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

October 17 through October 23, 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 17 through October 23, 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 17 through October 23 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 1.2 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.

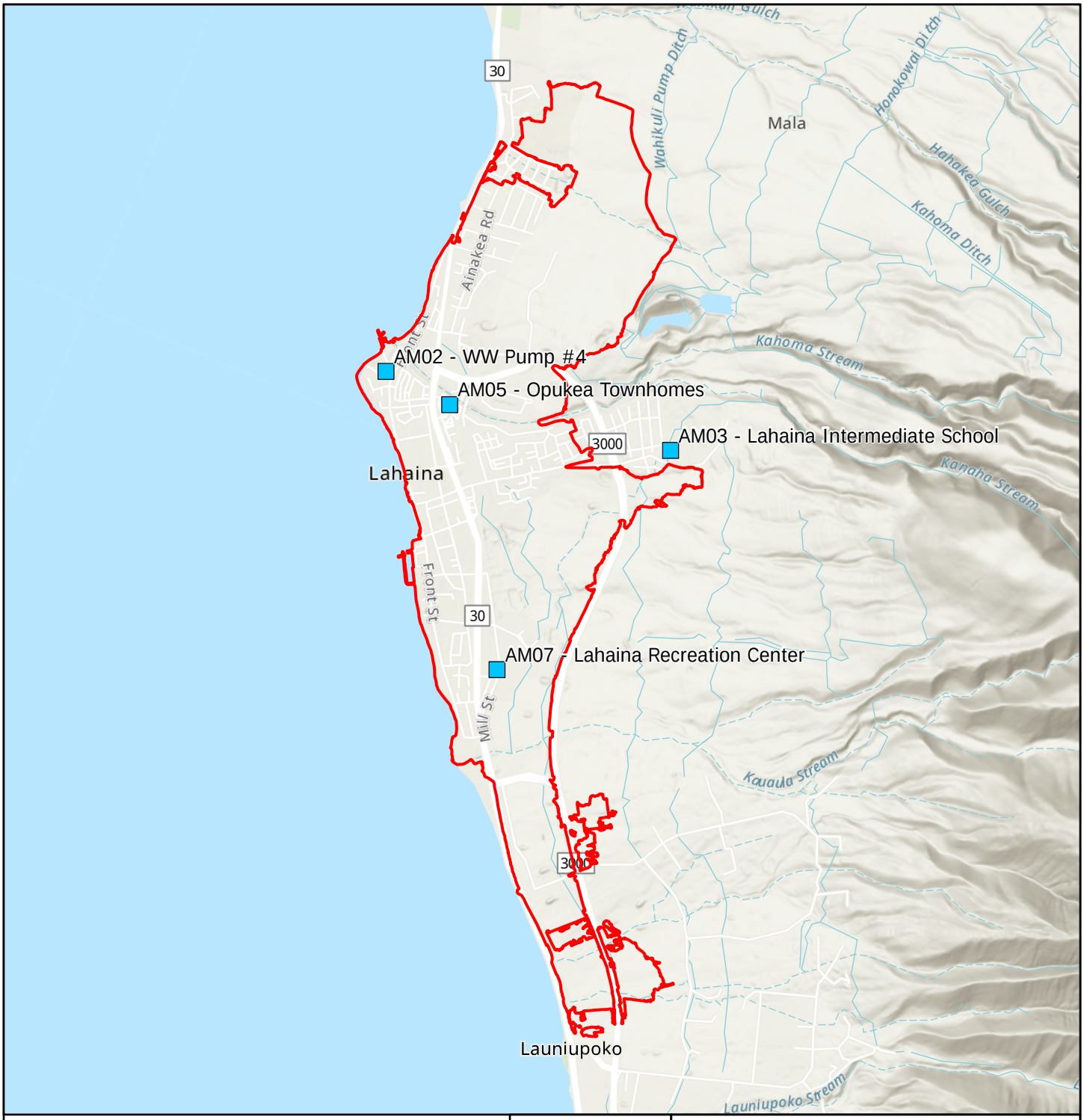
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- 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 17 through October 23, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
10/17/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	9.4
	Lahaina Intermediate School (AM-03)	70
	Lahaina Recreation Center (AM-07)	8.1
10/18/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	75
	Lahaina Recreation Center (AM-07)	8.5
10/19/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	7.5
	Lahaina Intermediate School (AM-03)	64
	Lahaina Recreation Center (AM-07)	7.1
10/20/2024	Opukea Townhomes (AM-05)	9.0
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	60
	Lahaina Recreation Center (AM-07)	6.4
10/21/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	5.8
	Lahaina Intermediate School (AM-03)	63
	Lahaina Recreation Center (AM-07)	6.2
10/22/2024	Opukea Townhomes (AM-05)	6.9
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	134
	Lahaina Recreation Center (AM-07)	6.3
10/23/2024	Opukea Townhomes (AM-05)	5.7
	WW Pump Station #4 (AM-02)	6.1
	Lahaina Intermediate School (AM-03)	82
	Lahaina Recreation Center (AM-07)	6.4

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 17 through October 23, 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
10/17/2024	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000669	0.00859	0.0000319	ND	0.00468	0.00106	0.0552	0.00159	0.0327	0.00338	0.00252	0.000350	0.00000309	0.00352	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000215	0.000946	0.00871	0.0000309	ND	0.00486	0.00117	0.0272	0.000962	0.0299	0.00152	0.00277	0.000330	0.00000221	0.00346	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000589	0.000329	0.00503	0.0000352	ND	0.00401	0.000907	0.0733	0.000689	0.0222	0.00323	0.00235	0.000317	0.00000192	0.00244	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000100	0.000923	0.00731	0.0000421	ND	0.00762	0.00135	0.0202	0.000597	0.0402	0.00149	0.00438	0.000394	0.00000289	0.00356	ND
10/18/2024	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000450	0.00440	0.0000125	ND	0.00266	0.000522	0.0456	0.000752	0.0124	0.00302	0.00147	0.000350	0.00000195	0.00166	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000175	0.000410	0.00593	0.0000153	ND	0.00322	0.000710	0.0236	0.000701	0.0180	0.00157	0.00199	0.000368	0.00000195	0.00239	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000752	0.000240	0.00349	0.0000180	ND	0.00290	0.000462	0.0595	0.000550	0.0112	0.00268	0.00163	0.000348	0.00000172	0.00153	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000135	0.000443	0.00433	0.0000186	ND	0.00317	0.000636	0.0217	0.000448	0.0171	0.00164	0.00176	0.000367	0.00000205	0.00202	ND
10/19/2024	Opukea Townhomes (AM-05)	<0.0024	0.000204	0.000910	0.00457	0.0000108	ND	0.00299	0.000396	0.0573	0.000854	0.0105	0.00341	0.00156	0.000310	0.00000154	0.00160	ND
	WW Pump Station #4 (AM-02)	<0.0003	0.000144	0.000241	0.00482	0.0000104	ND	0.00222	0.000340	0.0278	0.000474	0.00958	0.00239	0.00120	0.000293	0.00000133	0.00162	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000528	0.000235	0.00365	0.0000388	ND	0.00341	0.000650	0.0557	0.000357	0.0155	0.00271	0.00193	0.000346	0.00000166	0.00212	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000147	0.000258	0.00300	0.0000141	ND	0.00281	0.000495	0.0228	0.000338	0.0123	0.00164	0.00161	0.000313	0.00000145	0.00164	ND
10/20/2024	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000411	0.00326	0.00000753	ND	0.00222	0.000278	0.0637	0.000884	0.00692	0.00367	0.000961	0.000217	0.00000116	0.000924	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000268	0.000237	0.00527	0.0000113	ND	0.00233	0.000407	0.0262	0.000607	0.0111	0.00164	0.00124	0.000238	0.00000129	0.00135	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000556	0.000139	0.00246	0.0000138	ND	0.00246	0.000294	0.0451	0.000237	0.00684	0.00297	0.00124	0.000230	0.00000110	0.000911	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000980	0.000239	0.00335	0.0000142	ND	0.00267	0.000463	0.0218	0.000323	0.0129	0.00142	0.00163	0.000256	0.00000125	0.00132	ND
10/21/2024	Opukea Townhomes (AM-05)	<0.0024	0.000130	0.000313	0.00407	0.00000849	ND	0.00195	0.000298	0.0691	0.000816	0.00843	0.00309	0.00117	0.000215	0.00000119	0.00111	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000190	0.000305	0.00591	0.0000139	ND	0.00265	0.000565	0.0358	0.000678	0.0139	0.00183	0.00194	0.000234	0.00000111	0.00179	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000630	0.000150	0.00255	0.0000133	ND	0.00229	0.000287	0.0459	0.000267	0.00693	0.00252	0.00143	0.000214	0.000000808	0.000856	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000878	0.000445	0.00485	0.0000265	ND	0.00403	0.000949	0.0247	0.000373	0.0242	0.00146	0.00253	0.000301	0.00000151	0.00235	ND
10/22/2024	Opukea Townhomes (AM-05)	<0.0024	0.000149	0.000471	0.00537	0.0000149	ND	0.00274	0.000598	0.0755	0.00104	0.0148	0.00341	0.00210	0.000249	0.00000118	0.00195	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000178	0.000361	0.00765	0.0000193	ND	0.00360	0.000794	0.0324	0.000670	0.0186	0.00198	0.00259	0.000273	0.00000128	0.00258	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000645	0.000260	0.00364	0.0000253	ND	0.00241	0.000524	0.0514	0.000359	0.0123	0.00249	0.00169	0.000235	0.000000973	0.00158	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000961	0.000587	0.00674	0.0000442	ND	0.00543	0.00139	0.0219	0.000522	0.0374	0.00135	0.00365	0.000384	0.00000186	0.00361	ND
10/23/2024	Opukea Townhomes (AM-05)	<0.0024	0.000126	0.000314	0.00403	0.00000909	ND	ND	0.000363	0.0689	0.000912	0.00921	0.00307	0.00156	0.000174	0.000000827	0.00122	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000155	0.000189	0.00399	0.00000928	ND	ND	0.000295	0.0380	0.000538	0.00837	0.00182	0.00114	0.000169	0.000000810	0.00110	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000787	0.000147	0.00318	0.0000170	ND	0.00199	0.000361	0.0490	0.000252	0.00879	0.00247	0.00151	0.000162	0.000000776	0.00108	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000865	0.000485	0.00599	0.0000426	ND	0.00530	0.00131	0.0229	0.000396	0.0357	0.00145	0.00331	0.000322	0.00000182	0.00330	ND
95% Upper Confidence Limit[2]		NA	0.000150	0.000480	0.00549	0.0000250	NA	0.00377	0.000770	0.0499	0.000730	0.0204	0.00263	0.00223	0.000310	0.00000170	0.00229	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 17, through October 23, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/17/2024	AM-02	WW Pump Station #4	1.0	S	80	66	762.3
10/17/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	62	752.9
10/17/2024	AM-05	Opukea Townhomes	1.2	SE	81	62	761.8
10/17/2024	AM-07	Lahaina Recreational Center	1.5	SSE	81	67	761.6
10/18/2024	AM-02	WW Pump Station #4	0.9	S	81	70	762.3
10/18/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	67	752.9
10/18/2024	AM-05	Opukea Townhomes	1.2	SE	82	66	761.8
10/18/2024	AM-07	Lahaina Recreational Center	1.3	SE	82	71	761.6
10/19/2024	AM-02	WW Pump Station #4	0.9	SSE	81	67	763.0
10/19/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	64	753.6
10/19/2024	AM-05	Opukea Townhomes	1.3	SE	81	63	762.5
10/19/2024	AM-07	Lahaina Recreational Center	1.3	SE	81	67	762.3
10/20/2024	AM-02	WW Pump Station #4	1.0	SSE	80	65	761.7
10/20/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	63	752.4
10/20/2024	AM-05	Opukea Townhomes	1.2	SE	81	61	761.2
10/20/2024	AM-07	Lahaina Recreational Center	1.5	SE	80	66	761.0
10/21/2024	AM-02	WW Pump Station #4	0.9	SSE	80	66	760.4
10/21/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	63	751.0
10/21/2024	AM-05	Opukea Townhomes	1.1	SE	80	62	759.9
10/21/2024	AM-07	Lahaina Recreational Center	1.5	ESE	80	66	759.7
10/22/2024	AM-02	WW Pump Station #4	1.0	SSE	79	69	760.2
10/22/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	66	750.9
10/22/2024	AM-05	Opukea Townhomes	1.3	ESE	80	64	759.7
10/22/2024	AM-07	Lahaina Recreational Center	1.4	ESE	80	70	759.6
10/23/2024	AM-02	WW Pump Station #4	0.9	SSE	79	71	760.9
10/23/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	69	751.5
10/23/2024	AM-05	Opukea Townhomes	1.1	SE	80	67	760.4
10/23/2024	AM-07	Lahaina Recreational Center	1.4	SE	80	71	760.2

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:	042421905
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:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101724-AB**	**Sample Description:**	**DL267645**
EMSL Sample Number:	042421905-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7147.4
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 %:	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: 042421905
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: 042421905-0001 **Customer Sample:** MFL-AM05-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B6	None Detected									
A5	E4	None Detected									
A5	G7	None Detected									
A6	D8	None Detected									
A6	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:	042421905
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:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101724-AB**	**Sample Description:**	**DL267250**
EMSL Sample Number:	042421905-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6601.6
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):	**0.0009**	**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**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 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**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042421905
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: 042421905-0002 **Customer Sample:** MFL-AM02-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	F4	None Detected									
B1	G8	None Detected									
B1	J6	None Detected									
B2	C7	None Detected									
B2	H6	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:	10/23/2024 09:30 AM
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Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101724-AB**	**Sample Description:**	**DL267236**
EMSL Sample Number:	042421905-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7177.4
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

