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 04:32

Comments: Q8507604 - 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**	**0.102**	SL	**0.0313**
Arsenic	**7440-38-2**	**3.33**		**0.00761**
Barium	**7440-39-3**	**7.34**		**0.868**
Beryllium	**7440-41-7**	**0.00996**		**0.00260**
Cadmium	7440-43-9	0.0131	U	0.0601
Chromium	**7440-47-3**	**3.10**		**1.79**
Cobalt	**7440-48-4**	**0.385**		**0.0354**
Copper	**7440-50-8**	**26.9**		**2.13**
Lead	**7439-92-1**	**0.769**		**0.174**
Manganese	**7439-96-5**	**11.2**		**1.53**
Molybdenum	**7439-98-7**	**1.41**		**0.291**
Nickel	**7440-02-0**	**1.20**		**0.529**
Selenium	**7782-49-2**	**0.151**		**0.00727**
Thallium	**7440-28-0**	**0.00177**	QB-04	**4.78E-4**
Vanadium	**7440-62-2**	**0.947**		**0.0429**
Zinc	7440-66-6	14.9	U	62.3

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032324-HM
Matrix: Air
Lab ID: 4040126-11
Sample Volume: 1996.858 m³
Filter ID:
Sampled: 03/23/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 05:35

Comments: Q8507603 - 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**	**0.159**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.443**		**0.00763**
Barium	**7440-39-3**	**4.14**		**0.872**
Beryllium	**7440-41-7**	**0.0127**		**0.00261**
Cadmium	7440-43-9	0.0134	U	0.0604
Chromium	**7440-47-3**	**2.07**		**1.80**
Cobalt	**7440-48-4**	**0.382**		**0.0355**
Copper	**7440-50-8**	**23.2**		**2.14**
Lead	**7439-92-1**	**0.746**		**0.174**
Manganese	**7439-96-5**	**11.1**		**1.54**
Molybdenum	**7439-98-7**	**1.07**		**0.293**
Nickel	**7440-02-0**	**1.62**		**0.531**
Selenium	**7782-49-2**	**0.173**		**0.00730**
Thallium	**7440-28-0**	**0.00185**	QB-04	**4.80E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0431**
Zinc	7440-66-6	11.1	U	62.6

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032324-HM
Matrix: Air
Lab ID: 4040126-12
Sample Volume: 2029.056 m³
Filter ID:
Sampled: 03/23/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 06:04

Comments: Q8507601 - 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**	**0.0746**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.261**		**0.00751**
Barium	**7440-39-3**	**3.17**		**0.858**
Beryllium	**7440-41-7**	**0.0182**		**0.00257**
Cadmium	7440-43-9	0.0115	U	0.0594
Chromium	**7440-47-3**	**1.87**		**1.77**
Cobalt	**7440-48-4**	**0.274**		**0.0350**
Copper	**7440-50-8**	**31.9**		**2.11**
Lead	**7439-92-1**	**0.613**		**0.172**
Manganese	**7439-96-5**	**7.77**		**1.52**
Molybdenum	**7439-98-7**	**1.22**		**0.288**
Nickel	**7440-02-0**	**1.07**		**0.523**
Selenium	**7782-49-2**	**0.156**		**0.00718**
Thallium	**7440-28-0**	**0.00170**	QB-04	**4.72E-4**
Vanadium	**7440-62-2**	**0.800**		**0.0424**
Zinc	7440-66-6	10.4	U	61.6

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032324-HM
Matrix: Air
Lab ID: 4040126-13
Sample Volume: 1987.521 m³
Filter ID:
Sampled: 03/23/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 06:19

Comments: Q9516904 - 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**	**0.0980**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.498**		**0.00767**
Barium	**7440-39-3**	**3.29**		**0.876**
Beryllium	**7440-41-7**	**0.00959**		**0.00262**
Cadmium	7440-43-9	0.0133	U	0.0607
Chromium	7440-47-3	1.51	U	1.81
Cobalt	**7440-48-4**	**0.236**		**0.0357**
Copper	**7440-50-8**	**28.0**		**2.15**
Lead	**7439-92-1**	**0.912**		**0.175**
Manganese	**7439-96-5**	**8.22**		**1.55**
Molybdenum	**7439-98-7**	**1.35**		**0.294**
Nickel	**7440-02-0**	**0.761**		**0.534**
Selenium	**7782-49-2**	**0.145**		**0.00733**
Thallium	**7440-28-0**	**0.00155**	QB-04	**4.82E-4**
Vanadium	**7440-62-2**	**0.723**		**0.0433**
Zinc	7440-66-6	11.3	U	62.9

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032424-HM
Matrix: Air
Lab ID: 4040126-14
Sample Volume: 2148.05 m³
Filter ID:
Sampled: 03/24/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 06:33

Comments: Q9516903 - 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**	**0.0734**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.621**		**0.00710**
Barium	**7440-39-3**	**2.42**		**0.810**
Beryllium	**7440-41-7**	**0.00760**		**0.00242**
Cadmium	7440-43-9	0.0102	U	0.0561
Chromium	7440-47-3	1.53	U	1.67
Cobalt	**7440-48-4**	**0.261**		**0.0330**
Copper	**7440-50-8**	**21.9**		**1.99**
Lead	**7439-92-1**	**0.443**		**0.162**
Manganese	**7439-96-5**	**7.44**		**1.43**
Molybdenum	**7439-98-7**	**1.34**		**0.272**
Nickel	**7440-02-0**	**0.636**		**0.494**
Selenium	**7782-49-2**	**0.167**		**0.00679**
Thallium	**7440-28-0**	**0.00165**	QB-04	**4.46E-4**
Vanadium	**7440-62-2**	**0.758**		**0.0401**
Zinc	7440-66-6	9.49	U	58.2

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032424-HM
Matrix: Air
Lab ID: 4040126-15
Sample Volume: 2162.541 m³
Filter ID:
Sampled: 03/24/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 06:46

Comments: Q9516901 - 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**	**0.137**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.381**		**0.00705**
Barium	**7440-39-3**	**4.44**		**0.805**
Beryllium	**7440-41-7**	**0.0129**		**0.00241**
Cadmium	7440-43-9	0.0454	U	0.0557
Chromium	**7440-47-3**	**1.80**		**1.66**
Cobalt	**7440-48-4**	**0.354**		**0.0328**
Copper	**7440-50-8**	**26.7**		**1.98**
Lead	**7439-92-1**	**0.924**		**0.161**
Manganese	**7439-96-5**	**10.8**		**1.42**
Molybdenum	**7439-98-7**	**1.24**		**0.270**
Nickel	**7440-02-0**	**1.12**		**0.491**
Selenium	**7782-49-2**	**0.205**		**0.00674**
Thallium	**7440-28-0**	**0.00185**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0398**
Zinc	7440-66-6	12.6	U	57.8

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032424-HM
Matrix: Air
Lab ID: 4040126-16
Sample Volume: 2064.054 m³
Filter ID:
Sampled: 03/24/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 07:01

