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

October 24 through October 30, 2024

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

Particulate monitoring and air sampling occurred from October 24 through October 30, 2024, at the community locations listed below and shown on **Figure 1.**

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

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from October 24 through October 30 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

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

Air Sampling Results

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

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.0 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

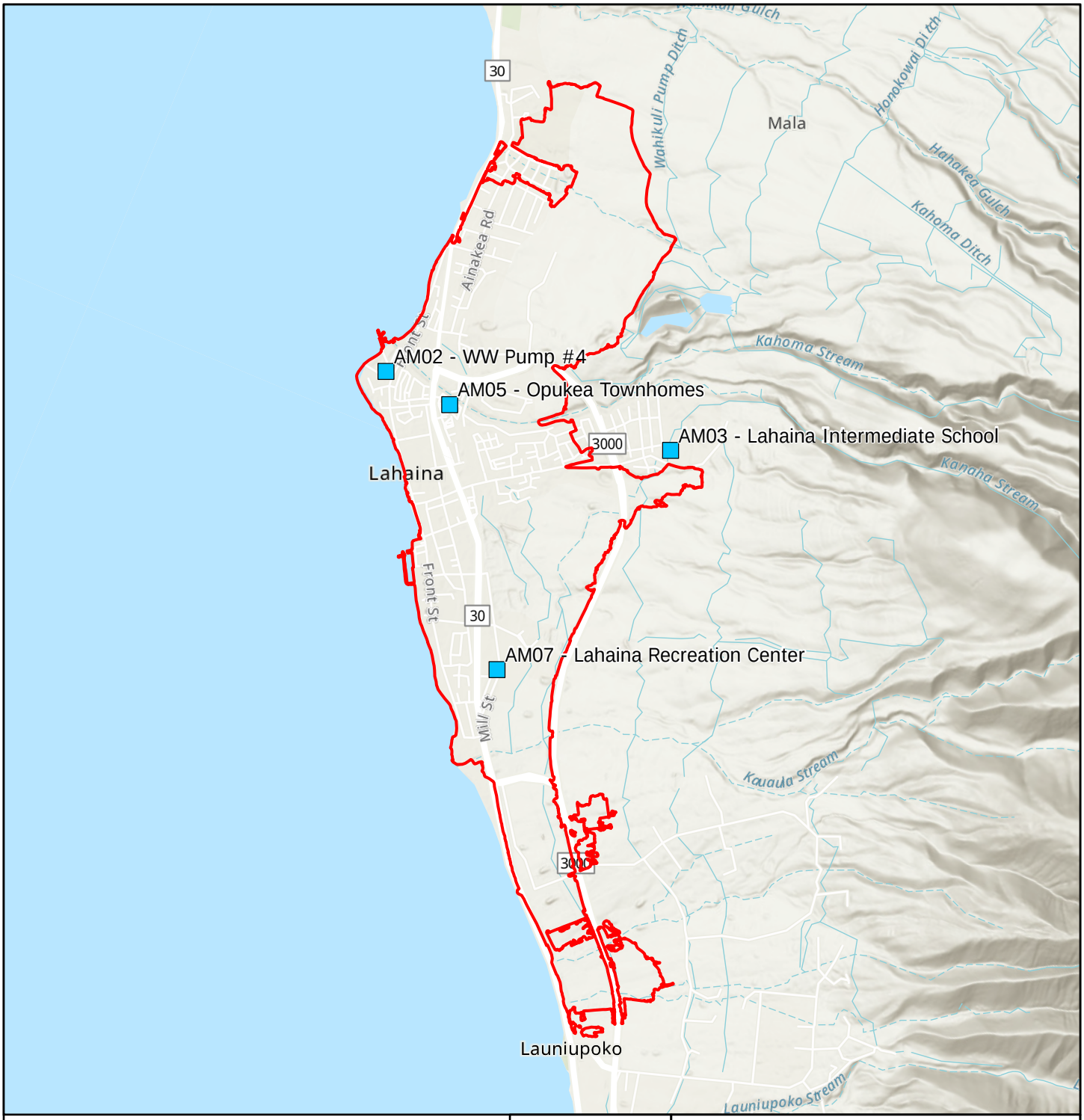
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

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

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

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

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
October 24 through October 30, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
10/24/2024	Opukea Townhomes (AM-05)	6.1
	WW Pump Station #4 (AM-02)	6.1
	Lahaina Intermediate School (AM-03)	100
	Lahaina Recreation Center (AM-07)	7.3
10/25/2024	Opukea Townhomes (AM-05)	7.7
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Recreation Center (AM-07)	5.1
10/26/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	78
	Lahaina Recreation Center (AM-07)	87
10/27/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	29
	Lahaina Recreation Center (AM-07)	101
10/28/2024	Opukea Townhomes (AM-05)	8.7
	WW Pump Station #4 (AM-02)	9.6
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Recreation Center (AM-07)	5.6
10/29/2024	Opukea Townhomes (AM-05)	8.5
	WW Pump Station #4 (AM-02)	9.2
	Lahaina Intermediate School (AM-03)	7.0
	Lahaina Recreation Center (AM-07)	7.8
10/30/2024	Opukea Townhomes (AM-05)	7.7
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Recreation Center (AM-07)	4.9

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24-Hour Time-Weighted Average
TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
October 24 through October 30, 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
Site Screening Action 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
10/24/2024	Opukea Townhomes (AM-05)	<0.0024	0.000156	0.000404	0.00552	0.0000167	ND	0.00289	0.000604	0.0553	0.00136	0.0165	0.00225	0.00213	0.000191	0.00000112	0.00233	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000216	0.000418	0.00728	0.0000220	ND	0.00347	0.000797	0.0448	0.000815	0.0249	0.00157	0.00222	0.000201	0.00000134	0.00290	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000735	0.000185	0.00436	0.0000281	ND	0.00291	0.000648	0.0667	0.000347	0.0143	0.00249	0.00305	0.000188	0.000000803	0.00209	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000991	0.000348	0.00374	0.0000179	ND	0.00265	0.000518	0.0273	0.000353	0.0168	0.00141	0.00182	0.000188	0.000000930	0.00210	ND
10/25/2024	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000196	0.00364	0.0000107	ND	ND	0.000333	0.0670	0.000532	0.0102	0.00282	0.00130	0.000158	0.000000807	0.00144	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000171	0.000345	0.00496	0.0000156	ND	0.00220	0.000418	0.0438	0.000760	0.0147	0.00160	0.00133	0.000163	0.00000105	0.00166	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000857	0.000150	0.00342	0.0000208	ND	0.00239	0.000470	0.0654	0.000269	0.0121	0.00239	0.00162	0.000165	0.000000844	0.00149	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000119	0.000403	0.00419	0.0000217	ND	0.00314	0.000683	0.0247	0.000607	0.0214	0.00112	0.00183	0.000172	0.00000117	0.00201	ND
10/26/2024	Opukea Townhomes (AM-05)	<0.0024	0.000130	0.000202	0.00356	0.00000815	ND	0.00211	0.000311	0.0705	0.000507	0.00874	0.00291	0.00133	0.000149	0.000000648	0.00110	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000134	0.000905	0.00426	0.0000186	ND	0.00225	0.000577	0.0345	0.000722	0.0258	0.00130	0.00113	0.000181	0.00000144	0.00158	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000734	0.000152	0.00313	0.0000165	ND	0.00222	0.000465	0.0756	0.000254	0.00967	0.00235	0.00536	0.000170	0.000000710	0.00108	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000303	0.000327	0.00357	0.0000207	ND	0.00259	0.000506	0.0326	0.000335	0.0175	0.00157	0.00239	0.000200	0.00000109	0.00152	ND
10/27/2024	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000233	0.00314	0.00000406	ND	ND	0.000129	0.0726	0.000672	0.00352	0.00276	0.000938	0.000138	ND	0.000506	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000133	0.000297	0.00290	0.00000350	ND	ND	0.000105	0.0477	0.000288	0.00326	0.00216	0.000686	0.000125	ND	0.000485	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000467	0.0000780	0.00160	0.00000390	ND	ND	0.0000846	0.0714	0.000201	0.00224	0.00261	0.000810	0.000126	ND	0.000410	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000163	0.000220	0.00220	0.00000364	0.0000774	0.00200	0.000157	0.0370	0.000351	0.00364	0.00155	0.00213	0.000137	ND	0.000506	ND
10/28/2024	Opukea Townhomes (AM-05)	<0.0024	0.000151	0.000198	0.00342	0.00000445	ND	0.00197	0.000135	0.0775	0.000418	0.00400	0.00315	0.00102	0.000189	ND	0.000508	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000159	0.000312	0.00364	0.00000484	ND	ND	0.000129	0.0441	0.000455	0.00419	0.00165	0.000883	0.000186	ND	0.000517	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000682	0.0000868	0.00235	0.00000460	ND	ND	0.000146	0.0703	0.000206	0.00342	0.00270	0.00115	0.000165	ND	0.000461	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000134	0.000512	0.00322	0.00000908	ND	0.00350	0.000241	0.0489	0.000282	0.00841	0.00189	0.00152	0.000197	0.000000649	0.000807	ND
10/29/2024	Opukea Townhomes (AM-05)	<0.0024	0.000176	0.000346	0.00595	0.0000111	ND	0.00227	0.000416	0.0762	0.000938	0.0119	0.00271	0.00160	0.000251	0.000000835	0.00168	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000188	0.000342	0.00474	0.0000101	ND	0.00190	0.000331	0.0538	0.000617	0.0115	0.00185	0.00129	0.000243	0.000000773	0.00147	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000871	0.000124	0.00349	0.00000728	ND	ND	0.000187	0.0818	0.000174	0.00528	0.00257	0.00121	0.000214	0.000000457	0.00106	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000132	0.000418	0.00415	0.0000141	ND	0.00254	0.000445	0.0404	0.000341	0.0141	0.00163	0.00155	0.000257	0.000000847	0.00184	ND
10/30/2024	Opukea Townhomes (AM-05)	<0.0024	0.000166	0.000270	0.00478	0.0000117	ND	0.00251	0.000446	0.0796	0.000857	0.0121	0.00274	0.00165	0.000219	0.00000128	0.00160	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000188	0.000414	0.00609	0.0000175	ND	0.00282	0.000628	0.0457	0.00105	0.0192	0.00175	0.00198	0.000229	0.00000145	0.00213	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000709	0.0000945	0.00238	0.00000862	ND	0.00185	0.000235	0.0669	0.000273	0.00596	0.00227	0.00117	0.000174	0.000000965	0.000738	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000916	0.000518	0.00426	0.0000188	ND	0.00325	0.000643	0.0461	0.000486	0.0209	0.00151	0.00184	0.000237	0.00000162	0.00197	ND
95% Upper Confidence Limit[2]		NA	0.000160	0.000390	0.00442	0.0000170	NA	0.00272	0.000520	0.0634	0.000640	0.0162	0.00234	0.00194	0.000200	0.00000110	0.00175	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/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 presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
October 24, through October 30, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/24/2024	AM-02	WW Pump Station #4	0.9	SSE	79	68	760.8
10/24/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	67	751.5
10/24/2024	AM-05	Opukea Townhomes	1.3	SE	80	65	760.3
10/24/2024	AM-07	Lahaina Recreational Center	1.5	SE	80	69	760.2
10/25/2024	AM-02	WW Pump Station #4	0.9	SSE	80	70	760.5
10/25/2024	AM-03	Lahaina Intermediate School	1.0	ESE	80	68	751.2
10/25/2024	AM-05	Opukea Townhomes	1.0	SSE	81	67	760.0
10/25/2024	AM-07	Lahaina Recreational Center	1.4	SE	81	70	759.7
10/26/2024	AM-02	WW Pump Station #4	0.7	S	79	79	760.9
10/26/2024	AM-03	Lahaina Intermediate School	1.0	SSE	79	75	751.6
10/26/2024	AM-05	Opukea Townhomes	0.8	ESE	80	74	760.4
10/26/2024	AM-07	Lahaina Recreational Center	1.1	S	81	80	760.2
10/27/2024	AM-02	WW Pump Station #4	0.7	SSE	78	77	762.5
10/27/2024	AM-03	Lahaina Intermediate School	0.8	ESE	78	74	753.1
10/27/2024	AM-05	Opukea Townhomes	0.8	ESE	78	72	761.9
10/27/2024	AM-07	Lahaina Recreational Center	1.1	SE	79	78	761.8
10/28/2024	AM-02	WW Pump Station #4	0.7	SSE	79	74	763.2
10/28/2024	AM-03	Lahaina Intermediate School	0.9	SSE	79	70	753.9
10/28/2024	AM-05	Opukea Townhomes	0.8	ESE	80	70	762.6
10/28/2024	AM-07	Lahaina Recreational Center	1.2	SSE	81	74	762.5
10/29/2024	AM-02	WW Pump Station #4	0.7	SSE	79	70	763.6
10/29/2024	AM-03	Lahaina Intermediate School	1.0	SE	79	67	754.2
10/29/2024	AM-05	Opukea Townhomes	1.0	SE	80	65	763.1
10/29/2024	AM-07	Lahaina Recreational Center	1.3	SE	79	72	762.9
10/30/2024	AM-02	WW Pump Station #4	0.9	S	80	66	762.8
10/30/2024	AM-03	Lahaina Intermediate School	1.1	SE	80	64	753.5
10/30/2024	AM-05	Opukea Townhomes	1.1	ESE	81	62	762.3
10/30/2024	AM-07	Lahaina Recreational Center	1.3	S	81	67	762.1