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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: 042421905-0003 **Customer Sample:** MFL-AM03-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	B6	None Detected									
B6	F8	None Detected									
B6	I6	None Detected									
B7	G3	None Detected									
B7	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101724-AB**	**Sample Description:**	**DL267275**
EMSL Sample Number:	042421905-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7231.0
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

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EMSL Order ID: 042421905
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: 042421905-0004 **Customer Sample:** MFL-AM07-101724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	G6	None Detected									
C1	E8	None Detected									
C1	A6	None Detected									
C2	H3	None Detected									
C2	F6	None Detected									

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

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101724-AB** **Sample Description:** **DL264214**

EMSL Sample Number:	042421905-0005		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

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EMSL Order ID: 042421905
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: 042421905-0005 **Customer Sample:** MFL-FB01-101724-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	J3	None Detected									
C5	H1	None Detected									
C5	F4	None Detected									
C5	D5	None Detected									
C5	B7	None Detected									
C6	J2	None Detected									
C6	H5	None Detected									
C6	F1	None Detected									
C6	D4	None Detected									
C6	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:	042421905
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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101824-AB**	**Sample Description:**	**DL267263**
EMSL Sample Number:	042421905-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7161.8
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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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: 042421905-0006 **Customer Sample:** MFL-AM05-101824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	D10	None Detected									
D1	F7	None Detected									
D1	H5	None Detected									
D2	C5	None Detected									
D2	F8	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:	042421905
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:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-101824-AB**	**Sample Description:**	**DL267255**
EMSL Sample Number:	042421905-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7096.2
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

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EMSL Order ID: 042421905
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: 042421905-0007 **Customer Sample:** MFL-AM02-101824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	J3	None Detected									
D6	G5	None Detected									
D6	B7	None Detected									
D7	H5	None Detected									
D7	D5	None Detected									

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

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
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Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101824-AB**	**Sample Description:**	**DL264150**
EMSL Sample Number:	042421905-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7284.5
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

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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: 042421905-0008 **Customer Sample:** MFL-AM03-101824-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	C8	None Detected									
E1	B6	None Detected									
E2	B6	None Detected									
E2	F4	None Detected									
E2	I6	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101824-AB**	**Sample Description:**	**DL264254**
EMSL Sample Number:	042421905-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7263.0
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 %:	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

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EMSL Order ID: 042421905
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: 042421905-0009 **Customer Sample:** MFL-AM07-101824-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	J6	None Detected									
E5	H9	None Detected									
E6	B7	None Detected									
E6	E5	None Detected									
E6	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:	042421905
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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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101824-AB** **Sample Description:** **DL264208**

EMSL Sample Number:	042421905-0010		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):	0.0130
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: 042421905
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: 042421905-0010 **Customer Sample:** MFL-FB01-101824-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	A5	None Detected									
F1	C4	None Detected									
F1	E1	None Detected									
F1	G6	None Detected									
F1	I1	None Detected									
F2	A5	None Detected									
F2	C7	None Detected									
F2	F8	None Detected									
F2	H1	None Detected									
F2	J5	None Detected									

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

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-LB01-101824-AB** **Sample Description:** **DL264331**

EMSL Sample Number:	042421905-0011		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

Approved Signatory

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EMSL Order ID: 042421905
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: 042421905-0011 **Customer Sample:** MFL-LB01-101824-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	A2	None Detected									
F5	C4	None Detected									
F5	E2	None Detected									
F5	G4	None Detected									
F5	I3	None Detected									
F6	J8	None Detected									
F6	H4	None Detected									
F6	F7	None Detected									
F6	D4	None Detected									
F6	B3	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-101924-AB**	**Sample Description:**	**DL264231**
EMSL Sample Number:	042421905-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7132.0
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

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EMSL Order ID: 042421905
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: 042421905-0012 **Customer Sample:** MFL-AM05-101924-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	A2	None Detected									
G1	F7	None Detected									
G1	H9	None Detected									
G2	B9	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 PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-101924-AB** **Sample Description: Dl264195**

EMSL Sample Number:	042421905-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7061.2
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):	0.1300
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):	**0.0001**		**Limit of Detection (Structures/cc):**	**0.0003**

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**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Total Amphibole	**ADX**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Actinolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Amosite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Anthophyllite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Crocidolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Tremolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Other Minerals	-	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Total All Structures	**-**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**

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**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Actinolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Amosite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Anthophyllite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Crocidolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Tremolite	ADX	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**
Other Minerals	-	0	0	< 4.60	< 0.0003	Not Applicable	0.0003
Total All Structures (PCMe)	**-**	**0**	**0**	**< 4.60**	**< 0.0003**	**Not Applicable**	**0.0003**

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: 042421905-0013 **Customer Sample:** MFL-AM02-101924-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	J9	None Detected									
G5	F4	None Detected									
G5	E7	None Detected									
G6	C4	None Detected									
G6	H2	None Detected									

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

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Analysis Date:	10/29/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-101924-AB**	**Sample Description:**	**DL264172**
EMSL Sample Number:	042421905-0014	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

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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: 042421905-0014 **Customer Sample:** MFL-AM03-101924-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	A10	None Detected									
H1	C7	None Detected									
H1	F3	None Detected									
H2	G4	None Detected									
H2	C5	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-101924-AB**	**Sample Description:**	**DL264216**
EMSL Sample Number:	042421905-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7239.8
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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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042421905-0015 **Customer Sample:** MFL-AM07-101924-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	J9	None Detected									
H5	H6	None Detected									
H5	C6	None Detected									
H6	I6	None Detected									
H6	D8	None Detected									

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

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Customer ID:	TTDC42
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Project ID:	N/A

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Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-101924-AB** **Sample Description:** **DL264180**

EMSL Sample Number:	042421905-0016		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

Approved Signatory

EMSL Analytical, Inc.
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EMSL Order ID: 042421905
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: 042421905-0016 **Customer Sample:** MFL-FB01-101924-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	H1	None Detected									
I1	F4	None Detected									
I1	D3	None Detected									
I1	B5	None Detected									
I2	J2	None Detected									
I2	H2	None Detected									
I2	F7	None Detected									
I2	C4	None Detected									
I2	A3	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:	042421905
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:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102024-AB**	**Sample Description:**	**DL264209**
EMSL Sample Number:	042421905-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7180.4
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 %:	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

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EMSL Order ID: 042421905
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: 042421905-0017 **Customer Sample:** MFL-AM05-102024-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	A8	None Detected									
I5	E8	None Detected									
I5	G10	None Detected									
I6	D8	None Detected									
I6	G9	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:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Fax:	N/A
Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102024-AB**	**Sample Description:**	**DL264191**
EMSL Sample Number:	042421905-0018	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6997.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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: 042421905
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: 042421905-0018 **Customer Sample:** MFL-AM02-102024-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	I2	None Detected									
J1	G5	None Detected									
J1	D3	None Detected									
J2	B8	None Detected									
J2	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 PO:	1207085
Project ID:	N/A

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Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102024-AB**	**Sample Description:**	**DL264151**
EMSL Sample Number:	042421905-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7141.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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

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EMSL Order ID: 042421905
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: 042421905-0019 **Customer Sample:** MFL-AM03-102024-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	J6	None Detected									
J5	G3	None Detected									
J5	D4	None Detected									
J6	A8	None Detected									
J6	H5	None Detected									

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

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EMSL Order:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102024-AB**	**Sample Description:**	**DL264188**
EMSL Sample Number:	042421905-0020	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7217.0
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 %:	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

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EMSL Order ID: 042421905
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: 042421905-0020 **Customer Sample:** MFL-AM07-102024-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	J4	None Detected									
K1	G5	None Detected									
K1	B7	None Detected									
K2	I9	None Detected									
K2	B3	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:	042421905
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102024-AB** **Sample Description:** **DL264168**

EMSL Sample Number:	042421905-0021		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):	0.0130
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

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: 042421905
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: 042421905-0021 **Customer Sample:** MFL-FB01-102024-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	A10	None Detected									
K5	C8	None Detected									
K5	E9	None Detected									
K5	G10	None Detected									
K5	I7	None Detected									
K6	J1	None Detected									
K6	H3	None Detected									
K6	F1	None Detected									
K6	D4	None Detected									
K6	B3	None Detected									

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

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

EMSL Order:	042421905
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:	10/23/2024 09:30 AM
Analysis Date:	10/29/2024
Report Date:	10/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042421905-0022		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

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: 042421905
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: 042421905-0022 **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	J7	None Detected									
A1	H9	None Detected									
A1	F10	None Detected									
A1	D8	None Detected									
A1	B7	None Detected									
A2	J10	None Detected									
A2	H8	None Detected									
A2	F10	None Detected									
A2	D6	None Detected									
A2	B4	None Detected									

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

OrderID: 042421905

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042421905

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

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

Billing Information

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

Project Information

Project Name/No:	Maui Fires Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Shaina Epstein
Sampled By Signature:	
No. of Samples in Shipment	21

Turn-Around-Time (TAT)

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

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

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

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

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

RECEIVED EMSL CINNAMINSON 24 OCT 23 AM 11:15

*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-AM05-101724-AB	DL267645	7,147.376	10/17/24 1058
MFL-AM02-101724-AB	DL267250	6,601.621	10/17/24 1114
MFL-AM03-101724-AB	DL267236	7,177.385	10/17/24 1255
MFL-AM07-101724-AB	DL267275	7,230.960	10/17/24 1324
MFL-FB01-101724-AB	DL264214	0	10/17/24 1200
MFL-AM05-101824-AB	DL267263	7,161.770	10/18/24 1101
MFL-AM02-101824-AB	DL267255	7,096.242	10/18/24 1115
MFL-AM03-101824-AB	DL264150	7,284.528	10/18/24 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:	Date/Time: 10/21/24 1100	Received by: FX	Date/Time 10/23/24 930
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

21 BP

OrderID: 042421905

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042421905

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-AM07-101824-AB	DL264254	7,263.001	10/18/24 1322
MFL-FB01-101824-AB	DL264208	0	10/18/24 1200
MFL-LB01-101824-AB	DL264331	0	10/18/24 1200
MFL-AM05-101924-AB	DL264231	7,132.~~082~~032 (IBA)	10/19/24 1055
MFL-AM02-101924-AB	DL264195	7,061.179	10/19/24 1111
MFL-AM03-101924-AB	DL264172	7,158.005	10/19/24 1259
MFL-AM07-101924-AB	DL264216	7,239.816	10/19/24 1325
MFL-FB01-101924-AB	DL264180	0	10/19/24 1200
MFL-AM05-102024-AB	DL264209	7,180.365	10/20/24 1055
MFL-AM02-102024-AB	DL264191	6,997.138	10/20/24 1113
MFL-AM03-102024-AB	DL264151	7,141.320	10/20/24 1258
MFL-AM07-102024-AB	DL264188	7,216.994	10/20/24 1319
MFL-FB01-102024-AB	DL264168	0	10/20/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 OCT 23 AM 11:16

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 10/21/24 1100	Received by:	Date/Time 10/23/24
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.

(21) BJ

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 10/30/2024 and Shanna Vasser 10/30/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/17/2024 – 10/20/2024
Report No: 42421905

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

Discrepancies: None.

Notes: None.

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

EMSL Order:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102124-AB**	**Sample Description:**	**DL264176**
EMSL Sample Number:	042422232-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7190.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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: 042422232
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: 042422232-0001 **Customer Sample:** MFL-AM05-102124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	A5	None Detected									
A5	D4	None Detected									
A5	G6	None Detected									
A6	B10	None Detected									
A6	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:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102124-AB**	**Sample Description:**	**DL264185**
EMSL Sample Number:	042422232-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7075.4
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
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422232
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: 042422232-0002 **Customer Sample:** MFL-AM02-102124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	G6	None Detected									
B1	D3	None Detected									
B1	A4	None Detected									
B2	H3	None Detected									
B2	C1	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:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102124-AB**	**Sample Description:**	**DL264184**
EMSL Sample Number:	042422232-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7202.6
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 %:	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

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0003 **Customer Sample:** MFL-AM03-102124-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	D3	None Detected									
B5	I4	None Detected									
B6	I5	None Detected									
B6	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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Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102124-AB**	**Sample Description:**	**DL264186**
EMSL Sample Number:	042422232-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7295.4
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 %:	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

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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: 042422232-0004 **Customer Sample:** MFL-AM07-102124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	A5	None Detected									
C1	D8	None Detected									
C1	F7	None Detected									
C2	C9	None Detected									
C2	G5	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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Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102124-AB** **Sample Description: DL264177**

EMSL Sample Number:	042422232-0005		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

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EMSL Order ID: 042422232
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: 042422232-0005 **Customer Sample:** MFL-FB01-102124-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					
C7	J8	None Detected									
C7	H6	None Detected									
C7	F3	None Detected									
C7	D5	None Detected									
C7	B8	None Detected									
C8	J2	None Detected									
C8	H3	None Detected									
C8	G4	None Detected									
C8	D2	None Detected									
C8	A4	None Detected									

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

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EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102224-AB**	**Sample Description:**	**DL264171**
EMSL Sample Number:	042422232-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7191.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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

Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422232-0006 **Customer Sample:** MFL-AM05-102224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J6	None Detected									
D2	G3	None Detected									
D2	D6	None Detected									
D3	G5	None Detected									
D3	C6	None Detected									

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

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EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102224-AB**	**Sample Description:**	**DL264169**
EMSL Sample Number:	042422232-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7111.5
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 %:	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