Comments: Q8507580 - 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**	**0.0573**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.191**		**0.00739**
Barium	**7440-39-3**	**2.63**		**0.843**
Beryllium	**7440-41-7**	**0.0141**		**0.00252**
Cadmium	7440-43-9	0.0123	U	0.0584
Chromium	7440-47-3	1.58	U	1.74
Cobalt	**7440-48-4**	**0.224**		**0.0344**
Copper	**7440-50-8**	**32.8**		**2.07**
Lead	**7439-92-1**	**0.684**		**0.169**
Manganese	**7439-96-5**	**6.26**		**1.49**
Molybdenum	**7439-98-7**	**1.24**		**0.283**
Nickel	**7440-02-0**	**0.868**		**0.514**
Selenium	**7782-49-2**	**0.190**		**0.00706**
Thallium	**7440-28-0**	**0.00158**	QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**0.638**		**0.0417**
Zinc	7440-66-6	8.63	U	60.5

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032424-HM
Matrix: Air
Lab ID: 4040126-17
Sample Volume: 1859.18 m³
Filter ID:
Sampled: 03/24/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 07:16

Comments: Q8507597 - 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**	**0.129**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.612**		**0.00820**
Barium	**7440-39-3**	**4.38**		**0.936**
Beryllium	**7440-41-7**	**0.0127**		**0.00280**
Cadmium	7440-43-9	0.0179	U	0.0648
Chromium	**7440-47-3**	**2.36**		**1.93**
Cobalt	**7440-48-4**	**0.344**		**0.0382**
Copper	**7440-50-8**	**30.0**		**2.30**
Lead	**7439-92-1**	**1.86**		**0.187**
Manganese	**7439-96-5**	**10.7**		**1.65**
Molybdenum	**7439-98-7**	**1.50**		**0.314**
Nickel	**7440-02-0**	**1.21**		**0.571**
Selenium	**7782-49-2**	**0.219**		**0.00784**
Thallium	**7440-28-0**	**0.00185**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**0.973**		**0.0463**
Zinc	7440-66-6	14.0	U	67.2

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-032424-HM
Matrix: Air
Lab ID: 4040126-18
Sample Volume: 2148.05 m³
Filter ID:
Sampled: 03/24/24 00:00
Received: 04/01/24 11:42
Analysis Date: 04/04/24 07:32

Comments: Q8507588 - 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	0.0172	SL, U	0.0292
Arsenic	**7440-38-2**	**0.00918**	FB-01	**0.00710**
Barium	7440-39-3	0.805	U	0.810
Beryllium	7440-41-7	7.49E-4	U	0.00242
Cadmium	7440-43-9	0.00115	U	0.0561
Chromium	7440-47-3	0.792	U	1.67
Cobalt	7440-48-4	0.0137	U	0.0330
Copper	**7440-50-8**	**2.23**	FB-01	**1.99**
Lead	7439-92-1	0.0687	U	0.162
Manganese	7439-96-5	0.268	U	1.43
Molybdenum	7439-98-7	0.133	U	0.272
Nickel	7440-02-0	0.395	U	0.494
Selenium	7782-49-2	0.00595	U	0.00679
Thallium	7440-28-0	1.07E-4	QB-04, U	4.46E-4
Vanadium	7440-62-2	0.0197	U	0.0401
Zinc	7440-66-6	3.91	U	58.2

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032524-HM
Matrix: Air
Lab ID: 4040126-19
Sample Volume: 2016.276 m³
Filter ID:
Sampled: 03/25/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 07:45

Comments: Q8507595 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.797**		**0.00756**
Barium	**7440-39-3**	**3.84**		**0.863**
Beryllium	**7440-41-7**	**0.00976**		**0.00258**
Cadmium	7440-43-9	0.0209	U	0.0598
Chromium	**7440-47-3**	**2.14**		**1.78**
Cobalt	**7440-48-4**	**0.327**		**0.0352**
Copper	**7440-50-8**	**25.1**		**2.12**
Lead	**7439-92-1**	**2.22**		**0.173**
Manganese	**7439-96-5**	**9.77**		**1.53**
Molybdenum	**7439-98-7**	**1.75**		**0.290**
Nickel	**7440-02-0**	**1.21**		**0.526**
Selenium	**7782-49-2**	**0.253**		**0.00723**
Thallium	**7440-28-0**	**0.00298**	QB-04	**4.75E-4**
Vanadium	**7440-62-2**	**0.962**		**0.0427**
Zinc	7440-66-6	11.1	U	62.0

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032524-HM
Matrix: Air
Lab ID: 4040126-20
Sample Volume: 2017.763 m³
Filter ID:
Sampled: 03/25/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 08:48

Comments: Q8507594 - 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**	**0.137**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.433**		**0.00756**
Barium	**7440-39-3**	**5.34**		**0.863**
Beryllium	**7440-41-7**	**0.0172**		**0.00258**
Cadmium	7440-43-9	0.0176	U	0.0597
Chromium	**7440-47-3**	**2.41**		**1.78**
Cobalt	**7440-48-4**	**0.454**		**0.0352**
Copper	**7440-50-8**	**22.3**		**2.12**
Lead	**7439-92-1**	**0.941**		**0.173**
Manganese	**7439-96-5**	**13.5**		**1.52**
Molybdenum	**7439-98-7**	**1.27**		**0.289**
Nickel	**7440-02-0**	**1.88**		**0.526**
Selenium	**7782-49-2**	**0.322**		**0.00722**
Thallium	**7440-28-0**	**0.00341**	QB-04	**4.75E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0427**
Zinc	7440-66-6	12.6	U	61.9

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032524-HM
Matrix: Air
Lab ID: 4040126-21
Sample Volume: 2074.074 m³
Filter ID:
Sampled: 03/25/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 09:03

Comments: Q8507590 - 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**	**0.0653**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.263**		**0.00735**
Barium	**7440-39-3**	**3.79**		**0.839**
Beryllium	**7440-41-7**	**0.0178**		**0.00251**
Cadmium	7440-43-9	0.0152	U	0.0581
Chromium	**7440-47-3**	**2.85**		**1.73**
Cobalt	**7440-48-4**	**0.401**		**0.0342**
Copper	**7440-50-8**	**27.8**		**2.06**
Lead	**7439-92-1**	**0.607**		**0.168**
Manganese	**7439-96-5**	**10.9**		**1.48**
Molybdenum	**7439-98-7**	**1.22**		**0.282**
Nickel	**7440-02-0**	**1.65**		**0.511**
Selenium	**7782-49-2**	**0.292**		**0.00703**
Thallium	**7440-28-0**	**0.00324**	QB-04	**4.62E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0415**
Zinc	7440-66-6	7.84	U	60.2

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032524-HM
Matrix: Air
Lab ID: 4040126-22
Sample Volume: 1883.316 m³
Filter ID:
Sampled: 03/25/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 09:17

Comments: Q8507589 - 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**	**0.0982**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.512**		**0.00809**
Barium	**7440-39-3**	**4.36**		**0.924**
Beryllium	**7440-41-7**	**0.0120**		**0.00276**
Cadmium	7440-43-9	0.0182	U	0.0640
Chromium	**7440-47-3**	**1.94**		**1.91**
Cobalt	**7440-48-4**	**0.295**		**0.0377**
Copper	**7440-50-8**	**30.6**		**2.27**
Lead	**7439-92-1**	**1.10**		**0.185**
Manganese	**7439-96-5**	**10.2**		**1.63**
Molybdenum	**7439-98-7**	**1.70**		**0.310**
Nickel	**7440-02-0**	**1.14**		**0.563**
Selenium	**7782-49-2**	**0.284**		**0.00774**
Thallium	**7440-28-0**	**0.00321**	QB-04	**5.09E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0457**
Zinc	7440-66-6	13.4	U	66.3