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

Appendix 1

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:	042422392
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:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102424-AB**	**Sample Description:**	**DL264153**
EMSL Sample Number:	042422392-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7118.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
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):	**0.0008**	**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422392
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: 042422392-0001 **Customer Sample:** MFL-AM05-102424-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	B8	None Detected									
B2	D9	None Detected									
B2	G7	None Detected									
B3	H4	None Detected									
B3	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:	042422392
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:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102424-AB**	**Sample Description:**	**DL264164**
EMSL Sample Number:	042422392-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7163.5
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):	0.0129
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):	**0.0008**	**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422392
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: 042422392-0002 **Customer Sample:** MFL-AM02-102424-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	A9	None Detected									
B5	E7	None Detected									
B5	G4	None Detected									
B6	I7	None Detected									
B6	B4	None Detected									

Abbreviations used:
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EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102424-AB**		**Sample Description:**	**DL264174**
EMSL Sample Number:	042422392-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7229.3
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):	0.0129
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):	**0.0008**		**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0003 **Customer Sample:** MFL-AM03-102424-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	H6	None Detected									
C2	F8	None Detected									
C2	B4	None Detected									
C3	C7	None Detected									
C3	H7	None Detected									

Abbreviations used:
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Customer PO:	1207085
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102424-AB**	**Sample Description:**	**DL264187**
EMSL Sample Number:	042422392-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7245.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
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):	**0.0008**	**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0004 **Customer Sample:** MFL-AM07-102424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	I2	None Detected									
C5	F4	None Detected									
C5	D6	None Detected									
C6	C8	None Detected									
C6	I7	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:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102424-AB**	**Sample Description:**	**DL264158**
EMSL Sample Number:	042422392-0005	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):	0.0129
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042422392
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: 042422392-0005 **Customer Sample:** MFL-FB01-102424-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	A7	None Detected									
D2	C6	None Detected									
D2	E7	None Detected									
D2	G9	None Detected									
D2	I6	None Detected									
D3	J1	None Detected									
D3	H4	None Detected									
D3	F3	None Detected									
D3	D1	None Detected									
D3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102524-AB**	**Sample Description:**	**DL264159**
EMSL Sample Number:	042422392-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7235.6
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):	0.0129
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 %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0006 **Customer Sample:** MFL-AM05-102524-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	A7	None Detected									
D5	D10	None Detected									
D5	G5	None Detected									
D6	D4	None Detected									
D6	H7	None Detected									

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

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EMSL Order:	042422392
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:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102524-AB**		**Sample Description:**	**DL264175**
EMSL Sample Number:	042422392-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6737.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
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):	**0.0009**		**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**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422392
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: 042422392-0007 **Customer Sample:** MFL-AM02-102524-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	D6	None Detected									
E1	G6	None Detected									
E2	G2	None Detected									
E2	D2	None Detected									
E2	B6	None Detected									

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

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EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102524-AB**		**Sample Description:**	**DL264196**
EMSL Sample Number:	042422392-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7234.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
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):	**0.0008**		**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0008 **Customer Sample:** MFL-AM03-102524-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	C8	None Detected									
E5	F4	None Detected									
E5	J10	None Detected									
E6	G2	None Detected									
E6	E3	None Detected									

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

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

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102524-AB**	**Sample Description:**	**DL264193**
EMSL Sample Number:	042422392-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7250.4
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):	0.0129
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):	**0.0008**	**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422392
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: 042422392-0009 **Customer Sample:** MFL-AM07-102524-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	I3	None Detected									
F1	F1	None Detected									
F1	B5	None Detected									
F2	C7	None Detected									
F2	F4	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:	N/A

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

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Analysis Date:	11/05/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102524-AB** **Sample Description: DL264149**

EMSL Sample Number:	042422392-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID:	**042422392**
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: 042422392-0010 **Customer Sample:** MFL-FB01-102524-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					
F6	J1	None Detected									
F6	H1	None Detected									
F6	F1	None Detected									
F6	D5	None Detected									
F6	B3	None Detected									
F8	A5	None Detected									
F8	C7	None Detected									
F8	E9	None Detected									
F8	G10	None Detected									
F8	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:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102624-AB**	**Sample Description:**	**DL264173**
EMSL Sample Number:	042422392-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7098.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
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 %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042422392
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: 042422392-0011 **Customer Sample:** MFL-AM05-102624-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	J3	None Detected									
G1	G5	None Detected									
G1	D7	None Detected									
G2	I5	None Detected									
G2	F3	None Detected									

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

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

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

Project: **Maui Fires Lahaina**

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102624-AB**		**Sample Description:**	**DL264161**
EMSL Sample Number:	042422392-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7050.3
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):	0.0129
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):	**0.0008**		**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0012 **Customer Sample:** MFL-AM02-102624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B8	None Detected									
G5	F8	None Detected									
G5	G5	None Detected									
G6	C6	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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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102624-AB**		**Sample Description:**	**DL264197**
EMSL Sample Number:	042422392-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.7
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0013 **Customer Sample:** MFL-AM03-102624-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	C8	None Detected									
H1	F7	None Detected									
H1	H9	None Detected									
H2	G3	None Detected									
H2	C8	None Detected									

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

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

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102624-AB**	**Sample Description:**	**DL264178**
EMSL Sample Number:	042422392-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7180.7
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):	0.0129
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):	**0.0008**	**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422392
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: 042422392-0014 **Customer Sample:** MFL-AM07-102624-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	H7	None Detected									
H5	G6	None Detected									
H5	D8	None Detected									
H6	B9	None Detected									
H6	E7	None Detected									

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

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

Attn: **Chelsea Saber**
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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102624-AB** **Sample Description: DL264162**

EMSL Sample Number:	042422392-0015		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):	0.0129
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID:	**042422392**
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: 042422392-0015 **Customer Sample:** MFL-FB01-102624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J4	None Detected									
I1	H8	None Detected									
I1	F2	None Detected									
I1	D8	None Detected									
I1	B3	None Detected									
I2	J3	None Detected									
I2	H7	None Detected									
I2	F7	None Detected									
I2	D8	None Detected									
I2	B8	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:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102724-AB**	**Sample Description:**	**DL264152**
EMSL Sample Number:	042422392-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7168.5
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):	0.0129
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 %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422392
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: 042422392-0016 **Customer Sample:** MFL-AM05-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A6	None Detected									
I5	D5	None Detected									
I5	G3	None Detected									
I6	H7	None Detected									
I6	C8	None Detected									

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

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EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102724-AB**	**Sample Description:**	**DL264182**
EMSL Sample Number:	042422392-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7191.4
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):	0.0129
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):	**0.0008**	**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422392
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: 042422392-0017 **Customer Sample:** MFL-AM02-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J6	None Detected									
J1	G4	None Detected									
J1	D5	None Detected									
J2	C6	None Detected									
J2	G6	None Detected									

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

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EMSL Order:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102724-AB**		**Sample Description:**	**DL264165**
EMSL Sample Number:	042422392-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7147.3
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):	0.0129
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 %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422392
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: 042422392-0018 **Customer Sample:** MFL-AM03-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J4	None Detected									
J5	H7	None Detected									
J5	D8	None Detected									
J6	D4	None Detected									
J6	F4	None Detected									

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

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

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102724-AB**		**Sample Description:**	**DL264160**
EMSL Sample Number:	042422392-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7118.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
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):	**0.0008**		**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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422392-0019 **Customer Sample:** MFL-AM07-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	D3	None Detected									
K1	G6	None Detected									
K1	H3	None Detected									
K2	J7	None Detected									
K2	D7	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:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/05/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102724-AB**	**Sample Description:**	**DL264167**
EMSL Sample Number:	042422392-0020	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0129
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042422392
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: 042422392-0020 **Customer Sample:** MFL-FB01-102724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A4	None Detected									
K5	C6	None Detected									
K5	E7	None Detected									
K5	G8	None Detected									
K5	I2	None Detected									
K6	J7	None Detected									
K6	H10	None Detected									
K6	F7	None Detected									
K6	D7	None Detected									
K6	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:	042422392
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/30/2024 09:30 AM
Analysis Date:	11/04/2024
Report Date:	11/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042422392-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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

EMSL Order ID: 042422392
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: 042422392-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J4	None Detected									
A1	H5	None Detected									
A1	E5	None Detected									
A1	C6	None Detected									
A1	A3	None Detected									
A2	J7	None Detected									
A2	H5	None Detected									
A2	F1	None Detected									
A2	D4	None Detected									
A2	B1	None Detected									

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

OrderID: 042422392

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422392

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

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

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1900	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	(703) 489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No: Maui Fires 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: Shaina Epstein
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 OCT 30 AM 11:29 EMSL CINNAMINSON, NJ

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-102924-AB	DL264153	7,118.875	10/29/24 1055
MFL-AM02-102924-AB	DL264164	7,163.502	10/29/24 1114
MFL-AM03-102924-AB	DL264174	7,229.255	10/29/24 1255
MFL-AM07-102924-AB	DL264187	7,245.912	10/29/24 1316
MFL-FB01-102924-AB	DL264158	0	10/24/24 1200
MFL-AM05-102524-AB	DL264159	7,235.568	10/25/24 1058
MFL-AM02-102524-AB	DL264175	6,737.947	10/25/24 1112
MFL-AM03-102524-AB	DL264196	7,233.964	10/25/24 1258

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:	Shaina Epstein	Date/Time: 10/28/24 1100	Received by:	FX	Date/Time 10/30/24 930
Relinquished by:		Date/Time:	Received by:		Date/Time

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

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422392

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-AM07-102524-AB	DL264193	7,250.354	10/25/24 1322
MFL-FB01-102524-AB	DL264149	0	10/25/24 1200
MFL-AM05-102624-AB	DL264173	(sc) ~~7,815.728~~ 7,008.288	10/26/24 1057
MFL-AM02-102624-AB	DL264161	7,050.300	10/26/24 1124
MFL-AM03-102624-AB	DL264197	7,197.663	10/26/24 1256
MFL-AM07-102624-AB	DL264178	7,180.657	10/26/24 1327
MFL-FB01-102624-AB	DL264162	0	10/26/24 1200
MFL-AM05-102724-AB	DL264152	7,168.464	10/27/24 1101
MFL-AM02-102724-AB	DL264182	7,191.361	10/27/24 1119
MFL-AM03-102724-AB	DL264165	7,147.305	10/27/24 1253
MFL-AM07-102724-AB	DL264160	7,118.152	10/27/24 1318
MFL-FB01-102724-AB	DL264167	0	10/27/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 OCT 30 A 11:29

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shana Epstein	Date/Time: 10/28/24 11oc	Received by:	Date/Time 10/30/24
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 – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/13/2024 and Shanna Vasser 11/15/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/24/2024 – 10/30/2024
Report No: 4110439

√	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. Blank detections above the method detection limit were reported for barium in MFL-FB01-102724-HM and for antimony, arsenic, copper, and molybdenum in MFL-LB01-103024-HM.