Approved Signatory

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EMSL Order ID: 042422232
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: 042422232-0007 **Customer Sample:** MFL-AM02-102224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	J7	None Detected									
D6	H4	None Detected									
D6	C6	None Detected									
D7	B5	None Detected									
D7	E7	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:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102224-AB**		**Sample Description:**	**DL264192**
EMSL Sample Number:	042422232-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7072.2
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 %:	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

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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: 042422232-0008 **Customer Sample:** MFL-AM03-102224-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	C6	None Detected									
E1	E8	None Detected									
E1	I9	None Detected									
E2	A9	None Detected									
E2	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:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102224-AB**	**Sample Description:**	**DL264198**
EMSL Sample Number:	042422232-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7100.2
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
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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: 042422232-0009 **Customer Sample:** MFL-AM07-102224-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	J5	None Detected									
E5	G9	None Detected									
E5	D8	None Detected									
E6	H7	None Detected									
E6	E4	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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102224-AB** **Sample Description:** **DL264194**

EMSL Sample Number:	042422232-0010		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):	0.0130
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:	**042422232**
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: 042422232-0010 **Customer Sample:** MFL-FB01-102224-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	A4	None Detected									
F2	C6	None Detected									
F2	E3	None Detected									
F2	G10	None Detected									
F2	I7	None Detected									
F3	A4	None Detected									
F3	C4	None Detected									
F3	E7	None Detected									
F3	G5	None Detected									
F3	I6	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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-102324-AB**	**Sample Description:**	**DL264179**
EMSL Sample Number:	042422232-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7175.8
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:	**042422232**
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: 042422232-0011 **Customer Sample:** MFL-AM05-102324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I2	None Detected									
F5	G6	None Detected									
F5	E9	None Detected									
F6	H5	None Detected									
F6	B4	None Detected									

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

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EMSL Order:	042422232
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-102324-AB**	**Sample Description:**	**DL264166**
EMSL Sample Number:	042422232-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7141.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
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: 042422232
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: 042422232-0012 **Customer Sample:** MFL-AM02-102324-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	I1	None Detected									
G1	F2	None Detected									
G1	D5	None Detected									
G2	B6	None Detected									
G2	H6	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:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-102324-AB**	**Sample Description:**	**Dl264181**
EMSL Sample Number:	042422232-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7237.7
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

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422232
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: 042422232-0013 **Customer Sample:** MFL-AM03-102324-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	B10	None Detected									
G5	E8	None Detected									
G5	I6	None Detected									
G6	F8	None Detected									
G6	B3	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:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-102324-AB**	**Sample Description:**	**DL264183**
EMSL Sample Number:	042422232-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7229.0
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 %:	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

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

EMSL Order ID: 042422232
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: 042422232-0014 **Customer Sample:** MFL-AM07-102324-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	I2	None Detected									
H1	E3	None Detected									
H1	B5	None Detected									
H2	C6	None Detected									
H2	I8	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:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-102324-AB** **Sample Description: DL264163**

EMSL Sample Number:	042422232-0015		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):	0.0130
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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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042422232
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: 042422232-0015 **Customer Sample:** MFL-FB01-102324-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					
H6	A6	None Detected									
H6	C5	None Detected									
H6	E5	None Detected									
H6	G6	None Detected									
H6	I5	None Detected									
H8	J8	None Detected									
H8	H5	None Detected									
H8	F6	None Detected									
H8	D2	None Detected									
H8	B1	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:	042422232
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:	10/28/2024 09:00 AM
Analysis Date:	11/01/2024
Report Date:	11/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042422232-0016		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

Approved Signatory

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

EMSL Order ID: 042422232
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: 042422232-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	G9	None Detected									
A1	F7	None Detected									
A1	G4	None Detected									
A1	D4	None Detected									
A1	B6	None Detected									
A2	I7	None Detected									
A2	H5	None Detected									
A2	E4	None Detected									
A2	C3	None Detected									
A2	A1	None Detected									

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

OrderID: 042422232

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422232

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

Customer Information

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

Billing Information

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

Project Information

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

Turn-Around-Time (TAT)

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

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

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

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

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED 2024 OCT 28 AM 8:38 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-AM05-102124-AB	DL264176	7,190.107	10/21/24 1056
MFL-AM02-102124-AB	DL264185	7,075.369	10/21/24 1118
MFL-AM03-102124-AB	DL264184	7,202.627	10/21/24 1301
MFL-AM07-102124-AB	DL264186	7,295.366	10/21/24 1323
MFL-FB01-102124-AB	DL264177	0	10/21/24 1200
MFL-AM05-102224-AB	DL264171	7,191.072	10/22/24 1101
MFL-AM02-102224-AB	DL264169	7,111.538	10/22/24 1115
MFL-AM03-102224-AB	DL264192	7,072.208	10/22/24 1256

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

All samples received acceptable for analysis.

15 CK

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 10/24/24 1100	Received by: Angie O'Neal FX	Date/Time 10/28/24 9
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.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422232

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-AM07-102224-AB	DL264198	7,100.193	10/22/24 1318
MFL-FB01-102224-AB	DL264194	0	10/22/24 1200
MFL-AM05-102324-AB	DL264179	7,175.820	10/23/24 1105
MFL-AM02-102324-AB	DL264166	7,141.085	10/23/24 1122
MFL-AM03-102324-AB	DL264181	7,237.685	10/23/24 1256
MFL-AM07-102324-AB	DL264183	7,229.028	10/23/24 1317
MFL-FB01-102324-AB	DL264163	0	10/23/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 OCT 28 A 10:38

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shaina Epstein	Date/Time: 10/29/24 1100	Received by: Angie ONeill FX	Date/Time: 10/28/24 2
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.)

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Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/05/2024 and Shanna Vasser 11/07/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/21/2024 – 10/23/2024
Report No: 42422232

√	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 06, 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 10/28/24 11:42.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-101724-HM	4102834-01	Air	10/17/24 23:59	10/28/24 11:42
MFL-AM02-101724-HM	4102834-02	Air	10/17/24 23:59	10/28/24 11:42
MFL-AM03-101724-HM	4102834-03	Air	10/17/24 23:59	10/28/24 11:42
MFL-AM07-101724-HM	4102834-04	Air	10/17/24 23:59	10/28/24 11:42
MFL-FB01-101724-HM	4102834-05	Air	10/17/24 00:00	10/28/24 11:42
MFL-AM05-101824-HM	4102834-06	Air	10/18/24 23:59	10/28/24 11:42
MFL-AM02-101824-HM	4102834-07	Air	10/18/24 23:59	10/28/24 11:42
MFL-AM03-101824-HM	4102834-08	Air	10/18/24 23:59	10/28/24 11:42
MFL-AM07-101824-HM	4102834-09	Air	10/18/24 23:59	10/28/24 11:42
MFL-AM05-101924-HM	4102834-10	Air	10/19/24 23:59	10/28/24 11:42
MFL-AM02-101924-HM	4102834-11	Air	10/19/24 23:59	10/28/24 11:42
MFL-AM03-101924-HM	4102834-12	Air	10/19/24 23:59	10/28/24 11:42
MFL-AM07-101924-HM	4102834-13	Air	10/19/24 23:59	10/28/24 11:42
MFL-FB01-101924-HM	4102834-14	Air	10/19/24 00:00	10/28/24 11:42
MFL-AM05-102024-HM	4102834-15	Air	10/20/24 23:59	10/28/24 11:42
MFL-AM02-102024-HM	4102834-16	Air	10/20/24 23:59	10/28/24 11:42
MFL-AM03-102024-HM	4102834-17	Air	10/20/24 23:59	10/28/24 11:42
MFL-AM07-102024-HM	4102834-18	Air	10/20/24 23:59	10/28/24 11:42
MFL-LB01-102024-HM	4102834-19	Air	10/20/24 00:00	10/28/24 11:42
MFL-AM05-102124-HM	4102834-20	Air	10/21/24 23:59	10/28/24 11:42
MFL-AM02-102124-HM	4102834-21	Air	10/21/24 23:59	10/28/24 11:42

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-102124-HM	4102834-22	Air	10/21/24 23:59	10/28/24 11:42
MFL-AM07-102124-HM	4102834-23	Air	10/21/24 23:59	10/28/24 11:42
MFL-FB01-102124-HM	4102834-24	Air	10/21/24 00:00	10/28/24 11:42
MFL-AM05-102224-HM	4102834-25	Air	10/22/24 23:59	10/28/24 11:42
MFL-AM02-102224-HM	4102834-26	Air	10/22/24 23:59	10/28/24 11:42
MFL-AM03-102224-HM	4102834-27	Air	10/22/24 23:59	10/28/24 11:42
MFL-AM07-102224-HM	4102834-28	Air	10/22/24 23:59	10/28/24 11:42
MFL-AM05-102324-HM	4102834-29	Air	10/23/24 23:59	10/28/24 11:42
MFL-AM02-102324-HM	4102834-30	Air	10/23/24 23:59	10/28/24 11:42
MFL-AM03-102324-HM	4102834-31	Air	10/23/24 23:59	10/28/24 11:42
MFL-AM07-102324-HM	4102834-32	Air	10/23/24 23:59	10/28/24 11:42
MFL-FB01-102324-HM	4102834-33	Air	10/23/24 00:00	10/28/24 11:42

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101724-HM
Matrix: Air
Lab ID: 4102834-01
Sample Volume: 1854.59 m³
Filter ID:
Sampled: 10/17/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 04:23

Comments: Q9537821 - 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	**0.0339**
Arsenic	**7440-38-2**	**0.669**		**0.00822**
Barium	**7440-39-3**	**8.59**		**0.939**
Beryllium	**7440-41-7**	**0.0319**		**0.00281**
Cadmium	7440-43-9	0.0360	U	0.0650
Chromium	**7440-47-3**	**4.68**		**1.94**
Cobalt	**7440-48-4**	**1.06**		**0.0382**
Copper	**7440-50-8**	**55.2**		**2.31**
Lead	**7439-92-1**	**1.59**		**0.188**
Manganese	**7439-96-5**	**32.7**		**1.66**
Molybdenum	**7439-98-7**	**3.38**		**0.315**
Nickel	**7440-02-0**	**2.52**	GC-BS	**0.572**
Selenium	**7782-49-2**	**0.350**		**0.00786**
Thallium	**7440-28-0**	**0.00309**	QB-04	**5.17E-4**
Vanadium	**7440-62-2**	**3.52**		**0.0464**
Zinc	7440-66-6	23.9	U	67.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101724-HM
Matrix: Air
Lab ID: 4102834-02
Sample Volume: 2097.016 m³
Filter ID:
Sampled: 10/17/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 05:02

Comments: Q9537822 - 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**	**0.215**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.946**		**0.00727**
Barium	**7440-39-3**	**8.71**		**0.830**
Beryllium	**7440-41-7**	**0.0309**		**0.00248**
Cadmium	7440-43-9	0.0445	U	0.0575
Chromium	**7440-47-3**	**4.86**		**1.71**
Cobalt	**7440-48-4**	**1.17**		**0.0338**
Copper	**7440-50-8**	**27.2**		**2.04**
Lead	**7439-92-1**	**0.962**		**0.166**
Manganese	**7439-96-5**	**29.9**		**1.47**
Molybdenum	**7439-98-7**	**1.52**		**0.279**
Nickel	**7440-02-0**	**2.77**	GC-BS	**0.506**
Selenium	**7782-49-2**	**0.330**		**0.00695**
Thallium	**7440-28-0**	**0.00221**	QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**3.46**		**0.0410**
Zinc	7440-66-6	18.4	U	59.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101724-HM
Matrix: Air
Lab ID: 4102834-03
Sample Volume: 1950.295 m³
Filter ID:
Sampled: 10/17/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 05:19

Comments: Q9537823 - 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**	**0.0589**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.329**		**0.00782**
Barium	**7440-39-3**	**5.03**		**0.893**
Beryllium	**7440-41-7**	**0.0352**		**0.00267**
Cadmium	7440-43-9	0.0164	U	0.0618
Chromium	**7440-47-3**	**4.01**		**1.84**
Cobalt	**7440-48-4**	**0.907**		**0.0364**
Copper	**7440-50-8**	**73.3**		**2.19**
Lead	**7439-92-1**	**0.689**		**0.179**
Manganese	**7439-96-5**	**22.2**		**1.58**
Molybdenum	**7439-98-7**	**3.23**		**0.299**
Nickel	**7440-02-0**	**2.35**	GC-BS	**0.544**
Selenium	**7782-49-2**	**0.317**		**0.00747**
Thallium	**7440-28-0**	**0.00192**	QB-04	**4.91E-4**
Vanadium	**7440-62-2**	**2.44**		**0.0441**
Zinc	7440-66-6	15.3	U	64.1

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101724-HM
Matrix: Air
Lab ID: 4102834-04
Sample Volume: 1851.674 m³
Filter ID:
Sampled: 10/17/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 05:34

Comments: Q9537824 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.923**		**0.00823**
Barium	**7440-39-3**	**7.31**		**0.940**
Beryllium	**7440-41-7**	**0.0421**		**0.00281**
Cadmium	7440-43-9	0.0305	U	0.0651
Chromium	**7440-47-3**	**7.62**		**1.94**
Cobalt	**7440-48-4**	**1.35**		**0.0383**
Copper	**7440-50-8**	**20.2**		**2.31**
Lead	**7439-92-1**	**0.597**		**0.188**
Manganese	**7439-96-5**	**40.2**		**1.66**
Molybdenum	**7439-98-7**	**1.49**		**0.315**
Nickel	**7440-02-0**	**4.38**	GC-BS	**0.573**
Selenium	**7782-49-2**	**0.394**		**0.00787**
Thallium	**7440-28-0**	**0.00289**	QB-04	**5.18E-4**
Vanadium	**7440-62-2**	**3.56**		**0.0465**
Zinc	7440-66-6	20.2	U	67.5