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032624-HM/MS/MS **Lab ID:** 4040126-23 **Sampled:** 03/26/24 23:59
Matrix: Air **Sample Volume:** 2066.32 m³ **Received:** 04/01/24 11:42
Filter ID: **Analysis Date:** 04/03/24 23:57

Comments: Q8507586 - 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**	**0.0814**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.401**		**0.00738**
Barium	**7440-39-3**	**3.63**		**0.843**
Beryllium	**7440-41-7**	**0.00839**		**0.00252**
Cadmium	7440-43-9	0.0154	U	0.0583
Chromium	7440-47-3	1.63	U	1.74
Cobalt	**7440-48-4**	**0.226**		**0.0343**
Copper	**7440-50-8**	**22.4**		**2.07**
Lead	**7439-92-1**	**0.710**		**0.169**
Manganese	**7439-96-5**	**7.58**		**1.49**
Molybdenum	**7439-98-7**	**1.67**		**0.283**
Nickel	**7440-02-0**	**1.00**		**0.513**
Selenium	**7782-49-2**	**0.288**		**0.00706**
Thallium	**7440-28-0**	**0.00324**	QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0417**
Zinc	7440-66-6	9.45	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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032624-HM
Matrix: Air
Lab ID: 4040126-24
Sample Volume: 2080.196 m³
Filter ID:
Sampled: 03/26/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 09:32

Comments: Q8507583 - 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**	**0.117**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.438**		**0.00733**
Barium	**7440-39-3**	**4.71**		**0.837**
Beryllium	**7440-41-7**	**0.0129**		**0.00250**
Cadmium	7440-43-9	0.0207	U	0.0580
Chromium	7440-47-3	1.63	U	1.73
Cobalt	**7440-48-4**	**0.271**		**0.0341**
Copper	**7440-50-8**	**23.5**		**2.06**
Lead	**7439-92-1**	**0.949**		**0.167**
Manganese	**7439-96-5**	**9.83**		**1.48**
Molybdenum	**7439-98-7**	**1.38**		**0.281**
Nickel	**7440-02-0**	**1.21**		**0.510**
Selenium	**7782-49-2**	**0.320**		**0.00701**
Thallium	**7440-28-0**	**0.00334**	QB-04	**4.61E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0414**
Zinc	7440-66-6	11.4	U	60.1

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032624-HM
Matrix: Air
Lab ID: 4040126-25
Sample Volume: 2060.6 m³
Filter ID:
Sampled: 03/26/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 09:47

Comments: Q8507582 - 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**	**0.0788**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.259**		**0.00740**
Barium	**7440-39-3**	**3.82**		**0.845**
Beryllium	**7440-41-7**	**0.0163**		**0.00253**
Cadmium	7440-43-9	0.0183	U	0.0585
Chromium	**7440-47-3**	**1.93**		**1.74**
Cobalt	**7440-48-4**	**0.319**		**0.0344**
Copper	**7440-50-8**	**36.5**		**2.08**
Lead	**7439-92-1**	**0.865**		**0.169**
Manganese	**7439-96-5**	**9.23**		**1.49**
Molybdenum	**7439-98-7**	**1.25**		**0.283**
Nickel	**7440-02-0**	**1.42**		**0.515**
Selenium	**7782-49-2**	**0.333**		**0.00707**
Thallium	**7440-28-0**	**0.00352**	QB-04	**4.65E-4**
Vanadium	**7440-62-2**	**1.21**		**0.0418**
Zinc	7440-66-6	12.3	U	60.6

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032624-HM
Matrix: Air
Lab ID: 4040126-26
Sample Volume: 1857.623 m³
Filter ID:
Sampled: 03/26/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 10:02

Comments: Q8507572 - 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**	**0.140**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.614**		**0.00821**
Barium	**7440-39-3**	**5.41**		**0.937**
Beryllium	**7440-41-7**	**0.0145**		**0.00280**
Cadmium	7440-43-9	0.0277	U	0.0649
Chromium	**7440-47-3**	**2.30**		**1.94**
Cobalt	**7440-48-4**	**0.373**		**0.0382**
Copper	**7440-50-8**	**24.7**		**2.30**
Lead	**7439-92-1**	**1.41**		**0.187**
Manganese	**7439-96-5**	**12.4**		**1.66**
Molybdenum	**7439-98-7**	**1.46**		**0.314**
Nickel	**7440-02-0**	**1.47**		**0.571**
Selenium	**7782-49-2**	**0.351**		**0.00785**
Thallium	**7440-28-0**	**0.00335**	QB-04	**5.16E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0463**
Zinc	7440-66-6	18.0	U	67.3

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-032624-HM
Matrix: Air
Lab ID: 4040126-27
Sample Volume: 2066.32 m³
Filter ID:
Sampled: 03/26/24 00:00
Received: 04/01/24 11:42
Analysis Date: 04/04/24 10:32

Comments: Q8507569 - 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	0.0175	SL, U	0.0304
Arsenic	**7440-38-2**	**0.0139**	FB-01	**0.00738**
Barium	**7440-39-3**	**1.16**	FB-01	**0.843**
Beryllium	7440-41-7	6.64E-4	U	0.00252
Cadmium	7440-43-9	0.00199	U	0.0583
Chromium	7440-47-3	0.818	U	1.74
Cobalt	7440-48-4	0.0127	U	0.0343
Copper	7440-50-8	1.81	U	2.07
Lead	7439-92-1	0.0582	U	0.169
Manganese	7439-96-5	0.263	U	1.49
Molybdenum	7439-98-7	0.167	U	0.283
Nickel	7440-02-0	0.398	U	0.513
Selenium	7782-49-2	0.00118	U	0.00706
Thallium	7440-28-0	1.22E-4	QB-04, U	4.64E-4
Vanadium	7440-62-2	0.0191	U	0.0417
Zinc	7440-66-6	3.24	U	60.5

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REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032724-HM
Matrix: Air
Lab ID: 4040126-28
Sample Volume: 2034.714 m³
Filter ID:
Sampled: 03/27/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 10:46

Comments: Q8507570 - 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**	**0.0628**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.507**		**0.00749**
Barium	**7440-39-3**	**4.30**		**0.856**
Beryllium	**7440-41-7**	**0.0125**		**0.00256**
Cadmium	7440-43-9	0.0153	U	0.0593
Chromium	**7440-47-3**	**2.23**		**1.77**
Cobalt	**7440-48-4**	**0.382**		**0.0349**
Copper	**7440-50-8**	**27.0**		**2.10**
Lead	**7439-92-1**	**0.930**		**0.171**
Manganese	**7439-96-5**	**12.1**		**1.51**
Molybdenum	**7439-98-7**	**1.59**		**0.287**
Nickel	**7440-02-0**	**1.27**		**0.521**
Selenium	**7782-49-2**	**0.225**		**0.00716**
Thallium	**7440-28-0**	**0.00214**	QB-04	**4.71E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0423**
Zinc	7440-66-6	11.6	U	61.4

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032724-HM
Matrix: Air
Lab ID: 4040126-29
Sample Volume: 2009.261 m³
Filter ID:
Sampled: 03/27/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 11:00