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:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102824-AB**		**Sample Description:**	**DL267539**
EMSL Sample Number:	042422726-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7089.7
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):	0.0130
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 %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422726
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: 042422726-0001 **Customer Sample:** MFL-AM05-102824-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					
A6	J3	None Detected									
A6	H7	None Detected									
A6	C6	None Detected									
A7	B7	None Detected									
A7	H5	None Detected									

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

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

EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102824-AB**		**Sample Description:**	**DL267481**
EMSL Sample Number:	042422726-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7158.0
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):	0.0130
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):	**0.0008**		**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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422726
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: 042422726-0002 **Customer Sample:** MFL-AM02-102824-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	I3	None Detected									
B2	G5	None Detected									
B2	B7	None Detected									
B3	A5	None Detected									
B3	G7	None Detected									

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

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

EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102824-AB**		**Sample Description:**	**DL267361**
EMSL Sample Number:	042422726-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7144.4
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):	0.0130
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):	**0.0008**		**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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
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EMSL Order ID: 042422726
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: 042422726-0003 **Customer Sample:** MFL-AM03-102824-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	E9	None Detected									
B5	H6	None Detected									
B6	J5	None Detected									
B6	B6	None Detected									

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

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102824-AB**	**Sample Description:**	**DL267608**
EMSL Sample Number:	042422726-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7146.3
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):	0.0130
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):	**0.0008**	**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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422726
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: 042422726-0004 **Customer Sample:** MFL-AM07-102824-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	J3	None Detected									
C2	G5	None Detected									
C2	B5	None Detected									
C3	H5	None Detected									
C3	C5	None Detected									

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

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102824-AB**		**Sample Description:**	**DL267604**
EMSL Sample Number:	042422726-0005		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):	0.0130
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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EMSL Order ID:	**042422726**
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: 042422726-0005 **Customer Sample:** MFL-FB01-102824-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	A5	None Detected									
C5	C8	None Detected									
C5	E7	None Detected									
C5	G10	None Detected									
C5	I7	None Detected									
C6	A9	None Detected									
C6	C9	None Detected									
C6	E10	None Detected									
C6	G7	None Detected									
C6	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:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024 & 11/11/202
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-102824-AB**		**Sample Description:**	**DL267504**
EMSL Sample Number:	042422726-0006		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):	0.0130
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 %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Approved Signatory

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

EMSL Order ID:	**042422726**
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: 042422726-0006 **Customer Sample:** MFL-LB01-102824-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					
D3	A8	None Detected									
D3	C6	None Detected									
D3	J7	None Detected									
D3	E3	None Detected									
D3	G6	None Detected									
D4	B7	None Detected									
D4	D4	None Detected									
D4	F8	None Detected									
D4	H2	None Detected									
D4	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:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102924-AB**	**Sample Description:**	**DL267594**
EMSL Sample Number:	042422726-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7244.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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):	**0.0008**	**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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422726
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: 042422726-0007 **Customer Sample:** MFL-AM05-102924-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	G8	None Detected									
D5	D6	None Detected									
D6	C4	None Detected									
D6	G7	None Detected									

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

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102924-AB**	**Sample Description:**	**DL267345**
EMSL Sample Number:	042422726-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7249.6
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):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Analytical, Inc.
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EMSL Order ID: 042422726
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: 042422726-0008 **Customer Sample:** MFL-AM02-102924-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	B8	None Detected									
E2	D7	None Detected									
E2	J5	None Detected									
E3	H3	None Detected									
E3	A6	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:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102924-AB**	**Sample Description:**	**DL267343**
EMSL Sample Number:	042422726-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7199.7
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):	0.0130
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):	**0.0008**	**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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422726
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: 042422726-0009 **Customer Sample:** MFL-AM03-102924-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	I6	None Detected									
E5	G4	None Detected									
E5	B7	None Detected									
E6	I6	None Detected									
E6	C3	None Detected									

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

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

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Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102924-AB**	**Sample Description:**	**DL267693**
EMSL Sample Number:	042422726-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7248.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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):	**0.0008**	**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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422726
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: 042422726-0010 **Customer Sample:** MFL-AM07-102924-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	J5	None Detected									
F2	H7	None Detected									
F2	C7	None Detected									
F3	H4	None Detected									
F3	A5	None Detected									

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

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

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

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Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-102924-AB**		**Sample Description:**	**DL267376**
EMSL Sample Number:	042422726-0011		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):	0.0130
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

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EMSL Order ID: 042422726
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: 042422726-0011 **Customer Sample:** MFL-FB01-102924-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	A7	None Detected									
F5	C7	None Detected									
F5	E9	None Detected									
F5	G6	None Detected									
F5	I5	None Detected									
F6	J3	None Detected									
F6	H7	None Detected									
F6	F9	None Detected									
F6	D4	None Detected									
F6	B2	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-103024-AB**	**Sample Description:**	**DL267342**
EMSL Sample Number:	042422726-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7241.8
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):	0.0130
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):	**0.0008**	**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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042422726
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: 042422726-0012 **Customer Sample:** MFL-AM05-103024-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	J2	None Detected									
G2	G5	None Detected									
G2	C10	None Detected									
G3	I5	None Detected									
G3	D7	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:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-103024-AB**		**Sample Description:**	**DL267463**
EMSL Sample Number:	042422726-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6984.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422726
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: 042422726-0013 **Customer Sample:** MFL-AM02-103024-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	J6	None Detected									
G5	F8	None Detected									
G5	A6	None Detected									
G6	C5	None Detected									
G6	H7	None Detected									

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

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

EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-103024-AB**	**Sample Description:**	**DL267340**
EMSL Sample Number:	042422726-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7208.5
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):	0.0130
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):	**0.0008**	**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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422726
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: 042422726-0014 **Customer Sample:** MFL-AM03-103024-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	B7	None Detected									
H2	D4	None Detected									
H2	I1	None Detected									
H3	A3	None Detected									
H3	F4	None Detected									

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

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

EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-103024-AB**	**Sample Description:**	**DL267397**
EMSL Sample Number:	042422726-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7200.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422726
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: 042422726-0015 **Customer Sample:** MFL-AM07-103024-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	B6	None Detected									
H5	E3	None Detected									
H5	I5	None Detected									
H6	G5	None Detected									
H6	B6	None Detected									

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

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-103024-AB**		**Sample Description:**	**DL267420**
EMSL Sample Number:	042422726-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422726
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: 042422726-0016 **Customer Sample:** MFL-FB01-103024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J3	None Detected									
I1	H5	None Detected									
I1	F2	None Detected									
I1	D3	None Detected									
I1	B4	None Detected									
I2	J5	None Detected									
I2	H5	None Detected									
I2	F1	None Detected									
I2	D1	None Detected									
I2	B2	None Detected									

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

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EMSL Order:	042422726
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/04/2024 08:50 AM
Analysis Date:	11/08/2024
Report Date:	11/11/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042422726-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
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**	**< 23.00**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures	**-**	**0**	**0**	**< 23.00**			

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**	**< 23.00**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.00**			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.00**			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.00**			

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:	**042422726**
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: 042422726-0017 **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	A1	None Detected									
A2	C4	None Detected									
A2	E3	None Detected									
A2	G1	None Detected									
A2	I3	None Detected									
A3	J3	None Detected									
A3	H1	None Detected									
A3	F3	None Detected									
A3	D1	None Detected									
A3	C5	None Detected									

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

OrderID: 042422726

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422726

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

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

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

RECEIVED EMSL CINNAMINSON 2024 NOV -4 A 7:

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

Project Information

Project Name/No: Maui Fires Lahaina

Purchase Order: A202085

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: Shaina A.L. Epstein

Sampled By Signature:

No. of Samples in Shipment: 16

Turn-Around-Time (TAT)

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

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

Test Selection

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-AM05-102824-AB	DL267539	7,089.698	10/28/24 1053
MFL-AM02-102824-AB	DL267481	7,158.004	10/28/24 1110
MFL-AM03-102824-AB	DL267361	7,144.416	10/28/24 1255
MFL-AM07-102824-AB	DL267608	7,146.285	10/28/24 1318
MFL-FB01-102824-AB	DL267604	0	10/28/24 1200
MFL-LB01-102824-AB	DL267504	~~7,158.~~ 0	10/28/24 1200
MFL-AM05-102924-AB	DL267594	7,244.916	10/29/24 1057
MFL-AM02-102924-AB	DL267345	7,299.564	10/29/24 1123

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

All samples received acceptable for analysis.

16 CJR

Method of Shipment:	Fedex		Sample Condition Upon Receipt:		
Relinquished by:	Shaina Epstein	Date/Time: 10/31/24 1100	Received by:	FedEx	Date/Time: 11/4/24 8:50A
Relinquished by:		Date/Time:	Received by:		Date/Time

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

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

OrderID: 042422726

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422726

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-AM03-102924-AB	DL267343	7,199.673	10/29/24 1306
MFL-AM07-102924-AB	DL267693	7,248.870	10/29/24 1326
MFL-FB01-102924-AB	DL267376	0	10/29/24 1200
MFL-AM05-103024-AB	DL267342	7,241.760	10/30/24 1100
MFL-AM02-103024-AB	DL267463	6,984.902	10/30/24 1123
MFL-AM03-103024-AB	DL267340	7,208.544	10/30/24 1256
MFL-AM07-103024-AB	DL267397	7,200.159	10/30/24 1318
MFL-FB01-103024-AB	DL267420	0	10/30/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 NOV -4 A 7:17

Method of Shipment: Fedex			Sample Condition Upon Receipt:		
Relinquished by: Shaina Epstein	Date/Time: 10/31/24 1100		Received by: FedEx	Date/Time: 11/4/24 8:50A	
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.)

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/11/2024 and Shanna Vasser 11/12/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/28/2024 – 10/30/2024
Report No: 42422726

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

Discrepancies: None.

Notes: None.

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

November 13, 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 11/04/24 12:46.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-102424-HM	4110439-01	Air	10/24/24 23:59	11/04/24 12:46
MFL-AM02-102424-HM	4110439-02	Air	10/24/24 23:59	11/04/24 12:46
MFL-AM03-102424-HM	4110439-03	Air	10/24/24 23:59	11/04/24 12:46
MFL-AM07-102424-HM	4110439-04	Air	10/24/24 23:59	11/04/24 12:46
MFL-AM05-102524-HM	4110439-05	Air	10/25/24 23:59	11/04/24 12:46
MFL-AM02-102524-HM	4110439-06	Air	10/25/24 23:59	11/04/24 12:46
MFL-AM03-102524-HM	4110439-07	Air	10/25/24 23:59	11/04/24 12:46
MFL-AM07-102524-HM	4110439-08	Air	10/25/24 23:59	11/04/24 12:46
MFL-FB01-102524-HM	4110439-09	Air	10/25/24 00:00	11/04/24 12:46
MFL-AM05-102624-HM	4110439-10	Air	10/26/24 23:59	11/04/24 12:46
MFL-AM02-102624-HM	4110439-11	Air	10/26/24 23:59	11/04/24 12:46
MFL-AM03-102624-HM	4110439-12	Air	10/26/24 23:59	11/04/24 12:46
MFL-AM07-102624-HM	4110439-13	Air	10/26/24 23:59	11/04/24 12:46
MFL-AM05-102724-HM	4110439-14	Air	10/27/24 23:59	11/04/24 12:46
MFL-AM02-102724-HM	4110439-15	Air	10/27/24 23:59	11/04/24 12:46
MFL-AM03-102724-HM	4110439-16	Air	10/27/24 23:59	11/04/24 12:46
MFL-AM07-102724-HM	4110439-17	Air	10/27/24 23:59	11/04/24 12:46
MFL-FB01-102724-HM	4110439-18	Air	10/27/24 00:00	11/04/24 12:46
MFL-AM05-102824-HM	4110439-19	Air	10/28/24 23:59	11/04/24 12:46
MFL-AM02-102824-HM	4110439-20	Air	10/28/24 23:59	11/04/24 12:46
MFL-AM03-102824-HM	4110439-21	Air	10/28/24 23:59	11/04/24 12:46

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: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-102824-HM	4110439-22	Air	10/28/24 23:59	11/04/24 12:46
MFL-AM05-102924-HM	4110439-23	Air	10/29/24 23:59	11/04/24 12:46
MFL-AM02-102924-HM	4110439-24	Air	10/29/24 23:59	11/04/24 12:46
MFL-AM03-102924-HM	4110439-25	Air	10/29/24 23:59	11/04/24 12:46
MFL-AM07-102924-HM	4110439-26	Air	10/29/24 23:59	11/04/24 12:46
MFL-FB01-102924-HM	4110439-27	Air	10/29/24 00:00	11/04/24 12:46
MFL-AM05-103024-HM	4110439-28	Air	10/30/24 23:59	11/04/24 12:46
MFL-AM02-103024-HM	4110439-29	Air	10/30/24 23:59	11/04/24 12:46
MFL-AM03-103024-HM	4110439-30	Air	10/30/24 23:59	11/04/24 12:46
MFL-AM07-103024-HM	4110439-31	Air	10/30/24 23:59	11/04/24 12:46
MFL-LB01-103024-HM	4110439-32	Air	10/30/24 00:00	11/04/24 12:46

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: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102424-HM
Matrix: Air
Lab ID: 4110439-01
Sample Volume: 1843.726 m³
Filter ID:
Sampled: 10/24/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 20:23

Comments: Q8529423 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.156**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.404**		**0.00827**
Barium	**7440-39-3**	**5.52**		**0.944**
Beryllium	**7440-41-7**	**0.0167**		**0.00282**
Cadmium	7440-43-9	0.0479	U	0.0654
Chromium	**7440-47-3**	**2.89**		**1.95**
Cobalt	**7440-48-4**	**0.604**		**0.0385**
Copper	**7440-50-8**	**55.3**		**2.32**
Lead	**7439-92-1**	**1.36**		**0.189**
Manganese	**7439-96-5**	**16.5**		**1.67**
Molybdenum	**7439-98-7**	**2.25**		**0.317**
Nickel	**7440-02-0**	**2.13**		**0.575**
Selenium	**7782-49-2**	**0.191**		**0.00791**
Thallium	**7440-28-0**	**0.00112**		**5.20E-4**
Vanadium	**7440-62-2**	**2.33**		**0.0467**
Zinc	7440-66-6	24.2	U	67.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102424-HM
Matrix: Air
Lab ID: 4110439-02
Sample Volume: 2039.229 m³
Filter ID:
Sampled: 10/24/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 20:34

Comments: Q8529422 - 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**	**0.216**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.418**		**0.00748**
Barium	**7440-39-3**	**7.28**		**0.854**
Beryllium	**7440-41-7**	**0.0220**		**0.00255**
Cadmium	7440-43-9	0.0206	U	0.0591
Chromium	**7440-47-3**	**3.47**		**1.76**
Cobalt	**7440-48-4**	**0.797**		**0.0348**
Copper	**7440-50-8**	**44.8**		**2.10**
Lead	**7439-92-1**	**0.815**		**0.171**
Manganese	**7439-96-5**	**24.9**		**1.51**
Molybdenum	**7439-98-7**	**1.57**		**0.286**
Nickel	**7440-02-0**	**2.22**		**0.520**
Selenium	**7782-49-2**	**0.201**		**0.00715**
Thallium	**7440-28-0**	**0.00134**		**4.70E-4**
Vanadium	**7440-62-2**	**2.90**		**0.0422**
Zinc	7440-66-6	19.5	U	61.3