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101724-HM
Matrix: Air
Lab ID: 4102834-05
Sample Volume: 1854.59 m³
Filter ID:
Sampled: 10/17/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 05:50

Comments: Q9537830 Field 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	0.0134	U, SL	0.0339
Arsenic	**7440-38-2**	**0.0157**	FB-01	**0.00822**
Barium	**7440-39-3**	**1.62**	FB-01	**0.939**
Beryllium	7440-41-7	0.00242	U	0.00281
Cadmium	7440-43-9	0.00482	U	0.0650
Chromium	7440-47-3	1.32	U	1.94
Cobalt	**7440-48-4**	**0.0586**	FB-01	**0.0382**
Copper	**7440-50-8**	**6.05**	FB-01	**2.31**
Lead	**7439-92-1**	**0.217**	FB-01	**0.188**
Manganese	7439-96-5	0.826	U	1.66
Molybdenum	7439-98-7	0.226	U	0.315
Nickel	7440-02-0	0.388	U, GC-BS	0.572
Selenium	**7782-49-2**	**0.00837**	FB-01	**0.00786**
Thallium	7440-28-0	1.93E-4	U, QB-04	5.17E-4
Vanadium	**7440-62-2**	**0.0723**		**0.0464**
Zinc	7440-66-6	18.3	U	67.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101824-HM
Matrix: Air
Lab ID: 4102834-06
Sample Volume: 1856.917 m³
Filter ID:
Sampled: 10/18/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 06:04

Comments: Q9537825 - 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	**0.0338**
Arsenic	**7440-38-2**	**0.450**		**0.00821**
Barium	**7440-39-3**	**4.40**		**0.938**
Beryllium	**7440-41-7**	**0.0125**		**0.00280**
Cadmium	7440-43-9	0.0266	U	0.0649
Chromium	**7440-47-3**	**2.66**		**1.94**
Cobalt	**7440-48-4**	**0.522**		**0.0382**
Copper	**7440-50-8**	**45.6**		**2.30**
Lead	**7439-92-1**	**0.752**		**0.188**
Manganese	**7439-96-5**	**12.4**		**1.66**
Molybdenum	**7439-98-7**	**3.02**		**0.315**
Nickel	**7440-02-0**	**1.47**	GC-BS	**0.571**
Selenium	**7782-49-2**	**0.350**		**0.00785**
Thallium	**7440-28-0**	**0.00195**	QB-04	**5.16E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0464**
Zinc	7440-66-6	16.2	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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101824-HM
Matrix: Air
Lab ID: 4102834-07
Sample Volume: 2088.267 m³
Filter ID:
Sampled: 10/18/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 06:19

Comments: Q9537826 - 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**	**0.175**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.410**		**0.00730**
Barium	**7440-39-3**	**5.93**		**0.834**
Beryllium	**7440-41-7**	**0.0153**		**0.00249**
Cadmium	7440-43-9	0.0187	U	0.0577
Chromium	**7440-47-3**	**3.22**		**1.72**
Cobalt	**7440-48-4**	**0.710**		**0.0340**
Copper	**7440-50-8**	**23.6**		**2.05**
Lead	**7439-92-1**	**0.701**		**0.167**
Manganese	**7439-96-5**	**18.0**		**1.47**
Molybdenum	**7439-98-7**	**1.57**		**0.280**
Nickel	**7440-02-0**	**1.99**	GC-BS	**0.508**
Selenium	**7782-49-2**	**0.368**		**0.00698**
Thallium	**7440-28-0**	**0.00195**	QB-04	**4.59E-4**
Vanadium	**7440-62-2**	**2.39**		**0.0412**
Zinc	7440-66-6	17.2	U	59.8

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101824-HM
Matrix: Air
Lab ID: 4102834-08
Sample Volume: 1998.016 m³
Filter ID:
Sampled: 10/18/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 06:34

Comments: Q9537828 - 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**	**0.0752**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.240**		**0.00763**
Barium	**7440-39-3**	**3.49**		**0.871**
Beryllium	**7440-41-7**	**0.0180**		**0.00261**
Cadmium	7440-43-9	0.0360	U	0.0603
Chromium	**7440-47-3**	**2.90**		**1.80**
Cobalt	**7440-48-4**	**0.462**		**0.0355**
Copper	**7440-50-8**	**59.5**		**2.14**
Lead	**7439-92-1**	**0.550**		**0.174**
Manganese	**7439-96-5**	**11.2**		**1.54**
Molybdenum	**7439-98-7**	**2.68**		**0.292**
Nickel	**7440-02-0**	**1.63**	GC-BS	**0.531**
Selenium	**7782-49-2**	**0.348**		**0.00730**
Thallium	**7440-28-0**	**0.00172**	QB-04	**4.80E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0431**
Zinc	7440-66-6	14.5	U	62.5

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101824-HM
Matrix: Air
Lab ID: 4102834-09
Sample Volume: 1839.325 m³
Filter ID:
Sampled: 10/18/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/29/24 21:08

Comments: Q9537832 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**	**0.135**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.443**		**0.00829**
Barium	**7440-39-3**	**4.33**		**0.946**
Beryllium	**7440-41-7**	**0.0186**		**0.00283**
Cadmium	7440-43-9	0.0344	U	0.0655
Chromium	**7440-47-3**	**3.17**		**1.95**
Cobalt	**7440-48-4**	**0.636**		**0.0386**
Copper	**7440-50-8**	**21.7**		**2.33**
Lead	**7439-92-1**	**0.448**		**0.189**
Manganese	**7439-96-5**	**17.1**		**1.67**
Molybdenum	**7439-98-7**	**1.64**		**0.318**
Nickel	**7440-02-0**	**1.76**	GC-BS, QM-07	**0.577**
Selenium	**7782-49-2**	**0.367**		**0.00793**
Thallium	**7440-28-0**	**0.00205**	QB-04	**5.21E-4**
Vanadium	**7440-62-2**	**2.02**		**0.0468**
Zinc	7440-66-6	13.1	U	67.9

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-101924-HM
Matrix: Air
Lab ID: 4102834-10
Sample Volume: 1848.382 m³
Filter ID:
Sampled: 10/19/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 06:48

Comments: Q9537835 - 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**	**0.204**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.910**		**0.00825**
Barium	**7440-39-3**	**4.57**		**0.942**
Beryllium	**7440-41-7**	**0.0108**		**0.00282**
Cadmium	7440-43-9	0.0290	U	0.0652
Chromium	**7440-47-3**	**2.99**		**1.95**
Cobalt	**7440-48-4**	**0.396**		**0.0384**
Copper	**7440-50-8**	**57.3**		**2.32**
Lead	**7439-92-1**	**0.854**		**0.188**
Manganese	**7439-96-5**	**10.5**		**1.66**
Molybdenum	**7439-98-7**	**3.41**		**0.316**
Nickel	**7440-02-0**	**1.56**	GC-BS	**0.574**
Selenium	**7782-49-2**	**0.310**		**0.00789**
Thallium	**7440-28-0**	**0.00154**	QB-04	**5.18E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0466**
Zinc	7440-66-6	21.2	U	67.6

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-101924-HM
Matrix: Air
Lab ID: 4102834-11
Sample Volume: 2068.708 m³
Filter ID:
Sampled: 10/19/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 08:16

Comments: Q9537837 - 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**	**0.144**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.241**		**0.00737**
Barium	**7440-39-3**	**4.82**		**0.842**
Beryllium	**7440-41-7**	**0.0104**		**0.00252**
Cadmium	7440-43-9	0.0171	U	0.0583
Chromium	**7440-47-3**	**2.22**		**1.74**
Cobalt	**7440-48-4**	**0.340**		**0.0343**
Copper	**7440-50-8**	**27.8**		**2.07**
Lead	**7439-92-1**	**0.474**		**0.168**
Manganese	**7439-96-5**	**9.58**		**1.49**
Molybdenum	**7439-98-7**	**2.39**		**0.282**
Nickel	**7440-02-0**	**1.20**	GC-BS	**0.513**
Selenium	**7782-49-2**	**0.293**		**0.00705**
Thallium	**7440-28-0**	**0.00133**	QB-04	**4.63E-4**
Vanadium	**7440-62-2**	**1.62**		**0.0416**
Zinc	7440-66-6	13.3	U	60.4

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-101924-HM
Matrix: Air
Lab ID: 4102834-12
Sample Volume: 2050.058 m³
Filter ID:
Sampled: 10/19/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 08:34

Comments: Q9537838 - 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**	**0.0528**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.235**		**0.00744**
Barium	**7440-39-3**	**3.65**		**0.849**
Beryllium	**7440-41-7**	**0.0388**		**0.00254**
Cadmium	7440-43-9	0.0197	U	0.0588
Chromium	**7440-47-3**	**3.41**		**1.75**
Cobalt	**7440-48-4**	**0.650**		**0.0346**
Copper	**7440-50-8**	**55.7**		**2.09**
Lead	**7439-92-1**	**0.357**		**0.170**
Manganese	**7439-96-5**	**15.5**		**1.50**
Molybdenum	**7439-98-7**	**2.71**		**0.285**
Nickel	**7440-02-0**	**1.93**	GC-BS	**0.517**
Selenium	**7782-49-2**	**0.346**		**0.00711**
Thallium	**7440-28-0**	**0.00166**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**2.12**		**0.0420**
Zinc	7440-66-6	11.7	U	61.0

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-101924-HM
Matrix: Air
Lab ID: 4102834-13
Sample Volume: 1824.793 m³
Filter ID:
Sampled: 10/19/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 08:48

Comments: Q9537839 - 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**	**0.147**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.258**		**0.00835**
Barium	**7440-39-3**	**3.00**		**0.954**
Beryllium	**7440-41-7**	**0.0141**		**0.00285**
Cadmium	7440-43-9	0.0227	U	0.0661
Chromium	**7440-47-3**	**2.81**		**1.97**
Cobalt	**7440-48-4**	**0.495**		**0.0389**
Copper	**7440-50-8**	**22.8**		**2.34**
Lead	**7439-92-1**	**0.338**		**0.191**
Manganese	**7439-96-5**	**12.3**		**1.69**
Molybdenum	**7439-98-7**	**1.64**		**0.320**
Nickel	**7440-02-0**	**1.61**	GC-BS	**0.581**
Selenium	**7782-49-2**	**0.313**		**0.00799**
Thallium	**7440-28-0**	**0.00145**	QB-04	**5.25E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0472**
Zinc	7440-66-6	12.6	U	68.5

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-101924-HM
Matrix: Air
Lab ID: 4102834-14
Sample Volume: 1848.382 m³
Filter ID:
Sampled: 10/19/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 09:03

Comments: Q9537845 Field 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**	**0.0385**	FB-01, SL	**0.0340**
Arsenic	**7440-38-2**	**0.0157**	FB-01	**0.00825**
Barium	7440-39-3	0.737	U	0.942
Beryllium	7440-41-7	0.00120	U	0.00282
Cadmium	7440-43-9	0.00565	U	0.0652
Chromium	7440-47-3	1.55	U	1.95
Cobalt	**7440-48-4**	**0.0397**	FB-01	**0.0384**
Copper	7440-50-8	1.11	U	2.32
Lead	7439-92-1	0.0694	U	0.188
Manganese	7439-96-5	0.568	U	1.66
Molybdenum	7439-98-7	0.221	U	0.316
Nickel	7440-02-0	0.477	GC-BS, U	0.574
Selenium	**7782-49-2**	**0.00837**	FB-01	**0.00789**
Thallium	7440-28-0	1.94E-4	QB-04, U	5.18E-4
Vanadium	7440-62-2	0.0436	U	0.0466
Zinc	7440-66-6	9.27	U	67.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102024-HM
Matrix: Air
Lab ID: 4102834-15
Sample Volume: 1894.655 m³
Filter ID:
Sampled: 10/20/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 09:18

Comments: Q9537840 - 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	**0.0331**
Arsenic	**7440-38-2**	**0.411**		**0.00805**
Barium	**7440-39-3**	**3.26**		**0.919**
Beryllium	**7440-41-7**	**0.00753**		**0.00275**
Cadmium	7440-43-9	0.0184	U	0.0636
Chromium	**7440-47-3**	**2.22**		**1.90**
Cobalt	**7440-48-4**	**0.278**		**0.0374**
Copper	**7440-50-8**	**63.7**		**2.26**
Lead	**7439-92-1**	**0.884**		**0.184**
Manganese	**7439-96-5**	**6.92**		**1.62**
Molybdenum	**7439-98-7**	**3.67**		**0.308**
Nickel	**7440-02-0**	**0.961**	GC-BS	**0.560**
Selenium	**7782-49-2**	**0.217**		**0.00769**
Thallium	**7440-28-0**	**0.00116**	QB-04	**5.06E-4**
Vanadium	**7440-62-2**	**0.924**		**0.0454**
Zinc	7440-66-6	14.8	U	66.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102024-HM
Matrix: Air
Lab ID: 4102834-16
Sample Volume: 2053.46 m³
Filter ID:
Sampled: 10/20/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 09:33

Comments: Q9537842 - 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**	**0.268**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.237**		**0.00742**
Barium	**7440-39-3**	**5.27**		**0.848**
Beryllium	**7440-41-7**	**0.0113**		**0.00254**
Cadmium	7440-43-9	0.0168	U	0.0587
Chromium	**7440-47-3**	**2.33**		**1.75**
Cobalt	**7440-48-4**	**0.407**		**0.0345**
Copper	**7440-50-8**	**26.2**		**2.08**
Lead	**7439-92-1**	**0.607**		**0.170**
Manganese	**7439-96-5**	**11.1**		**1.50**
Molybdenum	**7439-98-7**	**1.64**		**0.284**
Nickel	**7440-02-0**	**1.24**	GC-BS	**0.517**
Selenium	**7782-49-2**	**0.238**		**0.00710**
Thallium	**7440-28-0**	**0.00129**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0419**
Zinc	7440-66-6	13.7	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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102024-HM
Matrix: Air
Lab ID: 4102834-17
Sample Volume: 1993.833 m³
Filter ID:
Sampled: 10/20/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 09:48