Comments: Q8507566 - 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**	**0.199**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.585**		**0.00759**
Barium	**7440-39-3**	**8.34**		**0.866**
Beryllium	**7440-41-7**	**0.0192**		**0.00259**
Cadmium	7440-43-9	0.0262	U	0.0600
Chromium	**7440-47-3**	**4.24**		**1.79**
Cobalt	**7440-48-4**	**0.526**		**0.0353**
Copper	**7440-50-8**	**35.6**		**2.13**
Lead	**7439-92-1**	**1.52**		**0.173**
Manganese	**7439-96-5**	**17.2**		**1.53**
Molybdenum	**7439-98-7**	**1.86**		**0.291**
Nickel	**7440-02-0**	**2.33**		**0.528**
Selenium	**7782-49-2**	**0.291**		**0.00726**
Thallium	**7440-28-0**	**0.00262**	QB-04	**4.77E-4**
Vanadium	**7440-62-2**	**1.63**		**0.0428**
Zinc	7440-66-6	19.4	U	62.2

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032724-HM
Matrix: Air
Lab ID: 4040126-30
Sample Volume: 2048.515 m³
Filter ID:
Sampled: 03/27/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 12:06

Comments: Q8507579 - 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**	**0.0908**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.260**		**0.00744**
Barium	**7440-39-3**	**4.35**		**0.850**
Beryllium	**7440-41-7**	**0.0254**		**0.00254**
Cadmium	7440-43-9	0.0142	U	0.0589
Chromium	**7440-47-3**	**2.40**		**1.76**
Cobalt	**7440-48-4**	**0.468**		**0.0346**
Copper	**7440-50-8**	**34.2**		**2.09**
Lead	**7439-92-1**	**0.797**		**0.170**
Manganese	**7439-96-5**	**12.0**		**1.50**
Molybdenum	**7439-98-7**	**1.11**		**0.285**
Nickel	**7440-02-0**	**1.46**		**0.518**
Selenium	**7782-49-2**	**0.261**		**0.00712**
Thallium	**7440-28-0**	**0.00228**	QB-04	**4.68E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0420**
Zinc	7440-66-6	17.9	U	61.0

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032724-HM
Matrix: Air
Lab ID: 4040126-31
Sample Volume: 1869.262 m³
Filter ID:
Sampled: 03/27/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 12:22

Comments: Q8507578 - 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**	**0.160**	SL	**0.0336**
Arsenic	**7440-38-2**	**0.701**		**0.00816**
Barium	**7440-39-3**	**5.09**		**0.931**
Beryllium	**7440-41-7**	**0.0103**		**0.00279**
Cadmium	7440-43-9	0.0188	U	0.0645
Chromium	7440-47-3	1.77	U	1.92
Cobalt	**7440-48-4**	**0.262**		**0.0379**
Copper	**7440-50-8**	**32.7**		**2.29**
Lead	**7439-92-1**	**1.15**		**0.186**
Manganese	**7439-96-5**	**8.86**		**1.65**
Molybdenum	**7439-98-7**	**1.98**		**0.312**
Nickel	**7440-02-0**	**1.29**		**0.567**
Selenium	**7782-49-2**	**0.227**		**0.00780**
Thallium	**7440-28-0**	**0.00208**	QB-04	**5.13E-4**
Vanadium	**7440-62-2**	**0.818**		**0.0460**
Zinc	7440-66-6	15.4	U	66.8

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Blank (2404007-CCB1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.283		ng/l							
Arsenic	3.17		ng/l							
Barium	4.08		ng/l							
Beryllium	0.202		ng/l							
Cadmium	0.181		ng/l							
Chromium	-4.32		ng/l							U
Cobalt	0.694		ng/l							
Copper	218		ng/l							
Lead	5.00		ng/l							
Manganese	13.0		ng/l							
Molybdenum	16.8		ng/l							
Nickel	0.285		ng/l							
Selenium	-2.70		ng/l							U
Thallium	1.78		ng/l							QB-04
Vanadium	-35.8		ng/l							U
Zinc	-11.5		ng/l							U
Calibration Blank (2404007-CCB2)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	-0.358		ng/l							U
Arsenic	10.2		ng/l							
Barium	1.24		ng/l							
Beryllium	2.13		ng/l							
Cadmium	-0.283		ng/l							U
Chromium	-7.49		ng/l							U
Cobalt	-0.0343		ng/l							U
Copper	88.5		ng/l							
Lead	2.35		ng/l							
Manganese	3.89		ng/l							
Molybdenum	0.787		ng/l							
Nickel	-1.09		ng/l							U
Selenium	1.26		ng/l							
Thallium	1.31		ng/l							
Vanadium	-37.0		ng/l							U
Zinc	-30.0		ng/l							U
Calibration Blank (2404007-CCB3)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.496		ng/l							U
Arsenic	3.12		ng/l							
Barium	0.223		ng/l							
Beryllium	1.24		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Blank (2404007-CCB3) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Cadmium	-0.183		ng/l							U
Chromium	-7.02		ng/l							U
Cobalt	0.0715		ng/l							
Copper	67.7		ng/l							
Lead	1.38		ng/l							
Manganese	4.24		ng/l							
Molybdenum	0.439		ng/l							
Nickel	-0.907		ng/l							U
Selenium	-1.37		ng/l							U
Thallium	1.44		ng/l							QB-04
Vanadium	-37.1		ng/l							U
Zinc	-29.2		ng/l							U
Calibration Blank (2404007-CCB4)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.389		ng/l							U
Arsenic	10.3		ng/l							
Barium	-0.167		ng/l							U
Beryllium	0.163		ng/l							
Cadmium	-0.238		ng/l							U
Chromium	-6.59		ng/l							U
Cobalt	-0.0821		ng/l							U
Copper	48.2		ng/l							
Lead	0.733		ng/l							
Manganese	0.690		ng/l							
Molybdenum	1.81		ng/l							
Nickel	-1.01		ng/l							U
Selenium	-4.12		ng/l							U
Thallium	1.39		ng/l							QB-04
Vanadium	-39.3		ng/l							U
Zinc	-30.9		ng/l							U
Calibration Blank (2404007-CCB5)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.209		ng/l							U
Arsenic	8.43		ng/l							
Barium	0.0818		ng/l							
Beryllium	2.51		ng/l							
Cadmium	-0.332		ng/l							U
Chromium	-7.11		ng/l							U
Cobalt	-0.0816		ng/l							U
Copper	49.7		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Blank (2404007-CCB5) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Lead	1.14		ng/l							
Manganese	2.08		ng/l							
Molybdenum	1.79		ng/l							
Nickel	-1.04		ng/l							U
Selenium	13.0		ng/l							
Thallium	1.25		ng/l							
Vanadium	-37.7		ng/l							U
Zinc	-25.9		ng/l							U
Calibration Blank (2404007-CCB6)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.252		ng/l							U
Arsenic	6.61		ng/l							
Barium	-0.744		ng/l							U
Beryllium	0.862		ng/l							
Cadmium	-0.366		ng/l							U
Chromium	-7.75		ng/l							U
Cobalt	-0.0277		ng/l							U
Copper	37.8		ng/l							
Lead	0.357		ng/l							
Manganese	0.800		ng/l							
Molybdenum	0.984		ng/l							
Nickel	-0.722		ng/l							U
Selenium	6.46		ng/l							
Thallium	1.39		ng/l							QB-04
Vanadium	-41.6		ng/l							U
Zinc	-31.1		ng/l							U
Calibration Blank (2404007-CCB7)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.325		ng/l							U
Arsenic	5.92		ng/l							
Barium	0.191		ng/l							
Beryllium	0.170		ng/l							
Cadmium	-0.199		ng/l							U
Chromium	-9.51		ng/l							U
Cobalt	-0.0666		ng/l							U
Copper	38.2		ng/l							
Lead	0.658		ng/l							
Manganese	2.21		ng/l							
Molybdenum	0.781		ng/l							
Nickel	-0.271		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Blank (2404007-CCB7) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Selenium	0.403		ng/l							
Thallium	1.33		ng/l							
Vanadium	-41.6		ng/l							U
Zinc	-32.7		ng/l							U
Calibration Check (2404007-CCV1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	19700		ng/l	20000		98.5	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	244000		ng/l	240000		101	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.3	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	19400		ng/l	20000		97.0	90-110			
Thallium	486		ng/l	500.00		97.1	90-110			
Vanadium	18900		ng/l	20000		94.6	90-110			
Zinc	501000		ng/l	500000		100	90-110			
Calibration Check (2404007-CCV2)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	19900		ng/l	20000		99.3	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	48800		ng/l	50000		97.6	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.4	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	47400		ng/l	50000		94.8	90-110			
Nickel	117000		ng/l	120000		97.4	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	486		ng/l	500.00		97.3	90-110			
Vanadium	19100		ng/l	20000		95.6	90-110			
Zinc	497000		ng/l	500000		99.4	90-110			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Check (2404007-CCV3)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19600		ng/l	20000		97.9	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	19800		ng/l	20000		98.9	90-110			
Chromium	239000		ng/l	240000		99.4	90-110			
Cobalt	48200		ng/l	50000		96.3	90-110			
Copper	1.95E6		ng/l	2.0000E6		97.4	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	47400		ng/l	50000		94.8	90-110			
Nickel	115000		ng/l	120000		96.2	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	478		ng/l	500.00		95.7	90-110			
Vanadium	19100		ng/l	20000		95.5	90-110			
Zinc	495000		ng/l	500000		99.0	90-110			
Calibration Check (2404007-CCV4)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	4930		ng/l	5000.0		98.6	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	48900		ng/l	50000		97.7	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.7	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	522000		ng/l	500000		104	90-110			
Molybdenum	48700		ng/l	50000		97.4	90-110			
Nickel	117000		ng/l	120000		97.9	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	471		ng/l	500.00		94.3	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	500000		ng/l	500000		100	90-110			
Calibration Check (2404007-CCV5)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			