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: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102424-HM
Matrix: Air
Lab ID: 4110439-03
Sample Volume: 2044.064 m³
Filter ID:
Sampled: 10/24/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 20:44

Comments: Q8529418 - 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**	**0.0735**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.185**		**0.00746**
Barium	**7440-39-3**	**4.36**		**0.852**
Beryllium	**7440-41-7**	**0.0281**		**0.00255**
Cadmium	7440-43-9	0.0130	U	0.0590
Chromium	**7440-47-3**	**2.91**		**1.76**
Cobalt	**7440-48-4**	**0.648**		**0.0347**
Copper	**7440-50-8**	**66.7**		**2.09**
Lead	**7439-92-1**	**0.347**		**0.170**
Manganese	**7439-96-5**	**14.3**		**1.50**
Molybdenum	**7439-98-7**	**2.49**		**0.286**
Nickel	**7440-02-0**	**3.05**		**0.519**
Selenium	**7782-49-2**	**0.188**		**0.00713**
Thallium	**7440-28-0**	**8.03E-4**		**4.69E-4**
Vanadium	**7440-62-2**	**2.09**		**0.0421**
Zinc	7440-66-6	12.7	U	61.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102424-HM
Matrix: Air
Lab ID: 4110439-04
Sample Volume: 1841.864 m³
Filter ID:
Sampled: 10/24/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 20:54

Comments: Q8529417 - 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**	**0.0991**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.348**		**0.00828**
Barium	**7440-39-3**	**3.74**		**0.945**
Beryllium	**7440-41-7**	**0.0179**		**0.00283**
Cadmium	7440-43-9	0.0117	U	0.0655
Chromium	**7440-47-3**	**2.65**		**1.95**
Cobalt	**7440-48-4**	**0.518**		**0.0385**
Copper	**7440-50-8**	**27.3**		**2.32**
Lead	**7439-92-1**	**0.353**		**0.189**
Manganese	**7439-96-5**	**16.8**		**1.67**
Molybdenum	**7439-98-7**	**1.41**		**0.317**
Nickel	**7440-02-0**	**1.82**		**0.576**
Selenium	**7782-49-2**	**0.188**		**0.00791**
Thallium	**7440-28-0**	**9.30E-4**		**5.20E-4**
Vanadium	**7440-62-2**	**2.10**		**0.0467**
Zinc	7440-66-6	15.3	U	67.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102524-HM
Matrix: Air
Lab ID: 4110439-05
Sample Volume: 1857.693 m³
Filter ID:
Sampled: 10/25/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 19:00

Comments: Q8529416 - 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**	**0.110**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.196**		**0.00821**
Barium	**7440-39-3**	**3.64**		**0.937**
Beryllium	**7440-41-7**	**0.0107**		**0.00280**
Cadmium	7440-43-9	0.0123	U	0.0649
Chromium	7440-47-3	1.93	U	1.94
Cobalt	**7440-48-4**	**0.333**		**0.0382**
Copper	**7440-50-8**	**67.0**		**2.30**
Lead	**7439-92-1**	**0.532**		**0.187**
Manganese	**7439-96-5**	**10.2**		**1.66**
Molybdenum	**7439-98-7**	**2.82**		**0.314**
Nickel	**7440-02-0**	**1.30**		**0.571**
Selenium	**7782-49-2**	**0.158**		**0.00785**
Thallium	**7440-28-0**	**8.07E-4**		**5.16E-4**
Vanadium	**7440-62-2**	**1.44**		**0.0463**
Zinc	7440-66-6	15.1	U	67.3

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: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102524-HM
Matrix: Air
Lab ID: 4110439-06
Sample Volume: 2051.772 m³
Filter ID:
Sampled: 10/25/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:05

Comments: Q8529414 - 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**	**0.171**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.345**		**0.00743**
Barium	**7440-39-3**	**4.96**		**0.848**
Beryllium	**7440-41-7**	**0.0156**		**0.00254**
Cadmium	7440-43-9	0.0122	U	0.0588
Chromium	**7440-47-3**	**2.20**		**1.75**
Cobalt	**7440-48-4**	**0.418**		**0.0346**
Copper	**7440-50-8**	**43.8**		**2.09**
Lead	**7439-92-1**	**0.760**		**0.170**
Manganese	**7439-96-5**	**14.7**		**1.50**
Molybdenum	**7439-98-7**	**1.60**		**0.285**
Nickel	**7440-02-0**	**1.33**		**0.517**
Selenium	**7782-49-2**	**0.163**		**0.00711**
Thallium	**7440-28-0**	**0.00105**		**4.67E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0419**
Zinc	7440-66-6	17.4	U	60.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102524-HM
Matrix: Air
Lab ID: 4110439-07
Sample Volume: 1956.015 m³
Filter ID:
Sampled: 10/25/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:15

Comments: Q8529412 - 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**	**0.0857**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.150**		**0.00779**
Barium	**7440-39-3**	**3.42**		**0.890**
Beryllium	**7440-41-7**	**0.0208**		**0.00266**
Cadmium	7440-43-9	0.00664	U	0.0616
Chromium	**7440-47-3**	**2.39**		**1.84**
Cobalt	**7440-48-4**	**0.470**		**0.0363**
Copper	**7440-50-8**	**65.4**		**2.19**
Lead	**7439-92-1**	**0.269**		**0.178**
Manganese	**7439-96-5**	**12.1**		**1.57**
Molybdenum	**7439-98-7**	**2.39**		**0.299**
Nickel	**7440-02-0**	**1.62**		**0.542**
Selenium	**7782-49-2**	**0.165**		**0.00745**
Thallium	**7440-28-0**	**8.44E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0440**
Zinc	7440-66-6	13.6	U	63.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102524-HM
Matrix: Air
Lab ID: 4110439-08
Sample Volume: 1853.99 m³
Filter ID:
Sampled: 10/25/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:26

Comments: Q8529411 - 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**	**0.119**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.403**		**0.00822**
Barium	**7440-39-3**	**4.19**		**0.939**
Beryllium	**7440-41-7**	**0.0217**		**0.00281**
Cadmium	7440-43-9	0.0324	U	0.0650
Chromium	**7440-47-3**	**3.14**		**1.94**
Cobalt	**7440-48-4**	**0.683**		**0.0383**
Copper	**7440-50-8**	**24.7**		**2.31**
Lead	**7439-92-1**	**0.607**		**0.188**
Manganese	**7439-96-5**	**21.4**		**1.66**
Molybdenum	**7439-98-7**	**1.12**		**0.315**
Nickel	**7440-02-0**	**1.83**		**0.572**
Selenium	**7782-49-2**	**0.172**		**0.00786**
Thallium	**7440-28-0**	**0.00117**		**5.17E-4**
Vanadium	**7440-62-2**	**2.01**		**0.0464**
Zinc	7440-66-6	15.2	U	67.4

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102524-HM
Matrix: Air
Lab ID: 4110439-09
Sample Volume: 1857.693 m³
Filter ID:
Sampled: 10/25/24 00:00
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:36

Comments: Q8529407 - 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	0.0224	SL, U	0.0338
Arsenic	7440-38-2	0.00338	U	0.00821
Barium	7440-39-3	0.918	U	0.937
Beryllium	7440-41-7	7.61E-4	U	0.00280
Cadmium	7440-43-9	8.26E-4	U	0.0649
Chromium	7440-47-3	0.841	U	1.94
Cobalt	7440-48-4	0.0144	U	0.0382
Copper	7440-50-8	0.959	U	2.30
Lead	7439-92-1	0.0280	U	0.187
Manganese	7439-96-5	0.239	U	1.66
Molybdenum	7439-98-7	0.162	U	0.314
Nickel	7440-02-0	0.494	U	0.571
Selenium	7782-49-2	0.00541	U	0.00785
Thallium	7440-28-0	6.90E-5	U	5.16E-4
Vanadium	7440-62-2	0.0191	U	0.0463
Zinc	7440-66-6	5.67	U	67.3

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102624-HM
Matrix: Air
Lab ID: 4110439-10
Sample Volume: 1875.028 m³
Filter ID:
Sampled: 10/26/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:46

Comments: Q8529410 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.130**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.202**		**0.00813**
Barium	**7440-39-3**	**3.56**		**0.928**
Beryllium	**7440-41-7**	**0.00815**		**0.00278**
Cadmium	7440-43-9	0.0198	U	0.0643
Chromium	**7440-47-3**	**2.11**		**1.92**
Cobalt	**7440-48-4**	**0.311**		**0.0378**
Copper	**7440-50-8**	**70.5**		**2.28**
Lead	**7439-92-1**	**0.507**		**0.186**
Manganese	**7439-96-5**	**8.74**		**1.64**
Molybdenum	**7439-98-7**	**2.91**		**0.312**
Nickel	**7440-02-0**	**1.33**		**0.566**
Selenium	**7782-49-2**	**0.149**		**0.00777**
Thallium	**7440-28-0**	**6.48E-4**		**5.11E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0459**
Zinc	7440-66-6	18.3	U	66.6

CERTIFICATE OF ANALYSIS

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1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102624-HM
Matrix: Air
Lab ID: 4110439-11
Sample Volume: 2086.048 m³
Filter ID:
Sampled: 10/26/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 21:57

Comments: Q8529409 - 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**	**0.134**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.905**		**0.00731**
Barium	**7440-39-3**	**4.26**		**0.835**
Beryllium	**7440-41-7**	**0.0186**		**0.00250**
Cadmium	7440-43-9	0.0158	U	0.0578
Chromium	**7440-47-3**	**2.25**		**1.72**
Cobalt	**7440-48-4**	**0.577**		**0.0340**
Copper	**7440-50-8**	**34.5**		**2.05**
Lead	**7439-92-1**	**0.722**		**0.167**
Manganese	**7439-96-5**	**25.8**		**1.47**
Molybdenum	**7439-98-7**	**1.30**		**0.280**
Nickel	**7440-02-0**	**1.13**		**0.509**
Selenium	**7782-49-2**	**0.181**		**0.00699**
Thallium	**7440-28-0**	**0.00144**		**4.59E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0413**
Zinc	7440-66-6	14.4	U	59.9

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102624-HM
Matrix: Air
Lab ID: 4110439-12
Sample Volume: 2042.351 m³
Filter ID:
Sampled: 10/26/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 22:28

Comments: Q8529406 - 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	**0.0307**
Arsenic	**7440-38-2**	**0.152**		**0.00746**
Barium	**7440-39-3**	**3.13**		**0.852**
Beryllium	**7440-41-7**	**0.0165**		**0.00255**
Cadmium	7440-43-9	0.0155	U	0.0590
Chromium	**7440-47-3**	**2.22**		**1.76**
Cobalt	**7440-48-4**	**0.465**		**0.0347**
Copper	**7440-50-8**	**75.6**		**2.10**
Lead	**7439-92-1**	**0.254**		**0.170**
Manganese	**7439-96-5**	**9.67**		**1.51**
Molybdenum	**7439-98-7**	**2.35**		**0.286**
Nickel	**7440-02-0**	**5.36**		**0.519**
Selenium	**7782-49-2**	**0.170**		**0.00714**
Thallium	**7440-28-0**	**7.10E-4**		**4.69E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0421**
Zinc	7440-66-6	17.1	U	61.2

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102624-HM
Matrix: Air
Lab ID: 4110439-13
Sample Volume: 1499.688 m³
Filter ID:
Sampled: 10/26/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 22:38

Comments: Q8529405 - 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**	**0.303**	SL	**0.0419**
Arsenic	**7440-38-2**	**0.327**		**0.0102**
Barium	**7440-39-3**	**3.57**		**1.16**
Beryllium	**7440-41-7**	**0.0207**		**0.00347**
Cadmium	7440-43-9	0.0798	U	0.0804
Chromium	**7440-47-3**	**2.59**		**2.40**
Cobalt	**7440-48-4**	**0.506**		**0.0473**
Copper	**7440-50-8**	**32.6**		**2.85**
Lead	**7439-92-1**	**0.335**		**0.232**
Manganese	**7439-96-5**	**17.5**		**2.05**
Molybdenum	**7439-98-7**	**1.57**		**0.389**
Nickel	**7440-02-0**	**2.39**		**0.707**
Selenium	**7782-49-2**	**0.200**		**0.00972**
Thallium	**7440-28-0**	**0.00109**		**6.39E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0574**
Zinc	7440-66-6	21.4	U	83.3

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102724-HM
Matrix: Air
Lab ID: 4110439-14
Sample Volume: 1895.818 m³
Filter ID:
Sampled: 10/27/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 22:49