Comments: Q8529445 - 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**	**0.0556**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.139**		**0.00765**
Barium	**7440-39-3**	**2.46**		**0.873**
Beryllium	**7440-41-7**	**0.0138**		**0.00261**
Cadmium	7440-43-9	0.0106	U	0.0605
Chromium	**7440-47-3**	**2.46**		**1.80**
Cobalt	**7440-48-4**	**0.294**		**0.0356**
Copper	**7440-50-8**	**45.1**		**2.15**
Lead	**7439-92-1**	**0.237**		**0.175**
Manganese	**7439-96-5**	**6.84**		**1.54**
Molybdenum	**7439-98-7**	**2.97**		**0.293**
Nickel	**7440-02-0**	**1.24**	GC-BS	**0.532**
Selenium	**7782-49-2**	**0.230**		**0.00731**
Thallium	**7440-28-0**	**0.00110**	QB-04	**4.81E-4**
Vanadium	**7440-62-2**	**0.911**		**0.0432**
Zinc	7440-66-6	8.32	U	62.7

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102024-HM
Matrix: Air
Lab ID: 4102834-18
Sample Volume: 1811.084 m³
Filter ID:
Sampled: 10/20/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 10:01

Comments: Q8529443 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0980**	SL	**0.0347**
Arsenic	**7440-38-2**	**0.239**		**0.00842**
Barium	**7440-39-3**	**3.35**		**0.961**
Beryllium	**7440-41-7**	**0.0142**		**0.00287**
Cadmium	7440-43-9	0.0145	U	0.0666
Chromium	**7440-47-3**	**2.67**		**1.99**
Cobalt	**7440-48-4**	**0.463**		**0.0392**
Copper	**7440-50-8**	**21.8**		**2.36**
Lead	**7439-92-1**	**0.323**		**0.192**
Manganese	**7439-96-5**	**12.9**		**1.70**
Molybdenum	**7439-98-7**	**1.42**		**0.323**
Nickel	**7440-02-0**	**1.63**	GC-BS	**0.586**
Selenium	**7782-49-2**	**0.256**		**0.00805**
Thallium	**7440-28-0**	**0.00125**	QB-04	**5.29E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0475**
Zinc	7440-66-6	9.56	U	69.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-102024-HM
Matrix: Air
Lab ID: 4102834-19
Sample Volume: 1894.655 m³
Filter ID:
Sampled: 10/20/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 10:30

Comments: Q8529440 Lot Blank Box#453 - 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	0.0225	SL, U	0.0331
Arsenic	**7440-38-2**	**0.00964**	LB	**0.00805**
Barium	7440-39-3	0.858	U	0.919
Beryllium	7440-41-7	3.80E-4	U	0.00275
Cadmium	7440-43-9	8.73E-4	U	0.0636
Chromium	7440-47-3	0.754	U	1.90
Cobalt	7440-48-4	0.0143	U	0.0374
Copper	7440-50-8	0.392	U	2.26
Lead	7439-92-1	0.0241	U	0.184
Manganese	7439-96-5	0.289	U	1.62
Molybdenum	7439-98-7	0.145	U	0.308
Nickel	7440-02-0	0.420	GC-BS, U	0.560
Selenium	7782-49-2	0.00357	U	0.00769
Thallium	7440-28-0	1.14E-4	QB-04, U	5.06E-4
Vanadium	7440-62-2	0.0175	U	0.0454
Zinc	7440-66-6	9.53	U	66.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102124-HM
Matrix: Air
Lab ID: 4102834-20
Sample Volume: 1874.243 m³
Filter ID:
Sampled: 10/21/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 12:03

Comments: Q8529439 - 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**	**0.313**		**0.00813**
Barium	**7440-39-3**	**4.07**		**0.929**
Beryllium	**7440-41-7**	**0.00849**		**0.00278**
Cadmium	7440-43-9	0.0147	U	0.0643
Chromium	**7440-47-3**	**1.95**		**1.92**
Cobalt	**7440-48-4**	**0.298**		**0.0378**
Copper	**7440-50-8**	**69.1**		**2.28**
Lead	**7439-92-1**	**0.816**		**0.186**
Manganese	**7439-96-5**	**8.43**		**1.64**
Molybdenum	**7439-98-7**	**3.09**		**0.312**
Nickel	**7440-02-0**	**1.17**	GC-BS	**0.566**
Selenium	**7782-49-2**	**0.215**		**0.00778**
Thallium	**7440-28-0**	**0.00119**	QB-04	**5.11E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0459**
Zinc	7440-66-6	17.0	U	66.7

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102124-HM
Matrix: Air
Lab ID: 4102834-21
Sample Volume: 2081.269 m³
Filter ID:
Sampled: 10/21/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 12:21

Comments: Q8529438 - 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**	**0.190**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.305**		**0.00732**
Barium	**7440-39-3**	**5.91**		**0.836**
Beryllium	**7440-41-7**	**0.0139**		**0.00250**
Cadmium	7440-43-9	0.0145	U	0.0579
Chromium	**7440-47-3**	**2.65**		**1.73**
Cobalt	**7440-48-4**	**0.565**		**0.0341**
Copper	**7440-50-8**	**35.8**		**2.06**
Lead	**7439-92-1**	**0.678**		**0.167**
Manganese	**7439-96-5**	**13.9**		**1.48**
Molybdenum	**7439-98-7**	**1.83**		**0.281**
Nickel	**7440-02-0**	**1.94**	GC-BS	**0.510**
Selenium	**7782-49-2**	**0.234**		**0.00700**
Thallium	**7440-28-0**	**0.00111**	QB-04	**4.60E-4**
Vanadium	**7440-62-2**	**1.79**		**0.0414**
Zinc	7440-66-6	20.5	U	60.0

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102124-HM
Matrix: Air
Lab ID: 4102834-22
Sample Volume: 2050.058 m³
Filter ID:
Sampled: 10/21/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 12:38

Comments: Q8529437 - 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**	**0.0630**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.150**		**0.00744**
Barium	**7440-39-3**	**2.55**		**0.849**
Beryllium	**7440-41-7**	**0.0133**		**0.00254**
Cadmium	7440-43-9	0.00734	U	0.0588
Chromium	**7440-47-3**	**2.29**		**1.75**
Cobalt	**7440-48-4**	**0.287**		**0.0346**
Copper	**7440-50-8**	**45.9**		**2.09**
Lead	**7439-92-1**	**0.267**		**0.170**
Manganese	**7439-96-5**	**6.93**		**1.50**
Molybdenum	**7439-98-7**	**2.52**		**0.285**
Nickel	**7440-02-0**	**1.43**	GC-BS	**0.517**
Selenium	**7782-49-2**	**0.214**		**0.00711**
Thallium	**7440-28-0**	**8.08E-4**	QB-04	**4.67E-4**
Vanadium	**7440-62-2**	**0.856**		**0.0420**
Zinc	7440-66-6	11.6	U	61.0

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102124-HM
Matrix: Air
Lab ID: 4102834-23
Sample Volume: 1851.674 m³
Filter ID:
Sampled: 10/21/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 12:52

Comments: Q8529436 - 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**	**0.0878**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.445**		**0.00823**
Barium	**7440-39-3**	**4.85**		**0.940**
Beryllium	**7440-41-7**	**0.0265**		**0.00281**
Cadmium	7440-43-9	0.0147	U	0.0651
Chromium	**7440-47-3**	**4.03**		**1.94**
Cobalt	**7440-48-4**	**0.949**		**0.0383**
Copper	**7440-50-8**	**24.7**		**2.31**
Lead	**7439-92-1**	**0.373**		**0.188**
Manganese	**7439-96-5**	**24.2**		**1.66**
Molybdenum	**7439-98-7**	**1.46**		**0.315**
Nickel	**7440-02-0**	**2.53**	GC-BS	**0.573**
Selenium	**7782-49-2**	**0.301**		**0.00787**
Thallium	**7440-28-0**	**0.00151**	QB-04	**5.18E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0465**
Zinc	7440-66-6	13.8	U	67.5

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102124-HM
Matrix: Air
Lab ID: 4102834-24
Sample Volume: 1874.243 m³
Filter ID:
Sampled: 10/21/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 13:07

Comments: Q8529434 Field 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	0.0231	SL, U	0.0335
Arsenic	**7440-38-2**	**0.00848**	FB-01	**0.00813**
Barium	7440-39-3	0.826	U	0.929
Beryllium	7440-41-7	2.43E-4	U	0.00278
Cadmium	7440-43-9	6.77E-4	U	0.0643
Chromium	7440-47-3	0.980	U	1.92
Cobalt	7440-48-4	0.0134	U	0.0378
Copper	7440-50-8	0.393	U	2.28
Lead	7439-92-1	0.0268	U	0.186
Manganese	7439-96-5	0.196	U	1.64
Molybdenum	7439-98-7	0.150	U	0.312
Nickel	7440-02-0	0.522	GC-BS, U	0.566
Selenium	7782-49-2	0.00184	U	0.00778
Thallium	7440-28-0	1.35E-4	QB-04, U	5.11E-4
Vanadium	7440-62-2	0.00385	U	0.0459
Zinc	7440-66-6	6.20	U	66.7

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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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102224-HM
Matrix: Air
Lab ID: 4102834-25
Sample Volume: 1903.386 m³
Filter ID:
Sampled: 10/22/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 13:20

Comments: Q8529435 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.471**		**0.00801**
Barium	**7440-39-3**	**5.37**		**0.915**
Beryllium	**7440-41-7**	**0.0149**		**0.00274**
Cadmium	7440-43-9	0.0178	U	0.0633
Chromium	**7440-47-3**	**2.74**		**1.89**
Cobalt	**7440-48-4**	**0.598**		**0.0373**
Copper	**7440-50-8**	**75.5**		**2.25**
Lead	**7439-92-1**	**1.04**		**0.183**
Manganese	**7439-96-5**	**14.8**		**1.62**
Molybdenum	**7439-98-7**	**3.41**		**0.307**
Nickel	**7440-02-0**	**2.10**	GC-BS	**0.557**
Selenium	**7782-49-2**	**0.249**		**0.00766**
Thallium	**7440-28-0**	**0.00118**	QB-04	**5.03E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0452**
Zinc	7440-66-6	18.5	U	65.6

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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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102224-HM
Matrix: Air
Lab ID: 4102834-26
Sample Volume: 2097.016 m³
Filter ID:
Sampled: 10/22/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 13:35

Comments: Q8529433 - 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**	**0.178**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.361**		**0.00727**
Barium	**7440-39-3**	**7.65**		**0.830**
Beryllium	**7440-41-7**	**0.0193**		**0.00248**
Cadmium	7440-43-9	0.0222	U	0.0575
Chromium	**7440-47-3**	**3.60**		**1.71**
Cobalt	**7440-48-4**	**0.794**		**0.0338**
Copper	**7440-50-8**	**32.4**		**2.04**
Lead	**7439-92-1**	**0.670**		**0.166**
Manganese	**7439-96-5**	**18.6**		**1.47**
Molybdenum	**7439-98-7**	**1.98**		**0.279**
Nickel	**7440-02-0**	**2.59**	GC-BS	**0.506**
Selenium	**7782-49-2**	**0.273**		**0.00695**
Thallium	**7440-28-0**	**0.00128**	QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**2.58**		**0.0410**
Zinc	7440-66-6	16.4	U	59.6

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102224-HM
Matrix: Air
Lab ID: 4102834-27
Sample Volume: 2042.351 m³
Filter ID:
Sampled: 10/22/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 13:49

Comments: Q8529432 - 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**	**0.0645**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.260**		**0.00746**
Barium	**7440-39-3**	**3.64**		**0.852**
Beryllium	**7440-41-7**	**0.0253**		**0.00255**
Cadmium	7440-43-9	0.00749	U	0.0590
Chromium	**7440-47-3**	**2.41**		**1.76**
Cobalt	**7440-48-4**	**0.524**		**0.0347**
Copper	**7440-50-8**	**51.4**		**2.10**
Lead	**7439-92-1**	**0.359**		**0.170**
Manganese	**7439-96-5**	**12.3**		**1.51**
Molybdenum	**7439-98-7**	**2.49**		**0.286**
Nickel	**7440-02-0**	**1.69**	GC-BS	**0.519**
Selenium	**7782-49-2**	**0.235**		**0.00714**
Thallium	**7440-28-0**	**9.73E-4**	QB-04	**4.69E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0421**
Zinc	7440-66-6	10.1	U	61.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102224-HM
Matrix: Air
Lab ID: 4102834-28
Sample Volume: 1838.553 m³
Filter ID:
Sampled: 10/22/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 14:03

Comments: Q8529431 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0961**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.587**		**0.00829**
Barium	**7440-39-3**	**6.74**		**0.947**
Beryllium	**7440-41-7**	**0.0442**		**0.00283**
Cadmium	7440-43-9	0.0235	U	0.0656
Chromium	**7440-47-3**	**5.43**		**1.96**
Cobalt	**7440-48-4**	**1.39**		**0.0386**
Copper	**7440-50-8**	**21.9**		**2.33**
Lead	**7439-92-1**	**0.522**		**0.189**
Manganese	**7439-96-5**	**37.4**		**1.67**
Molybdenum	**7439-98-7**	**1.35**		**0.318**
Nickel	**7440-02-0**	**3.65**	GC-BS	**0.577**
Selenium	**7782-49-2**	**0.384**		**0.00793**
Thallium	**7440-28-0**	**0.00186**	QB-04	**5.21E-4**
Vanadium	**7440-62-2**	**3.61**		**0.0468**
Zinc	7440-66-6	13.1	U	68.0