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

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Check (2404007-CCV5) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	49300		ng/l	50000		98.5	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	525000		ng/l	500000		105	90-110			
Molybdenum	49200		ng/l	50000		98.3	90-110			
Nickel	119000		ng/l	120000		99.0	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	476		ng/l	500.00		95.2	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	501000		ng/l	500000		100	90-110			
Calibration Check (2404007-CCV6)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	535000		ng/l	500000		107	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	476		ng/l	500.00		95.3	90-110			
Vanadium	19300		ng/l	20000		96.6	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2404007-CCV7)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4950		ng/l	5000.0		99.0	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	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 2404007 - B4D0206										
Calibration Check (2404007-CCV7) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Lead	202000		ng/l	200000		101	90-110			
Manganese	527000		ng/l	500000		105	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	19400		ng/l	20000		97.0	90-110			
Zinc	512000		ng/l	500000		102	90-110			
High Cal Check (2404007-HCV1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	38600		ng/l	40000		96.5	95-105			
Arsenic	38800		ng/l	40000		97.0	95-105			
Barium	389000		ng/l	400000		97.3	95-105			
Beryllium	9620		ng/l	10000		96.2	95-105			
Cadmium	38400		ng/l	40000		96.1	95-105			
Chromium	460000		ng/l	480000		95.9	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.85E6		ng/l	4.0000E6		96.4	95-105			
Lead	390000		ng/l	400000		97.5	95-105			
Manganese	965000		ng/l	1.0000E6		96.5	95-105			
Molybdenum	96300		ng/l	100000		96.3	95-105			
Nickel	232000		ng/l	240000		96.6	95-105			
Selenium	39100		ng/l	40000		97.9	95-105			
Thallium	967		ng/l	1000.0		96.7	95-105			
Vanadium	38900		ng/l	40000		97.3	95-105			
Zinc	966000		ng/l	1.0000E6		96.6	95-105			
Initial Cal Blank (2404007-ICB1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.386		ng/l							
Arsenic	-2.16		ng/l							U
Barium	0.408		ng/l							
Beryllium	1.47		ng/l							
Cadmium	-0.259		ng/l							U
Chromium	8.35		ng/l							
Cobalt	0.269		ng/l							
Copper	158		ng/l							
Lead	2.44		ng/l							
Manganese	6.78		ng/l							
Molybdenum	3.58		ng/l							
Nickel	1.46		ng/l							

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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 2404007 - B4D0206										
Initial Cal Blank (2404007-ICB1) Continu				Prepared: 04/02/24 Analyzed: 04/03/24						
Selenium	-1.45		ng/l							U
Thallium	1.06		ng/l							
Vanadium	-36.1		ng/l							U
Zinc	5.32		ng/l							
Initial Cal Check (2404007-ICV1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	19600		ng/l	20000		97.9	90-110			
Arsenic	19700		ng/l	20000		98.6	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	49300		ng/l	50000		98.6	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Lead	194000		ng/l	200000		96.9	90-110			
Manganese	495000		ng/l	500000		99.0	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	500000		ng/l	500000		99.9	90-110			
Interference Check A (2404007-IFA1)				Prepared: 04/02/24 Analyzed: 04/03/24						
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	305000		ng/l	300000		102	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404007 - B4D0206										
Interference Check B (2404007-IFB1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	20100		ng/l	20000		100	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	4930		ng/l	5000.0		98.6	80-120			
Cadmium	19500		ng/l	20000		97.3	80-120			
Chromium	236000		ng/l	240000		98.3	80-120			
Cobalt	50200		ng/l	50000		100	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.7	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	524000		ng/l	500000		105	80-120			
Molybdenum	357000		ng/l	350000		102	80-120			
Nickel	117000		ng/l	120000		97.5	80-120			
Selenium	18800		ng/l	20000		93.9	80-120			
Thallium	515		ng/l	500.00		103	80-120			
Vanadium	18200		ng/l	20000		91.1	80-120			
Zinc	461000		ng/l	500000		92.2	80-120			
Batch B4D0206 - ICP-MS Extraction										
Blank (B4D0206-BLK1)				Prepared: 04/02/24 Analyzed: 04/03/24						
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	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4D0206-BS1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.556	0.0386	ng/m³ Air	1.3829		40.2	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		97.1	80-120			
Barium	27.8	1.07	ng/m³ Air	27.658		100	80-120			