Comments: Q8529403 - 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	**0.0331**
Arsenic	**7440-38-2**	**0.233**		**0.00804**
Barium	**7440-39-3**	**3.14**		**0.918**
Beryllium	**7440-41-7**	**0.00406**		**0.00275**
Cadmium	7440-43-9	0.0268	U	0.0636
Chromium	7440-47-3	1.30	U	1.90
Cobalt	**7440-48-4**	**0.129**		**0.0374**
Copper	**7440-50-8**	**72.6**		**2.26**
Lead	**7439-92-1**	**0.672**		**0.184**
Manganese	**7439-96-5**	**3.52**		**1.62**
Molybdenum	**7439-98-7**	**2.76**		**0.308**
Nickel	**7440-02-0**	**0.938**		**0.560**
Selenium	**7782-49-2**	**0.138**		**0.00769**
Thallium	7440-28-0	3.12E-4	U	5.05E-4
Vanadium	**7440-62-2**	**0.506**		**0.0454**
Zinc	7440-66-6	21.1	U	65.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102724-HM
Matrix: Air
Lab ID: 4110439-15
Sample Volume: 2153.725 m³
Filter ID:
Sampled: 10/27/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 22:59

Comments: Q8529402 - 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**	**0.133**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.297**		**0.00708**
Barium	**7440-39-3**	**2.90**		**0.808**
Beryllium	**7440-41-7**	**0.00350**		**0.00242**
Cadmium	7440-43-9	0.00594	U	0.0560
Chromium	7440-47-3	1.14	U	1.67
Cobalt	**7440-48-4**	**0.105**		**0.0329**
Copper	**7440-50-8**	**47.7**		**1.99**
Lead	**7439-92-1**	**0.288**		**0.162**
Manganese	**7439-96-5**	**3.26**		**1.43**
Molybdenum	**7439-98-7**	**2.16**		**0.271**
Nickel	**7440-02-0**	**0.686**		**0.493**
Selenium	**7782-49-2**	**0.125**		**0.00677**
Thallium	7440-28-0	3.25E-4	U	4.45E-4
Vanadium	**7440-62-2**	**0.485**		**0.0400**
Zinc	7440-66-6	12.1	U	58.0

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102724-HM
Matrix: Air
Lab ID: 4110439-16
Sample Volume: 2039.554 m³
Filter ID:
Sampled: 10/27/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:09

Comments: Q8529399 - 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**	**0.0467**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.0780**		**0.00747**
Barium	**7440-39-3**	**1.60**		**0.854**
Beryllium	**7440-41-7**	**0.00390**		**0.00255**
Cadmium	7440-43-9	0.0129	U	0.0591
Chromium	7440-47-3	1.14	U	1.76
Cobalt	**7440-48-4**	**0.0846**		**0.0348**
Copper	**7440-50-8**	**71.4**		**2.10**
Lead	**7439-92-1**	**0.201**		**0.171**
Manganese	**7439-96-5**	**2.24**		**1.51**
Molybdenum	**7439-98-7**	**2.61**		**0.286**
Nickel	**7440-02-0**	**0.810**		**0.520**
Selenium	**7782-49-2**	**0.126**		**0.00715**
Thallium	7440-28-0	3.29E-4	U	4.70E-4
Vanadium	**7440-62-2**	**0.410**		**0.0422**
Zinc	7440-66-6	16.1	U	61.3

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: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102724-HM
Matrix: Air
Lab ID: 4110439-17
Sample Volume: 2018.43 m³
Filter ID:
Sampled: 10/27/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 16:56

Comments: Q8529397 MS/MSD - 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**	**0.163**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.220**		**0.00755**
Barium	**7440-39-3**	**2.20**		**0.862**
Beryllium	**7440-41-7**	**0.00364**		**0.00258**
Cadmium	**7440-43-9**	**0.0774**		**0.0597**
Chromium	**7440-47-3**	**2.00**		**1.78**
Cobalt	**7440-48-4**	**0.157**		**0.0351**
Copper	**7440-50-8**	**37.0**		**2.12**
Lead	**7439-92-1**	**0.351**		**0.172**
Manganese	**7439-96-5**	**3.64**		**1.52**
Molybdenum	**7439-98-7**	**1.55**		**0.289**
Nickel	**7440-02-0**	**2.13**	QM-07	**0.526**
Selenium	**7782-49-2**	**0.137**		**0.00722**
Thallium	7440-28-0	4.41E-4	U	4.75E-4
Vanadium	**7440-62-2**	**0.506**		**0.0426**
Zinc	7440-66-6	15.8	U	61.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102724-HM
Matrix: Air
Lab ID: 4110439-18
Sample Volume: 1895.818 m³
Filter ID:
Sampled: 10/27/24 00:00
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:20

Comments: Q8529389 - 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	0.0208	SL, U	0.0331
Arsenic	7440-38-2	0.00204	U	0.00804
Barium	**7440-39-3**	**0.960**	FB-01	**0.918**
Beryllium	7440-41-7	6.72E-4	U	0.00275
Cadmium	7440-43-9	9.17E-4	U	0.0636
Chromium	7440-47-3	0.742	U	1.90
Cobalt	7440-48-4	0.0108	U	0.0374
Copper	7440-50-8	0.315	U	2.26
Lead	7439-92-1	0.0232	U	0.184
Manganese	7439-96-5	0.176	U	1.62
Molybdenum	7439-98-7	0.126	U	0.308
Nickel	7440-02-0	0.370	U	0.560
Selenium	7782-49-2	0.00472	U	0.00769
Thallium	7440-28-0	7.22E-5	U	5.05E-4
Vanadium	7440-62-2	0.0185	U	0.0454
Zinc	7440-66-6	4.40	U	65.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102824-HM
Matrix: Air
Lab ID: 4110439-19
Sample Volume: 1937.341 m³
Filter ID:
Sampled: 10/28/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:30

Comments: Q8529395 - 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**	**0.151**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.198**		**0.00787**
Barium	**7440-39-3**	**3.42**		**0.899**
Beryllium	**7440-41-7**	**0.00445**		**0.00269**
Cadmium	7440-43-9	0.0123	U	0.0622
Chromium	**7440-47-3**	**1.97**		**1.86**
Cobalt	**7440-48-4**	**0.135**		**0.0366**
Copper	**7440-50-8**	**77.5**		**2.21**
Lead	**7439-92-1**	**0.418**		**0.180**
Manganese	**7439-96-5**	**4.00**		**1.59**
Molybdenum	**7439-98-7**	**3.15**		**0.301**
Nickel	**7440-02-0**	**1.02**		**0.548**
Selenium	**7782-49-2**	**0.189**		**0.00752**
Thallium	7440-28-0	4.46E-4	U	4.95E-4
Vanadium	**7440-62-2**	**0.508**		**0.0444**
Zinc	7440-66-6	17.6	U	64.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102824-HM
Matrix: Air
Lab ID: 4110439-20
Sample Volume: 2119.903 m³
Filter ID:
Sampled: 10/28/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:41

Comments: Q8529393 - 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	**0.0296**
Arsenic	**7440-38-2**	**0.312**		**0.00719**
Barium	**7440-39-3**	**3.64**		**0.821**
Beryllium	**7440-41-7**	**0.00484**		**0.00246**
Cadmium	7440-43-9	0.00954	U	0.0569
Chromium	7440-47-3	1.41	U	1.70
Cobalt	**7440-48-4**	**0.129**		**0.0335**
Copper	**7440-50-8**	**44.1**		**2.02**
Lead	**7439-92-1**	**0.455**		**0.164**
Manganese	**7439-96-5**	**4.19**		**1.45**
Molybdenum	**7439-98-7**	**1.65**		**0.276**
Nickel	**7440-02-0**	**0.883**		**0.500**
Selenium	**7782-49-2**	**0.186**		**0.00688**
Thallium	7440-28-0	3.08E-4	U	4.52E-4
Vanadium	**7440-62-2**	**0.517**		**0.0406**
Zinc	7440-66-6	12.5	U	58.9

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102824-HM
Matrix: Air
Lab ID: 4110439-21
Sample Volume: 2055.031 m³
Filter ID:
Sampled: 10/28/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/06/24 23:51

Comments: Q8529390 - 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**	**0.0682**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.0868**		**0.00742**
Barium	**7440-39-3**	**2.35**		**0.847**
Beryllium	**7440-41-7**	**0.00460**		**0.00253**
Cadmium	7440-43-9	0.00805	U	0.0587
Chromium	7440-47-3	1.29	U	1.75
Cobalt	**7440-48-4**	**0.146**		**0.0345**
Copper	**7440-50-8**	**70.3**		**2.08**
Lead	**7439-92-1**	**0.206**		**0.169**
Manganese	**7439-96-5**	**3.42**		**1.50**
Molybdenum	**7439-98-7**	**2.70**		**0.284**
Nickel	**7440-02-0**	**1.15**		**0.516**
Selenium	**7782-49-2**	**0.165**		**0.00709**
Thallium	7440-28-0	3.22E-4	U	4.66E-4
Vanadium	**7440-62-2**	**0.461**		**0.0419**
Zinc	7440-66-6	46.6	U	60.8

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102824-HM
Matrix: Air
Lab ID: 4110439-22
Sample Volume: 1771.31 m³
Filter ID:
Sampled: 10/28/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 00:33

Comments: Q8529388 - 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**	**0.134**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.512**		**0.00861**
Barium	**7440-39-3**	**3.22**		**0.983**
Beryllium	**7440-41-7**	**0.00908**		**0.00294**
Cadmium	7440-43-9	0.0151	U	0.0681
Chromium	**7440-47-3**	**3.50**		**2.03**
Cobalt	**7440-48-4**	**0.241**		**0.0400**
Copper	**7440-50-8**	**48.9**		**2.42**
Lead	**7439-92-1**	**0.282**		**0.197**
Manganese	**7439-96-5**	**8.41**		**1.74**
Molybdenum	**7439-98-7**	**1.89**		**0.330**
Nickel	**7440-02-0**	**1.52**		**0.599**
Selenium	**7782-49-2**	**0.197**		**0.00823**
Thallium	**7440-28-0**	**6.49E-4**		**5.41E-4**
Vanadium	**7440-62-2**	**0.807**		**0.0486**
Zinc	7440-66-6	13.0	U	70.5

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102924-HM
Matrix: Air
Lab ID: 4110439-23
Sample Volume: 1954.456 m³
Filter ID:
Sampled: 10/29/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 00:43

Comments: Q8529387 - 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**	**0.176**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.346**		**0.00780**
Barium	**7440-39-3**	**5.95**		**0.891**
Beryllium	**7440-41-7**	**0.0111**		**0.00266**
Cadmium	7440-43-9	0.0125	U	0.0617
Chromium	**7440-47-3**	**2.27**		**1.84**
Cobalt	**7440-48-4**	**0.416**		**0.0363**
Copper	**7440-50-8**	**76.2**		**2.19**
Lead	**7439-92-1**	**0.938**		**0.178**
Manganese	**7439-96-5**	**11.9**		**1.57**
Molybdenum	**7439-98-7**	**2.71**		**0.299**
Nickel	**7440-02-0**	**1.60**		**0.543**
Selenium	**7782-49-2**	**0.251**		**0.00746**
Thallium	**7440-28-0**	**8.35E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**1.68**		**0.0440**
Zinc	7440-66-6	22.0	U	63.9

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102924-HM
Matrix: Air
Lab ID: 4110439-24
Sample Volume: 2151.144 m³
Filter ID:
Sampled: 10/29/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 00:53

Comments: Q8529386 - 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**	**0.188**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.342**		**0.00709**
Barium	**7440-39-3**	**4.74**		**0.809**
Beryllium	**7440-41-7**	**0.0101**		**0.00242**
Cadmium	7440-43-9	0.0113	U	0.0560
Chromium	**7440-47-3**	**1.90**		**1.67**
Cobalt	**7440-48-4**	**0.331**		**0.0330**
Copper	**7440-50-8**	**53.8**		**1.99**
Lead	**7439-92-1**	**0.617**		**0.162**
Manganese	**7439-96-5**	**11.5**		**1.43**
Molybdenum	**7439-98-7**	**1.85**		**0.272**
Nickel	**7440-02-0**	**1.29**		**0.493**
Selenium	**7782-49-2**	**0.243**		**0.00678**
Thallium	**7440-28-0**	**7.73E-4**		**4.45E-4**
Vanadium	**7440-62-2**	**1.47**		**0.0400**
Zinc	7440-66-6	15.1	U	58.1

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102924-HM
Matrix: Air
Lab ID: 4110439-25
Sample Volume: 2113.146 m³
Filter ID:
Sampled: 10/29/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:04

Comments: Q8529382 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0871**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.124**		**0.00721**
Barium	**7440-39-3**	**3.49**		**0.824**
Beryllium	**7440-41-7**	**0.00728**		**0.00246**
Cadmium	7440-43-9	0.00716	U	0.0571
Chromium	7440-47-3	1.55	U	1.70
Cobalt	**7440-48-4**	**0.187**		**0.0336**
Copper	**7440-50-8**	**81.8**		**2.02**
Lead	**7439-92-1**	**0.174**		**0.165**
Manganese	**7439-96-5**	**5.28**		**1.46**
Molybdenum	**7439-98-7**	**2.57**		**0.276**
Nickel	**7440-02-0**	**1.21**		**0.502**
Selenium	**7782-49-2**	**0.214**		**0.00690**
Thallium	**7440-28-0**	**4.57E-4**		**4.53E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0407**
Zinc	7440-66-6	8.81	U	59.1