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-102324-HM
Matrix: Air
Lab ID: 4102834-29
Sample Volume: 1860.797 m³
Filter ID:
Sampled: 10/23/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 14:17

Comments: Q8529428 - 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**	**0.126**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.314**		**0.00819**
Barium	**7440-39-3**	**4.03**		**0.936**
Beryllium	**7440-41-7**	**0.00909**		**0.00280**
Cadmium	7440-43-9	0.0147	U	0.0648
Chromium	7440-47-3	1.89	U	1.93
Cobalt	**7440-48-4**	**0.363**		**0.0381**
Copper	**7440-50-8**	**68.9**		**2.30**
Lead	**7439-92-1**	**0.912**		**0.187**
Manganese	**7439-96-5**	**9.21**		**1.65**
Molybdenum	**7439-98-7**	**3.07**		**0.314**
Nickel	**7440-02-0**	**1.56**	GC-BS	**0.570**
Selenium	**7782-49-2**	**0.174**		**0.00783**
Thallium	**7440-28-0**	**8.27E-4**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0463**
Zinc	7440-66-6	17.1	U	67.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-102324-HM
Matrix: Air
Lab ID: 4102834-30
Sample Volume: 2065.489 m³
Filter ID:
Sampled: 10/23/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 01:21

Comments: Q8529427 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**	**0.155**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.189**		**0.00738**
Barium	**7440-39-3**	**3.99**		**0.843**
Beryllium	**7440-41-7**	**0.00928**		**0.00252**
Cadmium	7440-43-9	0.0120	U	0.0584
Chromium	7440-47-3	1.59	U	1.74
Cobalt	**7440-48-4**	**0.295**		**0.0343**
Copper	**7440-50-8**	**38.0**		**2.07**
Lead	**7439-92-1**	**0.538**		**0.169**
Manganese	**7439-96-5**	**8.37**		**1.49**
Molybdenum	**7439-98-7**	**1.82**		**0.283**
Nickel	**7440-02-0**	**1.14**	GC-BS	**0.514**
Selenium	**7782-49-2**	**0.169**		**0.00706**
Thallium	**7440-28-0**	**8.10E-4**	QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0417**
Zinc	7440-66-6	12.9	U	60.5

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: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-102324-HM
Matrix: Air
Lab ID: 4102834-31
Sample Volume: 2047.489 m³
Filter ID:
Sampled: 10/23/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 15:52

Comments: Q8529426 - 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**	**0.0787**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.147**		**0.00745**
Barium	**7440-39-3**	**3.18**	LJ, QX	**0.850**
Beryllium	**7440-41-7**	**0.0170**		**0.00254**
Cadmium	7440-43-9	0.00658	U	0.0589
Chromium	**7440-47-3**	**1.99**		**1.76**
Cobalt	**7440-48-4**	**0.361**		**0.0346**
Copper	**7440-50-8**	**49.0**		**2.09**
Lead	**7439-92-1**	**0.252**		**0.170**
Manganese	**7439-96-5**	**8.79**		**1.50**
Molybdenum	**7439-98-7**	**2.47**		**0.285**
Nickel	**7440-02-0**	**1.51**	GC-BS	**0.518**
Selenium	**7782-49-2**	**0.162**		**0.00712**
Thallium	**7440-28-0**	**7.76E-4**	QB-04	**4.68E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0420**
Zinc	7440-66-6	9.20	U	61.0

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-102324-HM
Matrix: Air
Lab ID: 4102834-32
Sample Volume: 1821.746 m³
Filter ID:
Sampled: 10/23/24 23:59
Received: 10/28/24 11:42
Analysis Date: 10/30/24 16:07

Comments: Q8529425 - 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**	**0.0865**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.485**		**0.00837**
Barium	**7440-39-3**	**5.99**	LJ, QX	**0.956**
Beryllium	**7440-41-7**	**0.0426**		**0.00286**
Cadmium	7440-43-9	0.0114	U	0.0662
Chromium	**7440-47-3**	**5.30**		**1.97**
Cobalt	**7440-48-4**	**1.31**		**0.0389**
Copper	**7440-50-8**	**22.9**		**2.35**
Lead	**7439-92-1**	**0.396**		**0.191**
Manganese	**7439-96-5**	**35.7**		**1.69**
Molybdenum	**7439-98-7**	**1.45**		**0.321**
Nickel	**7440-02-0**	**3.31**	GC-BS	**0.582**
Selenium	**7782-49-2**	**0.322**		**0.00800**
Thallium	**7440-28-0**	**0.00182**	QB-04	**5.26E-4**
Vanadium	**7440-62-2**	**3.30**		**0.0472**
Zinc	7440-66-6	12.9	U	68.6

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-102324-HM
Matrix: Air
Lab ID: 4102834-33
Sample Volume: 1860.797 m³
Filter ID:
Sampled: 10/23/24 00:00
Received: 10/28/24 11:42
Analysis Date: 10/30/24 16:27

Comments: Q8529419 Field 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	0.0250	SL, U	0.0338
Arsenic	7440-38-2	0.00785	U	0.00819
Barium	**7440-39-3**	**0.976**	FB-01, LJ, QX	**0.936**
Beryllium	7440-41-7	3.97E-4	U	0.00280
Cadmium	7440-43-9	0.00648	U	0.0648
Chromium	7440-47-3	0.881	U	1.93
Cobalt	7440-48-4	0.0162	U	0.0381
Copper	**7440-50-8**	**2.34**	FB-01	**2.30**
Lead	7439-92-1	0.0990	U	0.187
Manganese	7439-96-5	0.256	U	1.65
Molybdenum	7439-98-7	0.196	U	0.314
Nickel	7440-02-0	0.522	GC-BS, U	0.570
Selenium	7782-49-2	0.00437	U	0.00783
Thallium	7440-28-0	1.84E-4	QB-04, U	5.15E-4
Vanadium	7440-62-2	0.0129	U	0.0463
Zinc	7440-66-6	9.26	U	67.2

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FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
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 2410096 - B4J2207										
Calibration Blank (2410096-CCB1)				Prepared & Analyzed: 10/29/24						
Antimony	0.740		ng/l							
Arsenic	8.05		ng/l							
Barium	0.771		ng/l							
Beryllium	-0.737		ng/l							U
Cadmium	-0.0125		ng/l							U
Chromium	1.67		ng/l							
Cobalt	0.229		ng/l							
Copper	45.8		ng/l							
Lead	0.612		ng/l							
Manganese	2.48		ng/l							
Molybdenum	15.0		ng/l							
Nickel	1.73		ng/l							
Selenium	1.08		ng/l							
Thallium	1.99		ng/l							QB-04
Vanadium	-48.3		ng/l							U
Zinc	-44.3		ng/l							U
Calibration Blank (2410096-CCB2)				Prepared & Analyzed: 10/29/24						
Antimony	0.600		ng/l							
Arsenic	8.73		ng/l							
Barium	-0.0733		ng/l							U
Beryllium	-0.455		ng/l							U
Cadmium	-0.0646		ng/l							U
Chromium	3.31		ng/l							
Cobalt	0.225		ng/l							
Copper	11.2		ng/l							
Lead	0.268		ng/l							
Manganese	2.52		ng/l							
Molybdenum	3.30		ng/l							
Nickel	1.78		ng/l							
Selenium	4.41		ng/l							
Thallium	1.72		ng/l							QB-04
Vanadium	-53.5		ng/l							U
Zinc	-52.1		ng/l							U
Calibration Blank (2410096-CCB3)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.648		ng/l							
Arsenic	12.7		ng/l							
Barium	0.681		ng/l							
Beryllium	-0.419		ng/l							U

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REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
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 2410096 - B4J2207										
Calibration Blank (2410096-CCB3) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Cadmium	-0.0173		ng/l							U
Chromium	3.09		ng/l							
Cobalt	0.203		ng/l							
Copper	7.49		ng/l							
Lead	0.382		ng/l							
Manganese	3.33		ng/l							
Molybdenum	5.09		ng/l							
Nickel	2.35		ng/l							
Selenium	0.444		ng/l							
Thallium	1.63		ng/l							QB-04
Vanadium	-54.8		ng/l							U
Zinc	-52.3		ng/l							U
Calibration Blank (2410096-CCB4)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.635		ng/l							
Arsenic	13.1		ng/l							
Barium	0.425		ng/l							
Beryllium	-1.01		ng/l							U
Cadmium	0.0217		ng/l							
Chromium	3.18		ng/l							
Cobalt	0.253		ng/l							
Copper	6.13		ng/l							
Lead	0.446		ng/l							
Manganese	0.670		ng/l							
Molybdenum	3.89		ng/l							
Nickel	3.00		ng/l							
Selenium	0.146		ng/l							
Thallium	1.44		ng/l							QB-04
Vanadium	-62.7		ng/l							U
Zinc	-45.1		ng/l							U
Calibration Blank (2410096-CCB5)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.598		ng/l							
Arsenic	12.4		ng/l							
Barium	0.403		ng/l							
Beryllium	-1.14		ng/l							U
Cadmium	0.0605		ng/l							
Chromium	2.47		ng/l							
Cobalt	0.320		ng/l							
Copper	6.57		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 2410096 - B4J2207										
Calibration Blank (2410096-CCB5) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Lead	0.673		ng/l							
Manganese	1.29		ng/l							
Molybdenum	4.05		ng/l							
Nickel	1.73		ng/l							
Selenium	-3.13		ng/l							U
Thallium	1.56		ng/l							QB-04
Vanadium	-62.0		ng/l							U
Zinc	-36.8		ng/l							U
Calibration Blank (2410096-CCB6)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.826		ng/l							
Arsenic	10.3		ng/l							
Barium	0.539		ng/l							
Beryllium	-1.19		ng/l							U
Cadmium	0.0170		ng/l							
Chromium	2.15		ng/l							
Cobalt	0.178		ng/l							
Copper	4.78		ng/l							
Lead	0.797		ng/l							
Manganese	1.20		ng/l							
Molybdenum	4.52		ng/l							
Nickel	2.56		ng/l							
Selenium	10.1		ng/l							
Thallium	1.53		ng/l							QB-04
Vanadium	-66.1		ng/l							U
Zinc	-44.0		ng/l							U
Calibration Blank (2410096-CCB7)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.560		ng/l							
Arsenic	7.71		ng/l							
Barium	0.456		ng/l							
Beryllium	-1.31		ng/l							U
Cadmium	0.104		ng/l							
Chromium	2.58		ng/l							
Cobalt	0.256		ng/l							
Copper	6.57		ng/l							
Lead	1.31		ng/l							
Manganese	0.634		ng/l							
Molybdenum	4.21		ng/l							
Nickel	2.47		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 2410096 - B4J2207										
Calibration Blank (2410096-CCB7) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Selenium	7.77		ng/l							
Thallium	1.90		ng/l							QB-04
Vanadium	-67.3		ng/l							U
Zinc	-51.7		ng/l							U
Calibration Check (2410096-CCV1)				Prepared & Analyzed: 10/29/24						
Antimony	19900		ng/l	20000		99.4	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	235000		ng/l	240000		98.1	90-110			
Cobalt	49600		ng/l	50000		99.3	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	477000		ng/l	500000		95.4	90-110			
Molybdenum	48800		ng/l	50000		97.6	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19700		ng/l	20000		98.5	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			QB-04
Vanadium	19000		ng/l	20000		94.8	90-110			
Zinc	461000		ng/l	500000		92.2	90-110			
Calibration Check (2410096-CCV2)				Prepared & Analyzed: 10/29/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	4880		ng/l	5000.0		97.5	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	236000		ng/l	240000		98.3	90-110			
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	482000		ng/l	500000		96.3	90-110			
Molybdenum	49400		ng/l	50000		98.7	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			
Thallium	488		ng/l	500.00		97.5	90-110			QB-04
Vanadium	19300		ng/l	20000		96.3	90-110			
Zinc	464000		ng/l	500000		92.9	90-110			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Calibration Check (2410096-CCV3)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4930		ng/l	5000.0		98.5	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	238000		ng/l	240000		99.4	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	486000		ng/l	500000		97.2	90-110			
Molybdenum	50000		ng/l	50000		99.9	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	483		ng/l	500.00		96.7	90-110			QB-04
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	471000		ng/l	500000		94.1	90-110			
Calibration Check (2410096-CCV4)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	491000		ng/l	500000		98.1	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			QB-04
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	476000		ng/l	500000		95.2	90-110			
Calibration Check (2410096-CCV5)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	220000		ng/l	200000		110	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 2410096 - B4J2207										
Calibration Check (2410096-CCV5) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	54300		ng/l	50000		109	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			QB-04
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	480000		ng/l	500000		96.0	90-110			
Calibration Check (2410096-CCV6)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	220000		ng/l	200000		110	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.20E6		ng/l	2.0000E6		110	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	54200		ng/l	50000		108	90-110			
Nickel	131000		ng/l	120000		109	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	485		ng/l	500.00		97.1	90-110			QB-04
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	479000		ng/l	500000		95.9	90-110			
Calibration Check (2410096-CCV7)				Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	222000		ng/l	200000		111	90-110			LJ, QX
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	21300		ng/l	20000		107	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.17E6		ng/l	2.0000E6		108	90-110			