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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 B4D0206 - ICP-MS Extraction										
LCS (B4D0206-BS1) Continued				Prepared: 04/02/24 Analyzed: 04/04/24						
Beryllium	1.41	0.00320	ng/m³ Air	1.3829		102	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	15.6	2.21	ng/m³ Air	13.829		113	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.3	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		98.9	80-120			
Manganese	8.66	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	3.02	0.652	ng/m³ Air	2.7658		109	80-120			
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.7	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.2	80-120			QB-04
Vanadium	2.68	0.0529	ng/m³ Air	2.7658		96.8	80-120			
Zinc	94.9	76.8	ng/m³ Air	82.975		114	80-120			
LCS (B4D0206-BS2)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.545	0.0386	ng/m³ Air	1.3829		39.4	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.2	80-120			
Barium	28.6	1.07	ng/m³ Air	27.658		103	80-120			
Beryllium	1.39	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.33	0.0436	ng/m³ Air	1.3829		96.0	80-120			
Copper	28.2	2.63	ng/m³ Air	27.658		102	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		98.9	80-120			
Manganese	8.45	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	2.93	0.652	ng/m³ Air	2.7658		106	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		99.8	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.0	80-120			QB-04
Vanadium	2.62	0.0529	ng/m³ Air	2.7658		94.8	80-120			
Zinc	92.0	76.8	ng/m³ Air	82.975		111	80-120			
Duplicate (B4D0206-DUP1)		**Source: 4040126-03**		Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.0420	0.0291	ng/m³ Air		0.0413			1.59	10	SL
Arsenic	0.282	0.00707	ng/m³ Air		0.284			0.626	10	
Barium	4.87	0.807	ng/m³ Air		4.91			0.787	10	
Beryllium	0.0573	0.00241	ng/m³ Air		0.0579			0.962	10	
Cadmium	ND	0.0559	ng/m³ Air		ND				10	U
Chromium	3.16	1.67	ng/m³ Air		3.23			2.08	10	
Cobalt	0.830	0.0329	ng/m³ Air		0.872			5.02	10	

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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 B4D0206 - ICP-MS Extraction										
Duplicate (B4D0206-DUP1) Continued			**Source: 4040126-03**		Prepared: 04/02/24		Analyzed: 04/03/24			
Copper	34.9	1.98	ng/m³ Air		34.3			1.80	10	
Lead	0.610	0.161	ng/m³ Air		0.615			0.683	10	
Manganese	24.0	1.43	ng/m³ Air		24.9			3.88	10	
Molybdenum	1.07	0.271	ng/m³ Air		1.03			3.84	10	
Nickel	1.78	0.492	ng/m³ Air		1.81			1.81	10	
Selenium	0.354	0.00676	ng/m³ Air		0.362			2.50	10	
Thallium	0.00274	4.44E-4	ng/m³ Air		0.00284			3.69	10	QB-04
Vanadium	2.27	0.0399	ng/m³ Air		2.35			3.41	10	
Zinc	ND	57.9	ng/m³ Air		ND				10	U
Duplicate (B4D0206-DUP2)			**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24			
Antimony	0.0945	0.0304	ng/m³ Air		0.0814			14.8	10	SL
Arsenic	0.411	0.00738	ng/m³ Air		0.401			2.39	10	
Barium	4.20	0.843	ng/m³ Air		3.63			14.6	10	
Beryllium	0.00796	0.00252	ng/m³ Air		0.00839			5.30	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	1.96	1.74	ng/m³ Air		ND				10	
Cobalt	0.241	0.0343	ng/m³ Air		0.226			6.47	10	
Copper	25.1	2.07	ng/m³ Air		22.4			11.2	10	
Lead	0.883	0.169	ng/m³ Air		0.710			21.7	10	
Manganese	8.22	1.49	ng/m³ Air		7.58			8.09	10	
Molybdenum	1.79	0.283	ng/m³ Air		1.67			6.85	10	
Nickel	1.11	0.513	ng/m³ Air		1.00			10.0	10	
Selenium	0.301	0.00706	ng/m³ Air		0.288			4.31	10	
Thallium	0.00343	4.64E-4	ng/m³ Air		0.00324			5.66	10	QB-04
Vanadium	1.07	0.0417	ng/m³ Air		1.02			5.20	10	
Zinc	ND	60.5	ng/m³ Air		ND				10	U
Duplicate (B4D0206-DUP3)			**Source: 4040126-11**		Prepared: 04/02/24		Analyzed: 04/04/24			
Antimony	0.159	0.0315	ng/m³ Air		0.159			0.0179	10	SL
Arsenic	0.440	0.00763	ng/m³ Air		0.443			0.700	10	
Barium	4.14	0.872	ng/m³ Air		4.14			0.0362	10	
Beryllium	0.0128	0.00261	ng/m³ Air		0.0127			1.19	10	
Cadmium	ND	0.0604	ng/m³ Air		ND				10	U
Chromium	2.06	1.80	ng/m³ Air		2.07			0.791	10	
Cobalt	0.382	0.0355	ng/m³ Air		0.382			0.0265	10	
Copper	23.0	2.14	ng/m³ Air		23.2			0.537	10	
Lead	0.747	0.174	ng/m³ Air		0.746			0.124	10	
Manganese	11.0	1.54	ng/m³ Air		11.1			0.545	10	
Molybdenum	1.06	0.293	ng/m³ Air		1.07			0.322	10	

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
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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 B4D0206 - ICP-MS Extraction										
Duplicate (B4D0206-DUP3) Continued		**Source: 4040126-11**		Prepared: 04/02/24	Analyzed: 04/04/24					
Nickel	1.61	0.531	ng/m³ Air		1.62			0.506	10	
Selenium	0.177	0.00730	ng/m³ Air		0.173			2.19	10	
Thallium	0.00180	4.80E-4	ng/m³ Air		0.00185			3.08	10	QB-04
Vanadium	1.07	0.0431	ng/m³ Air		1.09			1.54	10	
Zinc	ND	62.6	ng/m³ Air		ND				10	U
Duplicate (B4D0206-DUP4)		**Source: 4040126-26**		Prepared: 04/02/24	Analyzed: 04/04/24					
Antimony	0.140	0.0338	ng/m³ Air		0.140			0.521	10	SL
Arsenic	0.612	0.00821	ng/m³ Air		0.614			0.333	10	
Barium	5.43	0.937	ng/m³ Air		5.41			0.363	10	
Beryllium	0.0144	0.00280	ng/m³ Air		0.0145			0.860	10	
Cadmium	ND	0.0649	ng/m³ Air		ND				10	U
Chromium	2.29	1.94	ng/m³ Air		2.30			0.269	10	
Cobalt	0.374	0.0382	ng/m³ Air		0.373			0.288	10	
Copper	24.7	2.30	ng/m³ Air		24.7			0.159	10	
Lead	1.42	0.187	ng/m³ Air		1.41			0.234	10	
Manganese	12.5	1.66	ng/m³ Air		12.4			0.655	10	
Molybdenum	1.47	0.314	ng/m³ Air		1.46			0.536	10	
Nickel	1.47	0.571	ng/m³ Air		1.47			0.228	10	
Selenium	0.348	0.00785	ng/m³ Air		0.351			0.818	10	
Thallium	0.00346	5.16E-4	ng/m³ Air		0.00335			3.12	10	QB-04
Vanadium	1.52	0.0463	ng/m³ Air		1.52			0.0525	10	
Zinc	ND	67.3	ng/m³ Air		ND				10	U
Matrix Spike (B4D0206-MS1)		**Source: 4040126-03**		Prepared: 04/02/24	Analyzed: 04/03/24					
Antimony	0.620	0.0291	ng/m³ Air	1.0428	0.0413	55.5	80-120			SL
Arsenic	2.14	0.00707	ng/m³ Air	2.0857	0.284	89.0	80-120			
Barium	26.1	0.807	ng/m³ Air	20.857	4.91	102	80-120			
Beryllium	1.12	0.00241	ng/m³ Air	1.0428	0.0579	101	80-120			
Cadmium	1.05	0.0559	ng/m³ Air	1.0428	ND	101	80-120			
Chromium	13.4	1.67	ng/m³ Air	10.428	3.23	97.4	80-120			
Cobalt	1.83	0.0329	ng/m³ Air	1.0428	0.872	92.1	80-120			
Copper	56.4	1.98	ng/m³ Air	20.857	34.3	106	80-120			
Lead	11.1	0.161	ng/m³ Air	10.428	0.615	100	80-120			
Manganese	30.4	1.43	ng/m³ Air	6.2571	24.9	87.8	80-120			
Molybdenum	2.02	0.271	ng/m³ Air	1.0428	1.03	95.1	80-120			
Nickel	3.80	0.492	ng/m³ Air	2.0857	1.81	95.2	80-120			
Selenium	2.34	0.00676	ng/m³ Air	2.0857	0.362	94.6	80-120			
Thallium	0.103	4.44E-4	ng/m³ Air	0.10428	0.00284	96.0	80-120			QB-04
Vanadium	4.23	0.0399	ng/m³ Air	2.0857	2.35	90.0	80-120			