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102924-HM
Matrix: Air
Lab ID: 4110439-26
Sample Volume: 1834.81 m³
Filter ID:
Sampled: 10/29/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:14

Comments: Q8529381 - 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**	**0.132**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.418**		**0.00831**
Barium	**7440-39-3**	**4.15**		**0.949**
Beryllium	**7440-41-7**	**0.0141**		**0.00284**
Cadmium	7440-43-9	0.00879	U	0.0657
Chromium	**7440-47-3**	**2.54**		**1.96**
Cobalt	**7440-48-4**	**0.445**		**0.0387**
Copper	**7440-50-8**	**40.4**		**2.33**
Lead	**7439-92-1**	**0.341**		**0.190**
Manganese	**7439-96-5**	**14.1**		**1.68**
Molybdenum	**7439-98-7**	**1.63**		**0.318**
Nickel	**7440-02-0**	**1.55**		**0.578**
Selenium	**7782-49-2**	**0.257**		**0.00795**
Thallium	**7440-28-0**	**8.47E-4**		**5.22E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0469**
Zinc	7440-66-6	13.2	U	68.1

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Tetra Tech, Inc.
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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102924-HM
Matrix: Air
Lab ID: 4110439-27
Sample Volume: 1954.456 m³
Filter ID:
Sampled: 10/29/24 00:00
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:25

Comments: Q8533734 - 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	0.0211	SL, U	0.0321
Arsenic	7440-38-2	0.00498	U	0.00780
Barium	7440-39-3	0.773	U	0.891
Beryllium	7440-41-7	6.13E-4	U	0.00266
Cadmium	7440-43-9	0.00133	U	0.0617
Chromium	7440-47-3	0.946	U	1.84
Cobalt	7440-48-4	0.0152	U	0.0363
Copper	7440-50-8	0.951	U	2.19
Lead	7439-92-1	0.0433	U	0.178
Manganese	7439-96-5	0.269	U	1.57
Molybdenum	7439-98-7	0.138	U	0.299
Nickel	7440-02-0	0.480	U	0.543
Selenium	7782-49-2	0.00529	U	0.00746
Thallium	7440-28-0	7.64E-5	U	4.90E-4
Vanadium	7440-62-2	0.0266	U	0.0440
Zinc	7440-66-6	12.0	U	63.9

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-103024-HM
Matrix: Air
Lab ID: 4110439-28
Sample Volume: 1902.987 m³
Filter ID:
Sampled: 10/30/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:35

Comments: Q8533735 - 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**	**0.166**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.270**		**0.00801**
Barium	**7440-39-3**	**4.78**		**0.915**
Beryllium	**7440-41-7**	**0.0117**		**0.00274**
Cadmium	7440-43-9	0.0133	U	0.0634
Chromium	**7440-47-3**	**2.51**		**1.89**
Cobalt	**7440-48-4**	**0.446**		**0.0373**
Copper	**7440-50-8**	**79.6**		**2.25**
Lead	**7439-92-1**	**0.857**		**0.183**
Manganese	**7439-96-5**	**12.1**		**1.62**
Molybdenum	**7439-98-7**	**2.74**		**0.307**
Nickel	**7440-02-0**	**1.65**		**0.557**
Selenium	**7782-49-2**	**0.219**		**0.00766**
Thallium	**7440-28-0**	**0.00128**		**5.04E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0452**
Zinc	7440-66-6	17.3	U	65.7

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-103024-HM
Matrix: Air
Lab ID: 4110439-29
Sample Volume: 2113.955 m³
Filter ID:
Sampled: 10/30/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 01:45

Comments: Q8533732 - 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**	**0.188**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.414**		**0.00721**
Barium	**7440-39-3**	**6.09**		**0.824**
Beryllium	**7440-41-7**	**0.0175**		**0.00246**
Cadmium	7440-43-9	0.0139	U	0.0570
Chromium	**7440-47-3**	**2.82**		**1.70**
Cobalt	**7440-48-4**	**0.628**		**0.0336**
Copper	**7440-50-8**	**45.7**		**2.02**
Lead	**7439-92-1**	**1.05**		**0.165**
Manganese	**7439-96-5**	**19.2**		**1.45**
Molybdenum	**7439-98-7**	**1.75**		**0.276**
Nickel	**7440-02-0**	**1.98**		**0.502**
Selenium	**7782-49-2**	**0.229**		**0.00690**
Thallium	**7440-28-0**	**0.00145**		**4.53E-4**
Vanadium	**7440-62-2**	**2.13**		**0.0407**
Zinc	7440-66-6	19.3	U	59.1

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FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-103024-HM
Matrix: Air
Lab ID: 4110439-30
Sample Volume: 2106.925 m³
Filter ID:
Sampled: 10/30/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 02:06

Comments: Q8533731 - 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**	**0.0709**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.0945**		**0.00724**
Barium	**7440-39-3**	**2.38**		**0.826**
Beryllium	**7440-41-7**	**0.00862**		**0.00247**
Cadmium	7440-43-9	0.00599	U	0.0572
Chromium	**7440-47-3**	**1.85**		**1.71**
Cobalt	**7440-48-4**	**0.235**		**0.0337**
Copper	**7440-50-8**	**66.9**		**2.03**
Lead	**7439-92-1**	**0.273**		**0.165**
Manganese	**7439-96-5**	**5.96**		**1.46**
Molybdenum	**7439-98-7**	**2.27**		**0.277**
Nickel	**7440-02-0**	**1.17**		**0.503**
Selenium	**7782-49-2**	**0.174**		**0.00692**
Thallium	**7440-28-0**	**9.65E-4**		**4.55E-4**
Vanadium	**7440-62-2**	**0.738**		**0.0409**
Zinc	7440-66-6	9.24	U	59.3

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-103024-HM
Matrix: Air
Lab ID: 4110439-31
Sample Volume: 1812.676 m³
Filter ID:
Sampled: 10/30/24 23:59
Received: 11/04/24 12:46
Analysis Date: 11/07/24 02:37

Comments: Q8533730 - 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**	**0.0916**	SL	**0.0346**
Arsenic	**7440-38-2**	**0.518**		**0.00841**
Barium	**7440-39-3**	**4.26**		**0.960**
Beryllium	**7440-41-7**	**0.0188**		**0.00287**
Cadmium	7440-43-9	0.0147	U	0.0665
Chromium	**7440-47-3**	**3.25**		**1.98**
Cobalt	**7440-48-4**	**0.643**		**0.0391**
Copper	**7440-50-8**	**46.1**		**2.36**
Lead	**7439-92-1**	**0.486**		**0.192**
Manganese	**7439-96-5**	**20.9**		**1.70**
Molybdenum	**7439-98-7**	**1.51**		**0.322**
Nickel	**7440-02-0**	**1.84**		**0.585**
Selenium	**7782-49-2**	**0.237**		**0.00804**
Thallium	**7440-28-0**	**0.00162**		**5.29E-4**
Vanadium	**7440-62-2**	**1.97**		**0.0475**
Zinc	7440-66-6	15.1	U	68.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/13/24 11:13
SUBMITTED: 11/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-103024-HM **Lab ID:** 4110439-32 **Sampled:** 10/30/24 00:00
Matrix: Air **Sample Volume:** 1902.987 m³ **Received:** 11/04/24 12:46
Filter ID: **Analysis Date:** 11/07/24 02:48

Comments: Q8533721 Lot Blank - 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**	**0.0346**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.0119**		**0.00801**
Barium	7440-39-3	0.875	U	0.915
Beryllium	7440-41-7	6.84E-4	U	0.00274
Cadmium	7440-43-9	0.00148	U	0.0634
Chromium	7440-47-3	0.980	U	1.89
Cobalt	7440-48-4	0.0227	U	0.0373
Copper	**7440-50-8**	**3.02**		**2.25**
Lead	7439-92-1	0.0651	U	0.183
Manganese	7439-96-5	0.461	U	1.62
Molybdenum	**7439-98-7**	**0.314**		**0.307**
Nickel	7440-02-0	0.545	U	0.557
Selenium	7782-49-2	0.00383	U	0.00766
Thallium	7440-28-0	9.51E-5	U	5.04E-4
Vanadium	7440-62-2	0.0442	U	0.0452
Zinc	7440-66-6	5.32	U	65.7

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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 2411013 - B4K0508										
Calibration Blank (2411013-CCB1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	1.85		ng/l							
Arsenic	-0.332		ng/l							U
Barium	-0.283		ng/l							U
Beryllium	-0.291		ng/l							U
Cadmium	0.214		ng/l							
Chromium	0.656		ng/l							
Cobalt	0.0505		ng/l							
Copper	66.3		ng/l							
Lead	29.0		ng/l							
Manganese	2.49		ng/l							
Molybdenum	13.8		ng/l							
Nickel	0.513		ng/l							
Selenium	16.2		ng/l							
Thallium	0.892		ng/l							
Vanadium	-33.7		ng/l							U
Zinc	25.5		ng/l							
Calibration Blank (2411013-CCB2)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	1.38		ng/l							
Arsenic	0.264		ng/l							
Barium	-0.350		ng/l							U
Beryllium	-0.222		ng/l							U
Cadmium	0.0619		ng/l							
Chromium	0.716		ng/l							
Cobalt	0.153		ng/l							
Copper	33.1		ng/l							
Lead	14.2		ng/l							
Manganese	1.42		ng/l							
Molybdenum	6.94		ng/l							
Nickel	0.163		ng/l							
Selenium	7.22		ng/l							
Thallium	0.608		ng/l							
Vanadium	-34.3		ng/l							U
Zinc	23.1		ng/l							
Calibration Blank (2411013-CCB3)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.893		ng/l							
Arsenic	-1.50		ng/l							U
Barium	-0.264		ng/l							U
Beryllium	-0.252		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411013 - B4K0508										
Calibration Blank (2411013-CCB3) Contin				Prepared: 11/05/24 Analyzed: 11/06/24						
Cadmium	0.0502		ng/l							
Chromium	1.07		ng/l							
Cobalt	0.152		ng/l							
Copper	29.7		ng/l							
Lead	13.7		ng/l							
Manganese	-0.0700		ng/l							U
Molybdenum	5.13		ng/l							
Nickel	-0.150		ng/l							U
Selenium	9.28		ng/l							
Thallium	0.852		ng/l							
Vanadium	-34.9		ng/l							U
Zinc	20.4		ng/l							
Calibration Blank (2411013-CCB4)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.947		ng/l							
Arsenic	0.467		ng/l							
Barium	-0.409		ng/l							U
Beryllium	-0.0401		ng/l							U
Cadmium	0.0372		ng/l							
Chromium	0.472		ng/l							
Cobalt	0.176		ng/l							
Copper	25.7		ng/l							
Lead	12.0		ng/l							
Manganese	0.432		ng/l							
Molybdenum	5.55		ng/l							
Nickel	0.315		ng/l							
Selenium	11.1		ng/l							
Thallium	0.564		ng/l							
Vanadium	-38.7		ng/l							U
Zinc	28.0		ng/l							
Calibration Blank (2411013-CCB5)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	1.15		ng/l							
Arsenic	0.341		ng/l							
Barium	-0.514		ng/l							U
Beryllium	-0.431		ng/l							U
Cadmium	0.0757		ng/l							
Chromium	1.28		ng/l							
Cobalt	0.146		ng/l							
Copper	27.3		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 2411013 - B4K0508										
Calibration Blank (2411013-CCB5) Contin				Prepared: 11/05/24 Analyzed: 11/07/24						
Lead	12.8		ng/l							
Manganese	0.284		ng/l							
Molybdenum	7.47		ng/l							
Nickel	1.08		ng/l							
Selenium	15.9		ng/l							
Thallium	0.613		ng/l							
Vanadium	-37.1		ng/l							U
Zinc	26.9		ng/l							
Calibration Blank (2411013-CCB6)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	0.768		ng/l							
Arsenic	-0.804		ng/l							U
Barium	-0.00951		ng/l							U
Beryllium	-0.343		ng/l							U
Cadmium	0.0123		ng/l							
Chromium	1.76		ng/l							
Cobalt	0.127		ng/l							
Copper	25.3		ng/l							
Lead	12.5		ng/l							
Manganese	0.130		ng/l							
Molybdenum	7.94		ng/l							
Nickel	0.163		ng/l							
Selenium	8.77		ng/l							
Thallium	0.631		ng/l							
Vanadium	-38.0		ng/l							U
Zinc	22.9		ng/l							
Calibration Blank (2411013-CCB7)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	1.25		ng/l							
Arsenic	-0.106		ng/l							U
Barium	-0.246		ng/l							U
Beryllium	-0.252		ng/l							U
Cadmium	0.0522		ng/l							
Chromium	1.02		ng/l							
Cobalt	0.153		ng/l							
Copper	25.6		ng/l							
Lead	14.0		ng/l							
Manganese	0.481		ng/l							
Molybdenum	6.65		ng/l							
Nickel	0.0577		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 2411013 - B4K0508										
Calibration Blank (2411013-CCB7) Contin				Prepared: 11/05/24 Analyzed: 11/07/24						
Selenium	3.57		ng/l							
Thallium	0.726		ng/l							
Vanadium	-40.9		ng/l							U
Zinc	27.5		ng/l							
Calibration Check (2411013-CCV1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	47500		ng/l	50000		94.9	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2411013-CCV2)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	199000		ng/l	200000		99.6	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	46900		ng/l	50000		93.9	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	519000		ng/l	500000		104	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 2411013 - B4K0508										
Calibration Check (2411013-CCV3)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		101	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	47500		ng/l	50000		95.0	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	482		ng/l	500.00		96.5	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2411013-CCV4)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	48200		ng/l	50000		96.3	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	482		ng/l	500.00		96.5	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Calibration Check (2411013-CCV5)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5100		ng/l	5000.0		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 2411013 - B4K0508										
Calibration Check (2411013-CCV5) Contin				Prepared: 11/05/24 Analyzed: 11/07/24						
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	47800		ng/l	50000		95.5	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	535000		ng/l	500000		107	90-110			
Calibration Check (2411013-CCV6)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	51900		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	47800		ng/l	50000		95.7	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	481		ng/l	500.00		96.2	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2411013-CCV7)				Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	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 2411013 - B4K0508										
Calibration Check (2411013-CCV7) Contin				Prepared: 11/05/24 Analyzed: 11/07/24						
Lead	200000		ng/l	200000		100	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	47800		ng/l	50000		95.6	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	535000		ng/l	500000		107	90-110			
High Cal Check (2411013-HCV1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	40400		ng/l	40000		101	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	403000		ng/l	400000		101	95-105			
Beryllium	9970		ng/l	10000		99.7	95-105			
Cadmium	40000		ng/l	40000		100	95-105			
Chromium	475000		ng/l	480000		99.0	95-105			
Cobalt	98900		ng/l	100000		98.9	95-105			
Copper	3.93E6		ng/l	4.0000E6		98.3	95-105			
Lead	402000		ng/l	400000		101	95-105			
Manganese	992000		ng/l	1.0000E6		99.2	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	238000		ng/l	240000		99.0	95-105			
Selenium	40600		ng/l	40000		101	95-105			
Thallium	987		ng/l	1000.0		98.7	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	987000		ng/l	1.0000E6		98.7	95-105			
Initial Cal Blank (2411013-ICB1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	2.43		ng/l							
Arsenic	1.94		ng/l							
Barium	-0.468		ng/l							U
Beryllium	-0.105		ng/l							U
Cadmium	0.187		ng/l							
Chromium	-0.0175		ng/l							U
Cobalt	0.0776		ng/l							
Copper	35.2		ng/l							
Lead	51.2		ng/l							
Manganese	2.09		ng/l							
Molybdenum	7.37		ng/l							
Nickel	0.288		ng/l							