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

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REPORTED: 11/06/24 13:31
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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 2410096 - B4J2207										
Calibration Check (2410096-CCV7) Contin				Prepared: 10/29/24 Analyzed: 10/30/24						
Lead	207000		ng/l	200000		104	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	54700		ng/l	50000		109	90-110			
Nickel	128000		ng/l	120000		106	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			QB-04
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	480000		ng/l	500000		96.0	90-110			
High Cal Check (2410096-HCV1)				Prepared & Analyzed: 10/29/24						
Antimony	40000		ng/l	40000		99.9	95-105			
Arsenic	40200		ng/l	40000		100	95-105			
Barium	395000		ng/l	400000		98.7	95-105			
Beryllium	9750		ng/l	10000		97.5	95-105			
Cadmium	39700		ng/l	40000		99.1	95-105			
Chromium	478000		ng/l	480000		99.6	95-105			
Cobalt	102000		ng/l	100000		102	95-105			
Copper	4.02E6		ng/l	4.0000E6		100	95-105			
Lead	398000		ng/l	400000		99.6	95-105			
Manganese	997000		ng/l	1.0000E6		99.7	95-105			
Molybdenum	98800		ng/l	100000		98.8	95-105			
Nickel	240000		ng/l	240000		99.8	95-105			
Selenium	39400		ng/l	40000		98.6	95-105			
Thallium	979		ng/l	1000.0		97.9	95-105			QB-04
Vanadium	39100		ng/l	40000		97.7	95-105			
Zinc	1.04E6		ng/l	1.0000E6		104	95-105			
Initial Cal Blank (2410096-ICB1)				Prepared & Analyzed: 10/29/24						
Antimony	0.585		ng/l							
Arsenic	2.05		ng/l							
Barium	0.455		ng/l							
Beryllium	-0.712		ng/l							U
Cadmium	0.106		ng/l							
Chromium	2.25		ng/l							
Cobalt	0.146		ng/l							
Copper	23.9		ng/l							
Lead	0.345		ng/l							
Manganese	2.78		ng/l							
Molybdenum	2.74		ng/l							
Nickel	0.231		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2410096 - B4J2207										
Initial Cal Blank (2410096-ICB1) Continu				Prepared & Analyzed: 10/29/24						
Selenium	5.41		ng/l							
Thallium	1.29		ng/l							QB-04
Vanadium	-47.3		ng/l							U
Zinc	-50.8		ng/l							U
Initial Cal Check (2410096-ICV1)				Prepared & Analyzed: 10/29/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19200		ng/l	20000		95.9	90-110			
Barium	191000		ng/l	200000		95.7	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	234000		ng/l	240000		97.6	90-110			
Cobalt	48700		ng/l	50000		97.5	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	48900		ng/l	50000		97.7	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	491		ng/l	500.00		98.2	90-110			QB-04
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	475000		ng/l	500000		95.1	90-110			
Interference Check A (2410096-IFA1)				Prepared & Analyzed: 10/29/24						
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	359000		ng/l	300000		120	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			QB-04, U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Batch 2410096 - B4J2207										
Interference Check B (2410096-IFB1)					Prepared & Analyzed: 10/29/24					
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	198000		ng/l	200000		99.2	80-120			
Beryllium	4790		ng/l	5000.0		95.8	80-120			
Cadmium	19400		ng/l	20000		97.2	80-120			
Chromium	236000		ng/l	240000		98.5	80-120			
Cobalt	51300		ng/l	50000		103	80-120			
Copper	2.00E6		ng/l	2.0000E6		99.9	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	491000		ng/l	500000		98.2	80-120			
Molybdenum	415000		ng/l	350000		118	80-120			
Nickel	122000		ng/l	120000		102	80-120			
Selenium	18900		ng/l	20000		94.5	80-120			
Thallium	509		ng/l	500.00		102	80-120			QB-04
Vanadium	18200		ng/l	20000		91.0	80-120			
Zinc	431000		ng/l	500000		86.3	80-120			
Batch B4J2908 - ICP-MS Extraction										
Blank (B4J2908-BLK1)					Prepared & Analyzed: 10/29/24					
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							GC-BS, U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4J2908-BS1)					Prepared & Analyzed: 10/29/24					
Antimony	0.779	0.0386	ng/m³ Air	1.3829		56.4	80-120			SL
Arsenic	2.65	0.00937	ng/m³ Air	2.7658		95.9	80-120			
Barium	26.4	1.07	ng/m³ Air	27.658		95.6	80-120			

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Batch B4J2908 - ICP-MS Extraction										
LCS (B4J2908-BS1) Continued					Prepared & Analyzed: 10/29/24					
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.7	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.9	80-120			
Chromium	13.9	2.21	ng/m³ Air	13.829		101	80-120			
Cobalt	1.34	0.0436	ng/m³ Air	1.3829		97.1	80-120			
Copper	26.4	2.63	ng/m³ Air	27.658		95.5	80-120			
Lead	12.8	0.214	ng/m³ Air	13.829		92.5	80-120			
Manganese	7.67	1.89	ng/m³ Air	8.2975		92.4	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.26	0.652	ng/m³ Air	2.7658		118	80-120			GC-BS
Selenium	2.65	0.00896	ng/m³ Air	2.7658		95.8	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.0	80-120			QB-04
Vanadium	2.66	0.0529	ng/m³ Air	2.7658		96.2	80-120			
Zinc	80.6	76.8	ng/m³ Air	82.975		97.2	80-120			
LCS (B4J2908-BS2)					Prepared: 10/29/24 Analyzed: 10/30/24					
Antimony	0.799	0.0386	ng/m³ Air	1.3829		57.8	80-120			SL
Arsenic	2.75	0.00937	ng/m³ Air	2.7658		99.3	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.5	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	14.2	2.21	ng/m³ Air	13.829		103	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.3	80-120			
Copper	27.1	2.63	ng/m³ Air	27.658		98.0	80-120			
Lead	13.3	0.214	ng/m³ Air	13.829		96.3	80-120			
Manganese	7.91	1.89	ng/m³ Air	8.2975		95.4	80-120			
Molybdenum	1.49	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	4.52	0.652	ng/m³ Air	2.7658		163	80-120			GC-BS
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.7	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		96.6	80-120			QB-04
Vanadium	2.75	0.0529	ng/m³ Air	2.7658		99.6	80-120			
Zinc	83.4	76.8	ng/m³ Air	82.975		101	80-120			
Duplicate (B4J2908-DUP1)		**Source: 4102834-09**			Prepared & Analyzed: 10/29/24					
Antimony	0.134	0.0341	ng/m³ Air		0.135			1.21	10	SL
Arsenic	0.462	0.00829	ng/m³ Air		0.443			4.31	10	
Barium	3.80	0.946	ng/m³ Air		4.33			13.1	10	
Beryllium	0.0170	0.00283	ng/m³ Air		0.0186			9.01	10	
Cadmium	ND	0.0655	ng/m³ Air		ND				10	U
Chromium	3.30	1.95	ng/m³ Air		3.17			4.07	10	
Cobalt	0.582	0.0386	ng/m³ Air		0.636			8.83	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Duplicate (B4J2908-DUP1) Continued			**Source: 4102834-09**		Prepared & Analyzed: 10/29/24					
Copper	22.8	2.33	ng/m³ Air		21.7			4.90	10	
Lead	0.485	0.189	ng/m³ Air		0.448			7.88	10	
Manganese	17.0	1.67	ng/m³ Air		17.1			0.105	10	
Molybdenum	1.61	0.318	ng/m³ Air		1.64			1.84	10	
Nickel	1.69	0.577	ng/m³ Air		1.76			4.24	10	GC-BS
Selenium	0.377	0.00793	ng/m³ Air		0.367			2.79	10	
Thallium	0.00205	5.21E-4	ng/m³ Air		0.00205			0.319	10	QB-04
Vanadium	2.04	0.0468	ng/m³ Air		2.02			1.13	10	
Zinc	ND	67.9	ng/m³ Air		ND				10	U
Duplicate (B4J2908-DUP2)			**Source: 4102834-30**		Prepared: 10/29/24 Analyzed: 10/30/24					
Antimony	0.142	0.0304	ng/m³ Air		0.155			8.68	10	SL
Arsenic	0.197	0.00738	ng/m³ Air		0.189			3.96	10	
Barium	3.94	0.843	ng/m³ Air		3.99			1.31	10	
Beryllium	0.00928	0.00252	ng/m³ Air		0.00928			0.0365	10	
Cadmium	ND	0.0584	ng/m³ Air		ND				10	U
Chromium	ND	1.74	ng/m³ Air		ND				10	U
Cobalt	0.303	0.0343	ng/m³ Air		0.295			2.54	10	
Copper	37.4	2.07	ng/m³ Air		38.0			1.61	10	
Lead	0.508	0.169	ng/m³ Air		0.538			5.86	10	
Manganese	8.53	1.49	ng/m³ Air		8.37			1.84	10	
Molybdenum	1.85	0.283	ng/m³ Air		1.82			1.59	10	
Nickel	1.16	0.514	ng/m³ Air		1.14			1.82	10	GC-BS
Selenium	0.172	0.00706	ng/m³ Air		0.169			2.01	10	
Thallium	7.18E-4	4.64E-4	ng/m³ Air		8.10E-4			12.1	10	QB-04
Vanadium	1.11	0.0417	ng/m³ Air		1.10			0.266	10	
Zinc	ND	60.5	ng/m³ Air		ND				10	U
Duplicate (B4J2908-DUP3)			**Source: 4102834-01**		Prepared: 10/29/24 Analyzed: 10/30/24					
Antimony	0.133	0.0339	ng/m³ Air		0.135			1.93	10	SL
Arsenic	0.673	0.00822	ng/m³ Air		0.669			0.610	10	
Barium	8.43	0.939	ng/m³ Air		8.59			1.83	10	
Beryllium	0.0326	0.00281	ng/m³ Air		0.0319			2.29	10	
Cadmium	ND	0.0650	ng/m³ Air		ND				10	U
Chromium	4.62	1.94	ng/m³ Air		4.68			1.36	10	
Cobalt	1.07	0.0382	ng/m³ Air		1.06			0.710	10	
Copper	55.8	2.31	ng/m³ Air		55.2			0.989	10	
Lead	1.57	0.188	ng/m³ Air		1.59			1.66	10	
Manganese	32.2	1.66	ng/m³ Air		32.7			1.44	10	
Molybdenum	3.35	0.315	ng/m³ Air		3.38			0.994	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Duplicate (B4J2908-DUP3) Continued		**Source: 4102834-01**		Prepared: 10/29/24 Analyzed: 10/30/24						
Nickel	2.54	0.572	ng/m³ Air		2.52			0.552	10	GC-BS
Selenium	0.342	0.00786	ng/m³ Air		0.350			2.17	10	
Thallium	0.00292	5.17E-4	ng/m³ Air		0.00309			5.63	10	QB-04
Vanadium	3.47	0.0464	ng/m³ Air		3.52			1.66	10	
Zinc	ND	67.4	ng/m³ Air		ND				10	U
Duplicate (B4J2908-DUP4)		**Source: 4102834-18**		Prepared: 10/29/24 Analyzed: 10/30/24						
Antimony	0.0968	0.0347	ng/m³ Air		0.0980			1.24	10	SL
Arsenic	0.233	0.00842	ng/m³ Air		0.239			2.81	10	
Barium	3.31	0.961	ng/m³ Air		3.35			1.21	10	
Beryllium	0.0163	0.00287	ng/m³ Air		0.0142			13.8	10	
Cadmium	ND	0.0666	ng/m³ Air		ND				10	U
Chromium	2.69	1.99	ng/m³ Air		2.67			0.813	10	
Cobalt	0.463	0.0392	ng/m³ Air		0.463			0.0848	10	
Copper	21.7	2.36	ng/m³ Air		21.8			0.229	10	
Lead	0.321	0.192	ng/m³ Air		0.323			0.492	10	
Manganese	12.9	1.70	ng/m³ Air		12.9			0.0157	10	
Molybdenum	1.44	0.323	ng/m³ Air		1.42			1.14	10	
Nickel	1.63	0.586	ng/m³ Air		1.63			0.174	10	GC-BS
Selenium	0.246	0.00805	ng/m³ Air		0.256			4.27	10	
Thallium	0.00130	5.29E-4	ng/m³ Air		0.00125			4.08	10	QB-04
Vanadium	1.33	0.0475	ng/m³ Air		1.32			0.871	10	
Zinc	ND	69.0	ng/m³ Air		ND				10	U
Matrix Spike (B4J2908-MS1)		**Source: 4102834-09**		Prepared & Analyzed: 10/29/24						
Antimony	0.737	0.0341	ng/m³ Air	1.2233	0.135	49.2	80-120			SL
Arsenic	2.77	0.00829	ng/m³ Air	2.4466	0.443	94.9	80-120			
Barium	26.8	0.946	ng/m³ Air	24.466	4.33	91.8	80-120			
Beryllium	1.18	0.00283	ng/m³ Air	1.2233	0.0186	95.1	80-120			
Cadmium	1.24	0.0655	ng/m³ Air	1.2233	ND	101	80-120			
Chromium	14.6	1.95	ng/m³ Air	12.233	3.17	93.3	80-120			
Cobalt	1.82	0.0386	ng/m³ Air	1.2233	0.636	96.9	80-120			
Copper	47.5	2.33	ng/m³ Air	24.466	21.7	106	80-120			
Lead	12.3	0.189	ng/m³ Air	12.233	0.448	96.8	80-120			
Manganese	23.6	1.67	ng/m³ Air	7.3396	17.1	89.7	80-120			
Molybdenum	2.70	0.318	ng/m³ Air	1.2233	1.64	86.1	80-120			
Nickel	4.91	0.577	ng/m³ Air	2.4466	1.76	129	80-120			GC-BS, QM-07
Selenium	2.70	0.00793	ng/m³ Air	2.4466	0.367	95.2	80-120			
Thallium	0.119	5.21E-4	ng/m³ Air	0.12233	0.00205	95.8	80-120			QB-04
Vanadium	4.32	0.0468	ng/m³ Air	2.4466	2.02	93.9	80-120			