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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 B4D0206 - ICP-MS Extraction										
Matrix Spike (B4D0206-MS1) Continued Source: 4040126-03 Prepared: 04/02/24 Analyzed: 04/03/24										
Zinc	72.7	57.9	ng/m³ Air	62.571	ND	116	80-120			
Matrix Spike (B4D0206-MS2) Source: 4040126-23 Prepared: 04/02/24 Analyzed: 04/04/24										
Antimony	0.717	0.0304	ng/m³ Air	1.0889	0.0814	58.4	80-120			SL
Arsenic	2.51	0.00738	ng/m³ Air	2.1778	0.401	96.9	80-120			
Barium	25.9	0.843	ng/m³ Air	21.778	3.63	102	80-120			
Beryllium	1.16	0.00252	ng/m³ Air	1.0889	0.00839	105	80-120			
Cadmium	1.10	0.0583	ng/m³ Air	1.0889	ND	101	80-120			
Chromium	12.4	1.74	ng/m³ Air	10.889	ND	114	80-120			
Cobalt	1.27	0.0343	ng/m³ Air	1.0889	0.226	95.8	80-120			
Copper	46.1	2.07	ng/m³ Air	21.778	22.4	109	80-120			
Lead	11.8	0.169	ng/m³ Air	10.889	0.710	102	80-120			
Manganese	14.6	1.49	ng/m³ Air	6.5334	7.58	107	80-120			
Molybdenum	2.83	0.283	ng/m³ Air	1.0889	1.67	107	80-120			
Nickel	3.13	0.513	ng/m³ Air	2.1778	1.00	98.0	80-120			
Selenium	2.45	0.00706	ng/m³ Air	2.1778	0.288	99.1	80-120			
Thallium	0.110	4.64E-4	ng/m³ Air	0.10889	0.00324	98.4	80-120			QB-04
Vanadium	3.11	0.0417	ng/m³ Air	2.1778	1.02	96.0	80-120			
Zinc	75.7	60.5	ng/m³ Air	65.334	ND	116	80-120			
Matrix Spike Dup (B4D0206-MSD1) Source: 4040126-03 Prepared: 04/02/24 Analyzed: 04/03/24										
Antimony	0.620	0.0291	ng/m³ Air	1.0428	0.0413	55.5	80-120	0.0352	20	SL
Arsenic	2.12	0.00707	ng/m³ Air	2.0857	0.284	88.1	80-120	0.937	20	
Barium	25.6	0.807	ng/m³ Air	20.857	4.91	99.1	80-120	2.01	20	
Beryllium	1.12	0.00241	ng/m³ Air	1.0428	0.0579	102	80-120	0.191	20	
Cadmium	1.03	0.0559	ng/m³ Air	1.0428	ND	99.2	80-120	1.95	20	
Chromium	13.3	1.67	ng/m³ Air	10.428	3.23	96.4	80-120	0.802	20	
Cobalt	1.82	0.0329	ng/m³ Air	1.0428	0.872	90.7	80-120	0.776	20	
Copper	57.1	1.98	ng/m³ Air	20.857	34.3	109	80-120	1.33	20	
Lead	11.0	0.161	ng/m³ Air	10.428	0.615	99.6	80-120	0.680	20	
Manganese	30.2	1.43	ng/m³ Air	6.2571	24.9	84.6	80-120	0.659	20	
Molybdenum	1.98	0.271	ng/m³ Air	1.0428	1.03	91.3	80-120	1.99	20	
Nickel	3.86	0.492	ng/m³ Air	2.0857	1.81	98.1	80-120	1.59	20	
Selenium	2.30	0.00676	ng/m³ Air	2.0857	0.362	92.9	80-120	1.60	20	
Thallium	0.103	4.44E-4	ng/m³ Air	0.10428	0.00284	95.7	80-120	0.252	20	QB-04
Vanadium	4.16	0.0399	ng/m³ Air	2.0857	2.35	86.6	80-120	1.67	20	
Zinc	71.9	57.9	ng/m³ Air	62.571	ND	115	80-120	1.13	20	
Matrix Spike Dup (B4D0206-MSD2) Source: 4040126-23 Prepared: 04/02/24 Analyzed: 04/04/24										
Antimony	0.697	0.0304	ng/m³ Air	1.0889	0.0814	56.5	80-120	2.89	20	SL
Arsenic	2.45	0.00738	ng/m³ Air	2.1778	0.401	94.1	80-120	2.47	20	