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: 11/13/24 11:13
SUBMITTED: 11/04/24
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 2411013 - B4K0508										
Initial Cal Blank (2411013-ICB1) Continu				Prepared: 11/05/24 Analyzed: 11/06/24						
Selenium	9.75		ng/l							
Thallium	0.539		ng/l							
Vanadium	-31.1		ng/l							U
Zinc	24.3		ng/l							
Initial Cal Check (2411013-ICV1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	19600		ng/l	20000		98.1	90-110			
Arsenic	18900		ng/l	20000		94.7	90-110			
Barium	191000		ng/l	200000		95.6	90-110			
Beryllium	4960		ng/l	5000.0		99.1	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	234000		ng/l	240000		97.3	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	496000		ng/l	500000		99.3	90-110			
Molybdenum	46400		ng/l	50000		92.8	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	480		ng/l	500.00		96.1	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Interference Check A (2411013-IFA1)				Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	319000		ng/l	300000		106	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 2411013 - B4K0508										
Interference Check B (2411013-IFB1)					Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	18200		ng/l	20000		91.1	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	171000		ng/l	200000		85.7	80-120			
Beryllium	4490		ng/l	5000.0		89.8	80-120			
Cadmium	18300		ng/l	20000		91.5	80-120			
Chromium	245000		ng/l	240000		102	80-120			
Cobalt	48600		ng/l	50000		97.2	80-120			
Copper	1.87E6		ng/l	2.0000E6		93.4	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	507000		ng/l	500000		101	80-120			
Molybdenum	357000		ng/l	350000		102	80-120			
Nickel	112000		ng/l	120000		93.3	80-120			
Selenium	18900		ng/l	20000		94.3	80-120			
Thallium	510		ng/l	500.00		102	80-120			
Vanadium	21000		ng/l	20000		105	80-120			
Zinc	446000		ng/l	500000		89.3	80-120			
Batch B4K0508 - ICP-MS Extraction										
Blank (B4K0508-BLK1)					Prepared: 11/05/24 Analyzed: 11/06/24					
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							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4K0508-BS1)					Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	0.741	0.0386	ng/m³ Air	1.3829		53.6	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.0	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.9	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
LCS (B4K0508-BS1) Continued					Prepared: 11/05/24 Analyzed: 11/06/24					
Beryllium	1.37	0.00320	ng/m³ Air	1.3829		99.2	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	14.6	2.21	ng/m³ Air	13.829		105	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.7	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		100	80-120			
Manganese	8.53	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.43	0.359	ng/m³ Air	1.3829		104	80-120			
Nickel	3.39	0.652	ng/m³ Air	2.7658		122	80-120			
Selenium	2.83	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.4	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		98.9	80-120			
Zinc	95.6	76.8	ng/m³ Air	82.975		115	80-120			
LCS (B4K0508-BS2)					Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	0.804	0.0386	ng/m³ Air	1.3829		58.2	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.2	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.4	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		99.5	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.4	2.21	ng/m³ Air	13.829		104	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	29.8	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.5	80-120			
Manganese	8.37	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.39	0.359	ng/m³ Air	1.3829		101	80-120			
Nickel	3.22	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.82	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.7	80-120			
Vanadium	2.72	0.0529	ng/m³ Air	2.7658		98.2	80-120			
Zinc	94.5	76.8	ng/m³ Air	82.975		114	80-120			
Duplicate (B4K0508-DUP1)		**Source: 4110439-17**			Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	0.189	0.0311	ng/m³ Air		0.163			14.8	10	SL
Arsenic	0.209	0.00755	ng/m³ Air		0.220			4.92	10	
Barium	2.19	0.862	ng/m³ Air		2.20			0.625	10	
Beryllium	0.00362	0.00258	ng/m³ Air		0.00364			0.564	10	
Cadmium	0.107	0.0597	ng/m³ Air		0.0774			31.7	10	
Chromium	ND	1.78	ng/m³ Air		2.00				10	U
Cobalt	0.137	0.0351	ng/m³ Air		0.157			13.8	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 B4K0508 - ICP-MS Extraction										
Duplicate (B4K0508-DUP1) Continued			**Source: 4110439-17**		Prepared: 11/05/24 Analyzed: 11/06/24					
Copper	36.9	2.12	ng/m³ Air		37.0			0.309	10	
Lead	0.277	0.172	ng/m³ Air		0.351			23.3	10	
Manganese	3.59	1.52	ng/m³ Air		3.64			1.29	10	
Molybdenum	1.66	0.289	ng/m³ Air		1.55			6.83	10	
Nickel	1.73	0.526	ng/m³ Air		2.13			21.1	10	
Selenium	0.135	0.00722	ng/m³ Air		0.137			1.57	10	
Thallium	ND	4.75E-4	ng/m³ Air		ND				10	U
Vanadium	0.506	0.0426	ng/m³ Air		0.506			0.0106	10	
Zinc	ND	61.9	ng/m³ Air		ND				10	U
Duplicate (B4K0508-DUP2)			**Source: 4110439-05**		Prepared: 11/05/24 Analyzed: 11/06/24					
Antimony	0.106	0.0338	ng/m³ Air		0.110			3.24	10	SL
Arsenic	0.217	0.00821	ng/m³ Air		0.196			10.0	10	
Barium	3.77	0.937	ng/m³ Air		3.64			3.53	10	
Beryllium	0.00997	0.00280	ng/m³ Air		0.0107			6.76	10	
Cadmium	ND	0.0649	ng/m³ Air		ND				10	U
Chromium	ND	1.94	ng/m³ Air		ND				10	U
Cobalt	0.340	0.0382	ng/m³ Air		0.333			2.11	10	
Copper	69.7	2.30	ng/m³ Air		67.0			3.92	10	
Lead	0.586	0.187	ng/m³ Air		0.532			9.59	10	
Manganese	10.4	1.66	ng/m³ Air		10.2			2.38	10	
Molybdenum	2.82	0.314	ng/m³ Air		2.82			0.211	10	
Nickel	1.34	0.571	ng/m³ Air		1.30			3.26	10	
Selenium	0.162	0.00785	ng/m³ Air		0.158			2.47	10	
Thallium	9.30E-4	5.16E-4	ng/m³ Air		8.07E-4			14.2	10	
Vanadium	1.43	0.0463	ng/m³ Air		1.44			0.697	10	
Zinc	ND	67.3	ng/m³ Air		ND				10	U
Duplicate (B4K0508-DUP3)			**Source: 4110439-21**		Prepared: 11/05/24 Analyzed: 11/07/24					
Antimony	0.0691	0.0306	ng/m³ Air		0.0682			1.35	10	SL
Arsenic	0.0859	0.00742	ng/m³ Air		0.0868			1.10	10	
Barium	2.36	0.847	ng/m³ Air		2.35			0.368	10	
Beryllium	0.00467	0.00253	ng/m³ Air		0.00460			1.57	10	
Cadmium	ND	0.0587	ng/m³ Air		ND				10	U
Chromium	ND	1.75	ng/m³ Air		ND				10	U
Cobalt	0.146	0.0345	ng/m³ Air		0.146			0.00451	10	
Copper	70.2	2.08	ng/m³ Air		70.3			0.127	10	
Lead	0.203	0.169	ng/m³ Air		0.206			1.36	10	
Manganese	3.41	1.50	ng/m³ Air		3.42			0.113	10	
Molybdenum	2.70	0.284	ng/m³ Air		2.70			0.0981	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
Duplicate (B4K0508-DUP3) Continued		**Source: 4110439-21**		Prepared: 11/05/24 Analyzed: 11/07/24						
Nickel	1.13	0.516	ng/m³ Air		1.15			1.47	10	
Selenium	0.163	0.00709	ng/m³ Air		0.165			1.31	10	
Thallium	ND	4.66E-4	ng/m³ Air		ND				10	U
Vanadium	0.461	0.0419	ng/m³ Air		0.461			0.00670	10	
Zinc	ND	60.8	ng/m³ Air		ND				10	U
Duplicate (B4K0508-DUP4)		**Source: 4110439-29**		Prepared: 11/05/24 Analyzed: 11/07/24						
Antimony	0.187	0.0297	ng/m³ Air		0.188			0.429	10	SL
Arsenic	0.413	0.00721	ng/m³ Air		0.414			0.115	10	
Barium	6.08	0.824	ng/m³ Air		6.09			0.128	10	
Beryllium	0.0172	0.00246	ng/m³ Air		0.0175			2.10	10	
Cadmium	ND	0.0570	ng/m³ Air		ND				10	U
Chromium	2.84	1.70	ng/m³ Air		2.82			0.863	10	
Cobalt	0.630	0.0336	ng/m³ Air		0.628			0.375	10	
Copper	45.8	2.02	ng/m³ Air		45.7			0.205	10	
Lead	1.06	0.165	ng/m³ Air		1.05			1.38	10	
Manganese	19.2	1.45	ng/m³ Air		19.2			0.478	10	
Molybdenum	1.74	0.276	ng/m³ Air		1.75			0.301	10	
Nickel	1.99	0.502	ng/m³ Air		1.98			0.345	10	
Selenium	0.225	0.00690	ng/m³ Air		0.229			1.77	10	
Thallium	0.00144	4.53E-4	ng/m³ Air		0.00145			0.525	10	
Vanadium	2.15	0.0407	ng/m³ Air		2.13			0.622	10	
Zinc	ND	59.1	ng/m³ Air		ND				10	U
Matrix Spike (B4K0508-MS1)		**Source: 4110439-17**		Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.888	0.0311	ng/m³ Air	1.1147	0.163	65.1	80-120			SL
Arsenic	2.40	0.00755	ng/m³ Air	2.2295	0.220	97.8	80-120			
Barium	23.4	0.862	ng/m³ Air	22.295	2.20	95.3	80-120			
Beryllium	1.11	0.00258	ng/m³ Air	1.1147	0.00364	99.5	80-120			
Cadmium	1.31	0.0597	ng/m³ Air	1.1147	0.0774	111	80-120			
Chromium	13.3	1.78	ng/m³ Air	11.147	2.00	101	80-120			
Cobalt	1.32	0.0351	ng/m³ Air	1.1147	0.157	105	80-120			
Copper	62.2	2.12	ng/m³ Air	22.295	37.0	113	80-120			
Lead	11.5	0.172	ng/m³ Air	11.147	0.351	100	80-120			
Manganese	11.2	1.52	ng/m³ Air	6.6884	3.64	113	80-120			
Molybdenum	2.74	0.289	ng/m³ Air	1.1147	1.55	107	80-120			
Nickel	5.25	0.526	ng/m³ Air	2.2295	2.13	140	80-120			QM-07
Selenium	2.31	0.00722	ng/m³ Air	2.2295	0.137	97.5	80-120			
Thallium	0.107	4.75E-4	ng/m³ Air	0.11147	ND	95.9	80-120			
Vanadium	2.77	0.0426	ng/m³ Air	2.2295	0.506	102	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K0508 - ICP-MS Extraction										
Matrix Spike (B4K0508-MS1) Continued Source: 4110439-17 Prepared: 11/05/24 Analyzed: 11/06/24										
Zinc	88.6	61.9	ng/m³ Air	66.884	ND	132	80-120			
Matrix Spike (B4K0508-MS2) Source: 4110439-05 Prepared: 11/05/24 Analyzed: 11/06/24										
Antimony	0.791	0.0338	ng/m³ Air	1.2112	0.110	56.3	80-120			SL
Arsenic	2.53	0.00821	ng/m³ Air	2.4224	0.196	96.4	80-120			
Barium	26.4	0.937	ng/m³ Air	24.224	3.64	94.0	80-120			
Beryllium	1.22	0.00280	ng/m³ Air	1.2112	0.0107	99.7	80-120			
Cadmium	1.24	0.0649	ng/m³ Air	1.2112	ND	102	80-120			
Chromium	14.2	1.94	ng/m³ Air	12.112	ND	117	80-120			
Cobalt	1.56	0.0382	ng/m³ Air	1.2112	0.333	102	80-120			
Copper	93.3	2.30	ng/m³ Air	24.224	67.0	108	80-120			
Lead	12.5	0.187	ng/m³ Air	12.112	0.532	98.7	80-120			
Manganese	17.4	1.66	ng/m³ Air	7.2671	10.2	99.9	80-120			
Molybdenum	3.80	0.314	ng/m³ Air	1.2112	2.82	80.2	80-120			
Nickel	3.79	0.571	ng/m³ Air	2.4224	1.30	103	80-120			
Selenium	2.53	0.00785	ng/m³ Air	2.4224	0.158	98.1	80-120			
Thallium	0.113	5.16E-4	ng/m³ Air	0.12112	8.07E-4	92.3	80-120			
Vanadium	3.85	0.0463	ng/m³ Air	2.4224	1.44	99.4	80-120			
Zinc	93.4	67.3	ng/m³ Air	72.671	ND	128	80-120			
Matrix Spike Dup (B4K0508-MSD1) Source: 4110439-17 Prepared: 11/05/24 Analyzed: 11/06/24										
Antimony	0.864	0.0311	ng/m³ Air	1.1147	0.163	62.9	80-120	2.80	20	SL
Arsenic	2.40	0.00755	ng/m³ Air	2.2295	0.220	97.8	80-120	0.0172	20	
Barium	23.7	0.862	ng/m³ Air	22.295	2.20	96.2	80-120	0.915	20	
Beryllium	1.13	0.00258	ng/m³ Air	1.1147	0.00364	101	80-120	1.62	20	
Cadmium	1.19	0.0597	ng/m³ Air	1.1147	0.0774	99.5	80-120	10.1	20	
Chromium	12.9	1.78	ng/m³ Air	11.147	2.00	97.9	80-120	2.69	20	
Cobalt	1.28	0.0351	ng/m³ Air	1.1147	0.157	101	80-120	3.46	20	
Copper	61.3	2.12	ng/m³ Air	22.295	37.0	109	80-120	1.39	20	
Lead	11.6	0.172	ng/m³ Air	11.147	0.351	101	80-120	0.575	20	
Manganese	9.99	1.52	ng/m³ Air	6.6884	3.64	95.0	80-120	11.4	20	
Molybdenum	2.52	0.289	ng/m³ Air	1.1147	1.55	86.6	80-120	8.58	20	
Nickel	3.44	0.526	ng/m³ Air	2.2295	2.13	58.6	80-120	41.7	20	QM-07
Selenium	2.36	0.00722	ng/m³ Air	2.2295	0.137	99.8	80-120	2.23	20	
Thallium	0.107	4.75E-4	ng/m³ Air	0.11147	ND	96.1	80-120	0.252	20	
Vanadium	2.77	0.0426	ng/m³ Air	2.2295	0.506	102	80-120	0.0300	20	
Zinc	84.1	61.9	ng/m³ Air	66.884	ND	126	80-120	5.27	20	
Matrix Spike Dup (B4K0508-MSD2) Source: 4110439-05 Prepared: 11/05/24 Analyzed: 11/06/24										
Antimony	0.826	0.0338	ng/m³ Air	1.2112	0.110	59.1	80-120	4.29	20	SL
Arsenic	2.53	0.00821	ng/m³ Air	2.4224	0.196	96.2	80-120	0.196	20	