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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 B4J2908 - ICP-MS Extraction										
Matrix Spike (B4J2908-MS1) Continued	**Source: 4102834-09**			Prepared & Analyzed: 10/29/24						
Zinc	80.4	67.9	ng/m³ Air	73.396	ND	110	80-120			
Matrix Spike (B4J2908-MS2)	**Source: 4102834-30**			Prepared: 10/29/24		Analyzed: 10/30/24				
Antimony	0.807	0.0304	ng/m³ Air	1.0893	0.155	59.8	80-120			SL
Arsenic	2.31	0.00738	ng/m³ Air	2.1787	0.189	97.3	80-120			
Barium	24.7	0.843	ng/m³ Air	21.787	3.99	94.8	80-120			
Beryllium	1.11	0.00252	ng/m³ Air	1.0893	0.00928	101	80-120			
Cadmium	1.11	0.0584	ng/m³ Air	1.0893	ND	102	80-120			
Chromium	12.1	1.74	ng/m³ Air	10.893	ND	111	80-120			
Cobalt	1.38	0.0343	ng/m³ Air	1.0893	0.295	99.7	80-120			
Copper	60.6	2.07	ng/m³ Air	21.787	38.0	104	80-120			
Lead	11.2	0.169	ng/m³ Air	10.893	0.538	98.2	80-120			
Manganese	14.1	1.49	ng/m³ Air	6.5360	8.37	87.4	80-120			
Molybdenum	2.86	0.283	ng/m³ Air	1.0893	1.82	95.1	80-120			
Nickel	3.46	0.514	ng/m³ Air	2.1787	1.14	106	80-120			GC-BS
Selenium	2.26	0.00706	ng/m³ Air	2.1787	0.169	95.9	80-120			
Thallium	0.106	4.64E-4	ng/m³ Air	0.10893	8.10E-4	96.5	80-120			QB-04
Vanadium	3.16	0.0417	ng/m³ Air	2.1787	1.10	94.5	80-120			
Zinc	74.4	60.5	ng/m³ Air	65.360	ND	114	80-120			
Matrix Spike Dup (B4J2908-MSD1)	**Source: 4102834-09**			Prepared & Analyzed: 10/29/24						
Antimony	0.748	0.0341	ng/m³ Air	1.2233	0.135	50.1	80-120	1.49	20	SL
Arsenic	2.78	0.00829	ng/m³ Air	2.4466	0.443	95.7	80-120	0.636	20	
Barium	26.4	0.946	ng/m³ Air	24.466	4.33	90.2	80-120	1.49	20	
Beryllium	1.17	0.00283	ng/m³ Air	1.2233	0.0186	94.4	80-120	0.732	20	
Cadmium	1.27	0.0655	ng/m³ Air	1.2233	ND	104	80-120	2.95	20	
Chromium	15.1	1.95	ng/m³ Air	12.233	3.17	97.5	80-120	3.49	20	
Cobalt	1.80	0.0386	ng/m³ Air	1.2233	0.636	95.4	80-120	1.04	20	
Copper	47.3	2.33	ng/m³ Air	24.466	21.7	105	80-120	0.522	20	
Lead	12.3	0.189	ng/m³ Air	12.233	0.448	96.8	80-120	0.0177	20	
Manganese	23.3	1.67	ng/m³ Air	7.3396	17.1	84.5	80-120	1.63	20	
Molybdenum	2.71	0.318	ng/m³ Air	1.2233	1.64	87.1	80-120	0.466	20	
Nickel	4.39	0.577	ng/m³ Air	2.4466	1.76	107	80-120	11.4	20	GC-BS
Selenium	2.70	0.00793	ng/m³ Air	2.4466	0.367	95.4	80-120	0.188	20	
Thallium	0.119	5.21E-4	ng/m³ Air	0.12233	0.00205	95.4	80-120	0.374	20	QB-04
Vanadium	4.28	0.0468	ng/m³ Air	2.4466	2.02	92.4	80-120	0.856	20	
Zinc	80.7	67.9	ng/m³ Air	73.396	ND	110	80-120	0.372	20	
Matrix Spike Dup (B4J2908-MSD2)	**Source: 4102834-30**			Prepared: 10/29/24		Analyzed: 10/30/24				
Antimony	0.767	0.0304	ng/m³ Air	1.0893	0.155	56.2	80-120	5.01	20	SL
Arsenic	2.29	0.00738	ng/m³ Air	2.1787	0.189	96.4	80-120	0.841	20	

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

FILE #: 4205.00.003.001
REPORTED: 11/06/24 13:31
SUBMITTED: 10/28/24
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 B4J2908 - ICP-MS Extraction										
Matrix Spike Dup (B4J2908-MSD2) Contir			**Source: 4102834-30**		Prepared: 10/29/24		Analyzed: 10/30/24			
Barium	23.9	0.843	ng/m³ Air	21.787	3.99	91.4	80-120	3.09	20	
Beryllium	1.06	0.00252	ng/m³ Air	1.0893	0.00928	96.2	80-120	5.20	20	
Cadmium	1.11	0.0584	ng/m³ Air	1.0893	ND	102	80-120	0.639	20	
Chromium	11.9	1.74	ng/m³ Air	10.893	ND	109	80-120	2.28	20	
Cobalt	1.37	0.0343	ng/m³ Air	1.0893	0.295	98.9	80-120	0.627	20	
Copper	62.2	2.07	ng/m³ Air	21.787	38.0	111	80-120	2.64	20	
Lead	11.2	0.169	ng/m³ Air	10.893	0.538	98.1	80-120	0.101	20	
Manganese	13.9	1.49	ng/m³ Air	6.5360	8.37	84.0	80-120	1.58	20	
Molybdenum	2.94	0.283	ng/m³ Air	1.0893	1.82	103	80-120	2.87	20	
Nickel	3.44	0.514	ng/m³ Air	2.1787	1.14	105	80-120	0.588	20	GC-BS
Selenium	2.26	0.00706	ng/m³ Air	2.1787	0.169	96.2	80-120	0.341	20	
Thallium	0.105	4.64E-4	ng/m³ Air	0.10893	8.10E-4	95.6	80-120	0.846	20	QB-04
Vanadium	3.13	0.0417	ng/m³ Air	2.1787	1.10	92.9	80-120	1.16	20	
Zinc	72.3	60.5	ng/m³ Air	65.360	ND	111	80-120	2.96	20	
Post Spike (B4J2908-PS1)			**Source: 4102834-09**		Prepared & Analyzed: 10/29/24					
Antimony	0.382	0.0341	ng/m³ Air	0.24466	0.135	101	75-125			SL
Arsenic	1.60	0.00829	ng/m³ Air	1.2233	0.443	94.3	75-125			
Barium	6.68	0.946	ng/m³ Air	2.4466	4.33	95.8	75-125			
Beryllium	0.255	0.00283	ng/m³ Air	0.24466	0.0186	96.7	75-125			
Cadmium	0.155	0.0655	ng/m³ Air	0.12233	ND	127	75-125			
Chromium	4.38	1.95	ng/m³ Air	1.2233	3.17	98.8	75-125			
Cobalt	0.901	0.0386	ng/m³ Air	0.24466	0.636	108	75-125			
Copper	36.2	2.33	ng/m³ Air	12.233	21.7	119	75-125			
Lead	24.7	0.189	ng/m³ Air	24.466	0.448	99.0	75-125			
Manganese	19.5	1.67	ng/m³ Air	2.4466	17.1	98.9	75-125			
Molybdenum	2.81	0.318	ng/m³ Air	1.2233	1.64	95.0	75-125			
Nickel	4.32	0.577	ng/m³ Air	2.4466	1.76	105	75-125			GC-BS
Selenium	1.52	0.00793	ng/m³ Air	1.2233	0.367	94.0	75-125			
Thallium	0.0619	5.21E-4	ng/m³ Air	6.1164E-2	0.00205	97.8	75-125			QB-04
Vanadium	3.17	0.0468	ng/m³ Air	1.2233	2.02	94.0	75-125			
Zinc	ND	67.9	ng/m³ Air	24.466	ND		75-125			U
Post Spike (B4J2908-PS2)			**Source: 4102834-30**		Prepared: 10/29/24		Analyzed: 10/30/24			
Antimony	0.367	0.0304	ng/m³ Air	0.21787	0.155	97.2	75-125			SL
Arsenic	1.20	0.00738	ng/m³ Air	1.0893	0.189	93.2	75-125			
Barium	5.87	0.843	ng/m³ Air	2.1787	3.99	85.9	75-125			
Beryllium	0.221	0.00252	ng/m³ Air	0.21787	0.00928	97.1	75-125			
Cadmium	0.122	0.0584	ng/m³ Air	0.10893	ND	112	75-125			
Chromium	2.59	1.74	ng/m³ Air	1.0893	ND	238	75-125			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Post Spike (B4J2908-PS2) Continued		**Source: 4102834-30**		Prepared: 10/29/24		Analyzed: 10/30/24				
Cobalt	0.517	0.0343	ng/m³ Air	0.21787	0.295	102	75-125			
Copper	49.9	2.07	ng/m³ Air	10.893	38.0	110	75-125			
Lead	22.1	0.169	ng/m³ Air	21.787	0.538	99.1	75-125			
Manganese	10.3	1.49	ng/m³ Air	2.1787	8.37	86.5	75-125			
Molybdenum	2.82	0.283	ng/m³ Air	1.0893	1.82	91.5	75-125			
Nickel	3.40	0.514	ng/m³ Air	2.1787	1.14	104	75-125			GC-BS
Selenium	1.19	0.00706	ng/m³ Air	1.0893	0.169	93.7	75-125			
Thallium	0.0527	4.64E-4	ng/m³ Air	5.4467E-2	8.10E-4	95.2	75-125			QB-04
Vanadium	2.11	0.0417	ng/m³ Air	1.0893	1.10	92.0	75-125			
Zinc	ND	60.5	ng/m³ Air	21.787	ND		75-125			U
Dilution Check (B4J2908-SRL1)		**Source: 4102834-09**		Prepared & Analyzed: 10/29/24						
Antimony	ND	0.171	ng/m³ Air		ND				10	SL, U
Arsenic	0.467	0.0414	ng/m³ Air		0.443			5.21	10	
Barium	ND	4.73	ng/m³ Air		ND				10	U
Beryllium	0.0184	0.0142	ng/m³ Air		0.0186			0.635	10	
Cadmium	ND	0.328	ng/m³ Air		ND				10	U
Chromium	ND	9.77	ng/m³ Air		ND				10	U
Cobalt	0.655	0.193	ng/m³ Air		0.636			2.89	10	
Copper	22.5	11.6	ng/m³ Air		21.7			3.83	10	
Lead	ND	0.946	ng/m³ Air		ND				10	U
Manganese	17.4	8.36	ng/m³ Air		17.1			1.85	10	
Molybdenum	1.67	1.59	ng/m³ Air		1.64			1.92	10	
Nickel	ND	2.88	ng/m³ Air		ND				10	GC-BS, U
Selenium	0.379	0.0396	ng/m³ Air		0.367			3.26	10	
Thallium	0.00377	0.00261	ng/m³ Air		ND			59.4	10	QB-04
Vanadium	1.97	0.234	ng/m³ Air		2.02			2.48	10	
Zinc	ND	340	ng/m³ Air		ND				10	U
Dilution Check (B4J2908-SRL2)		**Source: 4102834-30**		Prepared: 10/29/24		Analyzed: 10/30/24				
Antimony	ND	0.152	ng/m³ Air		0.155				10	SL, U
Arsenic	0.196	0.0369	ng/m³ Air		0.189			3.73	10	
Barium	ND	4.21	ng/m³ Air		ND				10	U
Beryllium	ND	0.0126	ng/m³ Air		ND				10	U
Cadmium	ND	0.292	ng/m³ Air		ND				10	U
Chromium	ND	8.70	ng/m³ Air		ND				10	U
Cobalt	0.299	0.172	ng/m³ Air		0.295			1.33	10	
Copper	36.1	10.4	ng/m³ Air		38.0			5.02	10	
Lead	ND	0.843	ng/m³ Air		ND				10	U
Manganese	8.35	7.44	ng/m³ Air		8.37			0.245	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4J2908 - ICP-MS Extraction										
Dilution Check (B4J2908-SRL2) Continued				**Source: 4102834-30**		Prepared: 10/29/24		Analyzed: 10/30/24		
Molybdenum	1.80	1.41	ng/m³ Air		1.82			1.35	10	
Nickel	ND	2.57	ng/m³ Air		ND				10	GC-BS, U
Selenium	0.176	0.0353	ng/m³ Air		0.169			4.45	10	
Thallium	0.00242	0.00232	ng/m³ Air		ND			99.7	10	QB-04
Vanadium	1.06	0.208	ng/m³ Air		1.10			3.99	10	
Zinc	ND	302	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.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
LB	Lab blank value above acceptable limit.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/07/2024 and Shanna Vasser 11/11/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/17/2024 – 10/23/2024
Report No: 4102834

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, barium, cobalt, copper, lead, selenium, and vanadium in MFL-FB01-101724-HM; for antimony, arsenic, cobalt, and selenium in MFL-FB01-101924-HM; arsenic in MFL-LB01-102024-HM and MFL-FB01-102124-HM; and barium and copper in MFL-FB01-102324-HM.

Notes: None.