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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 B4D0206 - ICP-MS Extraction										
Matrix Spike Dup (B4D0206-MSD2) Conti			**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24			
Barium	26.2	0.843	ng/m³ Air	21.778	3.63	104	80-120	1.30	20	
Beryllium	1.10	0.00252	ng/m³ Air	1.0889	0.00839	101	80-120	4.50	20	
Cadmium	1.08	0.0583	ng/m³ Air	1.0889	ND	99.4	80-120	1.77	20	
Chromium	12.2	1.74	ng/m³ Air	10.889	ND	112	80-120	0.973	20	
Cobalt	1.28	0.0343	ng/m³ Air	1.0889	0.226	97.2	80-120	1.17	20	
Copper	44.7	2.07	ng/m³ Air	21.778	22.4	102	80-120	3.17	20	
Lead	11.8	0.169	ng/m³ Air	10.889	0.710	102	80-120	0.0263	20	
Manganese	14.3	1.49	ng/m³ Air	6.5334	7.58	104	80-120	1.68	20	
Molybdenum	2.77	0.283	ng/m³ Air	1.0889	1.67	101	80-120	2.24	20	
Nickel	3.20	0.513	ng/m³ Air	2.1778	1.00	101	80-120	2.09	20	
Selenium	2.40	0.00706	ng/m³ Air	2.1778	0.288	96.9	80-120	2.00	20	
Thallium	0.109	4.64E-4	ng/m³ Air	0.10889	0.00324	97.5	80-120	0.942	20	QB-04
Vanadium	3.06	0.0417	ng/m³ Air	2.1778	1.02	93.9	80-120	1.48	20	
Zinc	73.7	60.5	ng/m³ Air	65.334	ND	113	80-120	2.61	20	
Post Spike (B4D0206-PS1)			**Source: 4040126-03**		Prepared: 04/02/24		Analyzed: 04/03/24			
Antimony	0.247	0.0291	ng/m³ Air	0.20857	0.0413	98.5	75-125			SL
Arsenic	1.26	0.00707	ng/m³ Air	1.0428	0.284	93.4	75-125			
Barium	7.02	0.807	ng/m³ Air	2.0857	4.91	101	75-125			
Beryllium	0.273	0.00241	ng/m³ Air	0.20857	0.0579	103	75-125			
Cadmium	0.117	0.0559	ng/m³ Air	0.10428	ND	113	75-125			
Chromium	4.17	1.67	ng/m³ Air	1.0428	3.23	90.3	75-125			
Cobalt	1.07	0.0329	ng/m³ Air	0.20857	0.872	92.6	75-125			
Copper	44.9	1.98	ng/m³ Air	10.428	34.3	101	75-125			
Lead	21.1	0.161	ng/m³ Air	20.857	0.615	98.3	75-125			
Manganese	27.2	1.43	ng/m³ Air	2.0857	24.9	107	75-125			
Molybdenum	1.92	0.271	ng/m³ Air	1.0428	1.03	84.7	75-125			
Nickel	3.78	0.492	ng/m³ Air	2.0857	1.81	94.2	75-125			
Selenium	1.30	0.00676	ng/m³ Air	1.0428	0.362	89.7	75-125			
Thallium	0.0542	4.44E-4	ng/m³ Air	5.2142E-2	0.00284	98.5	75-125			QB-04
Vanadium	3.25	0.0399	ng/m³ Air	1.0428	2.35	86.0	75-125			
Zinc	ND	57.9	ng/m³ Air	20.857	ND		75-125			U
Post Spike (B4D0206-PS2)			**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24			
Antimony	0.300	0.0304	ng/m³ Air	0.21778	0.0814	101	75-125			SL
Arsenic	1.44	0.00738	ng/m³ Air	1.0889	0.401	95.7	75-125			
Barium	5.72	0.843	ng/m³ Air	2.1778	3.63	96.0	75-125			
Beryllium	0.235	0.00252	ng/m³ Air	0.21778	0.00839	104	75-125			
Cadmium	0.123	0.0583	ng/m³ Air	0.10889	ND	113	75-125			
Chromium	2.67	1.74	ng/m³ Air	1.0889	ND	246	75-125			

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REPORTED: 04/10/24 07:36
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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 B4D0206 - ICP-MS Extraction										
Post Spike (B4D0206-PS2) Continued		**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24				
Cobalt	0.431	0.0343	ng/m³ Air	0.21778	0.226	94.2	75-125			
Copper	33.2	2.07	ng/m³ Air	10.889	22.4	98.9	75-125			
Lead	22.5	0.169	ng/m³ Air	21.778	0.710	100	75-125			
Manganese	9.62	1.49	ng/m³ Air	2.1778	7.58	93.7	75-125			
Molybdenum	2.63	0.283	ng/m³ Air	1.0889	1.67	88.0	75-125			
Nickel	3.05	0.513	ng/m³ Air	2.1778	1.00	93.9	75-125			
Selenium	1.34	0.00706	ng/m³ Air	1.0889	0.288	96.4	75-125			
Thallium	0.0574	4.64E-4	ng/m³ Air	5.4445E-2	0.00324	99.6	75-125			QB-04
Vanadium	2.02	0.0417	ng/m³ Air	1.0889	1.02	92.2	75-125			
Zinc	ND	60.5	ng/m³ Air	21.778	ND		75-125			U
Dilution Check (B4D0206-SRL1)		**Source: 4040126-03**		Prepared: 04/02/24		Analyzed: 04/03/24				
Antimony	ND	0.146	ng/m³ Air		ND				10	SL, U
Arsenic	0.297	0.0353	ng/m³ Air		0.284			4.64	10	
Barium	4.93	4.03	ng/m³ Air		4.91			0.512	10	
Beryllium	0.0592	0.00241	ng/m³ Air		0.0579			2.26	10	
Cadmium	ND	0.279	ng/m³ Air		ND				10	U
Chromium	ND	8.33	ng/m³ Air		ND				10	U
Cobalt	0.870	0.164	ng/m³ Air		0.872			0.212	10	
Copper	34.5	9.92	ng/m³ Air		34.3			0.473	10	
Lead	ND	0.807	ng/m³ Air		ND				10	U
Manganese	25.1	7.13	ng/m³ Air		24.9			0.655	10	
Molybdenum	ND	1.35	ng/m³ Air		ND				10	U
Nickel	ND	2.46	ng/m³ Air		ND				10	U
Selenium	0.408	0.0338	ng/m³ Air		0.362			11.7	10	SRD-01
Thallium	0.00476	0.00222	ng/m³ Air		0.00284			50.4	10	QB-04
Vanadium	2.29	0.199	ng/m³ Air		2.35			2.70	10	
Zinc	ND	290	ng/m³ Air		ND				10	U
Dilution Check (B4D0206-SRL2)		**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24				
Antimony	ND	0.152	ng/m³ Air		ND				10	SL, U
Arsenic	0.390	0.0369	ng/m³ Air		0.401			2.69	10	
Barium	ND	4.21	ng/m³ Air		ND				10	U
Beryllium	0.00880	0.00252	ng/m³ Air		0.00839			4.69	10	
Cadmium	ND	0.292	ng/m³ Air		ND				10	U
Chromium	ND	8.70	ng/m³ Air		ND				10	U
Cobalt	0.227	0.172	ng/m³ Air		0.226			0.404	10	
Copper	22.7	10.4	ng/m³ Air		22.4			1.25	10	
Lead	ND	0.843	ng/m³ Air		ND				10	U
Manganese	7.72	7.44	ng/m³ Air		7.58			1.81	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 B4D0206 - ICP-MS Extraction										
Dilution Check (B4D0206-SRL2) ContinueSource: 4040126-23 Prepared: 04/02/24 Analyzed: 04/04/24										
Molybdenum	1.64	1.41	ng/m³ Air		1.67			1.98	10	
Nickel	ND	2.57	ng/m³ Air		ND				10	U
Selenium	0.277	0.0353	ng/m³ Air		0.288			3.85	10	
Thallium	0.00461	0.00232	ng/m³ Air		0.00324			34.7	10	QB-04
Vanadium	0.992	0.208	ng/m³ Air		1.02			2.62	10	
Zinc	ND	302	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QB-04	Analyte exceeds continuing calibration blank criteria
FB-01	Analyte exceeds Field Blank criteria.
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.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 4/10/2024 and Shanna Vasser 4/11/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 3/21/2024 – 3/27/2024
Report No: 4040126

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-032224-HM, for arsenic and copper in MFL-FB01-032424-HM, and for arsenic and barium in MFL-FB01-032624-HM.

Notes:

2. The laboratory stated that all samples were received in acceptable condition unless otherwise noted. Sample MFL-AM02-032224-HM filter was damaged during collection. There were no additional details; therefore, it is assumed the samples met method criteria for analysis.