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: 11/13/24 11:13
SUBMITTED: 11/04/24
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 B4K0508 - ICP-MS Extraction										
Matrix Spike Dup (B4K0508-MSD2) Conti			**Source: 4110439-05**		Prepared: 11/05/24		Analyzed: 11/06/24			
Barium	26.3	0.937	ng/m³ Air	24.224	3.64	93.7	80-120	0.287	20	
Beryllium	1.23	0.00280	ng/m³ Air	1.2112	0.0107	100	80-120	0.713	20	
Cadmium	1.24	0.0649	ng/m³ Air	1.2112	ND	102	80-120	0.276	20	
Chromium	13.7	1.94	ng/m³ Air	12.112	ND	113	80-120	3.48	20	
Cobalt	1.56	0.0382	ng/m³ Air	1.2112	0.333	101	80-120	0.336	20	
Copper	95.6	2.30	ng/m³ Air	24.224	67.0	118	80-120	2.41	20	
Lead	12.6	0.187	ng/m³ Air	12.112	0.532	99.2	80-120	0.469	20	
Manganese	17.5	1.66	ng/m³ Air	7.2671	10.2	101	80-120	0.327	20	
Molybdenum	3.99	0.314	ng/m³ Air	1.2112	2.82	95.9	80-120	4.90	20	
Nickel	3.73	0.571	ng/m³ Air	2.4224	1.30	100	80-120	1.77	20	
Selenium	2.56	0.00785	ng/m³ Air	2.4224	0.158	99.1	80-120	0.928	20	
Thallium	0.113	5.16E-4	ng/m³ Air	0.12112	8.07E-4	93.0	80-120	0.728	20	
Vanadium	3.85	0.0463	ng/m³ Air	2.4224	1.44	99.3	80-120	0.102	20	
Zinc	91.3	67.3	ng/m³ Air	72.671	ND	126	80-120	2.27	20	
Post Spike (B4K0508-PS1)			**Source: 4110439-17**		Prepared: 11/05/24		Analyzed: 11/06/24			
Antimony	0.394	0.0311	ng/m³ Air	0.22295	0.163	103	75-125			SL
Arsenic	1.27	0.00755	ng/m³ Air	1.1147	0.220	93.9	75-125			
Barium	4.35	0.862	ng/m³ Air	2.2295	2.20	96.6	75-125			
Beryllium	0.231	0.00258	ng/m³ Air	0.22295	0.00364	102	75-125			
Cadmium	0.192	0.0597	ng/m³ Air	0.11147	0.0774	103	75-125			
Chromium	3.09	1.78	ng/m³ Air	1.1147	2.00	97.8	75-125			
Cobalt	0.379	0.0351	ng/m³ Air	0.22295	0.157	99.5	75-125			
Copper	49.5	2.12	ng/m³ Air	11.147	37.0	112	75-125			
Lead	22.6	0.172	ng/m³ Air	22.295	0.351	100	75-125			
Manganese	5.86	1.52	ng/m³ Air	2.2295	3.64	99.5	75-125			
Molybdenum	2.57	0.289	ng/m³ Air	1.1147	1.55	91.0	75-125			
Nickel	4.39	0.526	ng/m³ Air	2.2295	2.13	101	75-125			
Selenium	1.23	0.00722	ng/m³ Air	1.1147	0.137	98.4	75-125			
Thallium	0.0542	4.75E-4	ng/m³ Air	5.5736E-2	ND	97.3	75-125			
Vanadium	1.62	0.0426	ng/m³ Air	1.1147	0.506	100	75-125			
Zinc	ND	61.9	ng/m³ Air	22.295	ND		75-125			U
Post Spike (B4K0508-PS2)			**Source: 4110439-05**		Prepared: 11/05/24		Analyzed: 11/06/24			
Antimony	0.346	0.0338	ng/m³ Air	0.24224	0.110	97.4	75-125			SL
Arsenic	1.30	0.00821	ng/m³ Air	1.2112	0.196	91.4	75-125			
Barium	5.82	0.937	ng/m³ Air	2.4224	3.64	90.1	75-125			
Beryllium	0.252	0.00280	ng/m³ Air	0.24224	0.0107	99.7	75-125			
Cadmium	0.133	0.0649	ng/m³ Air	0.12112	ND	110	75-125			
Chromium	3.10	1.94	ng/m³ Air	1.2112	ND	256	75-125			

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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 B4K0508 - ICP-MS Extraction										
Post Spike (B4K0508-PS2) Continued		**Source: 4110439-05**		Prepared: 11/05/24 Analyzed: 11/06/24						
Cobalt	0.573	0.0382	ng/m³ Air	0.24224	0.333	99.1	75-125			
Copper	80.4	2.30	ng/m³ Air	12.112	67.0	111	75-125			
Lead	24.4	0.187	ng/m³ Air	24.224	0.532	98.6	75-125			
Manganese	12.6	1.66	ng/m³ Air	2.4224	10.2	101	75-125			
Molybdenum	3.87	0.314	ng/m³ Air	1.2112	2.82	86.3	75-125			
Nickel	3.69	0.571	ng/m³ Air	2.4224	1.30	98.9	75-125			
Selenium	1.32	0.00785	ng/m³ Air	1.2112	0.158	96.2	75-125			
Thallium	0.0567	5.16E-4	ng/m³ Air	6.0559E-2	8.07E-4	92.3	75-125			
Vanadium	2.63	0.0463	ng/m³ Air	1.2112	1.44	98.2	75-125			
Zinc	ND	67.3	ng/m³ Air	24.224	ND		75-125			U
Dilution Check (B4K0508-SRL1)		**Source: 4110439-17**		Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	0.158	0.156	ng/m³ Air		0.163			2.99	10	SL
Arsenic	0.217	0.0378	ng/m³ Air		0.220			1.22	10	
Barium	ND	4.31	ng/m³ Air		ND				10	U
Beryllium	ND	0.0129	ng/m³ Air		ND				10	U
Cadmium	ND	0.299	ng/m³ Air		ND				10	U
Chromium	ND	8.91	ng/m³ Air		ND				10	U
Cobalt	ND	0.176	ng/m³ Air		ND				10	U
Copper	37.8	10.6	ng/m³ Air		37.0			2.04	10	
Lead	ND	0.862	ng/m³ Air		ND				10	U
Manganese	ND	7.62	ng/m³ Air		ND				10	U
Molybdenum	1.54	1.45	ng/m³ Air		1.55			0.753	10	
Nickel	ND	2.63	ng/m³ Air		ND				10	U
Selenium	0.159	0.0361	ng/m³ Air		0.137			14.8	10	
Thallium	ND	0.00237	ng/m³ Air		ND				10	U
Vanadium	0.478	0.213	ng/m³ Air		0.506			5.59	10	
Zinc	ND	310	ng/m³ Air		ND				10	U
Dilution Check (B4K0508-SRL2)		**Source: 4110439-05**		Prepared: 11/05/24 Analyzed: 11/06/24						
Antimony	ND	0.169	ng/m³ Air		ND				10	SL, U
Arsenic	0.193	0.0410	ng/m³ Air		0.196			1.85	10	
Barium	ND	4.69	ng/m³ Air		ND				10	U
Beryllium	ND	0.0140	ng/m³ Air		ND				10	U
Cadmium	ND	0.324	ng/m³ Air		ND				10	U
Chromium	ND	9.68	ng/m³ Air		ND				10	U
Cobalt	0.348	0.191	ng/m³ Air		0.333			4.27	10	
Copper	69.0	11.5	ng/m³ Air		67.0			2.94	10	
Lead	ND	0.937	ng/m³ Air		ND				10	U
Manganese	10.5	8.28	ng/m³ Air		10.2			3.60	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 B4K0508 - ICP-MS Extraction										
Dilution Check (B4K0508-SRL2) ContinueSource: 4110439-05 Prepared: 11/05/24 Analyzed: 11/06/24										
Molybdenum	2.92	1.57	ng/m³ Air		2.82			3.42	10	
Nickel	ND	2.86	ng/m³ Air		ND				10	U
Selenium	0.169	0.0392	ng/m³ Air		0.158			6.77	10	
Thallium	ND	0.00258	ng/m³ Air		ND				10	U
Vanadium	1.47	0.232	ng/m³ Air		1.44			1.49	10	
Zinc	ND	336	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
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.

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/06/2024 and Shanna Vasser 11/07/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/24/2024 – 10/27/2024
Report No: 42422392

√	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.