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

October 31 through November 6, 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 31 through November 6, 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 31 through November 6 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.

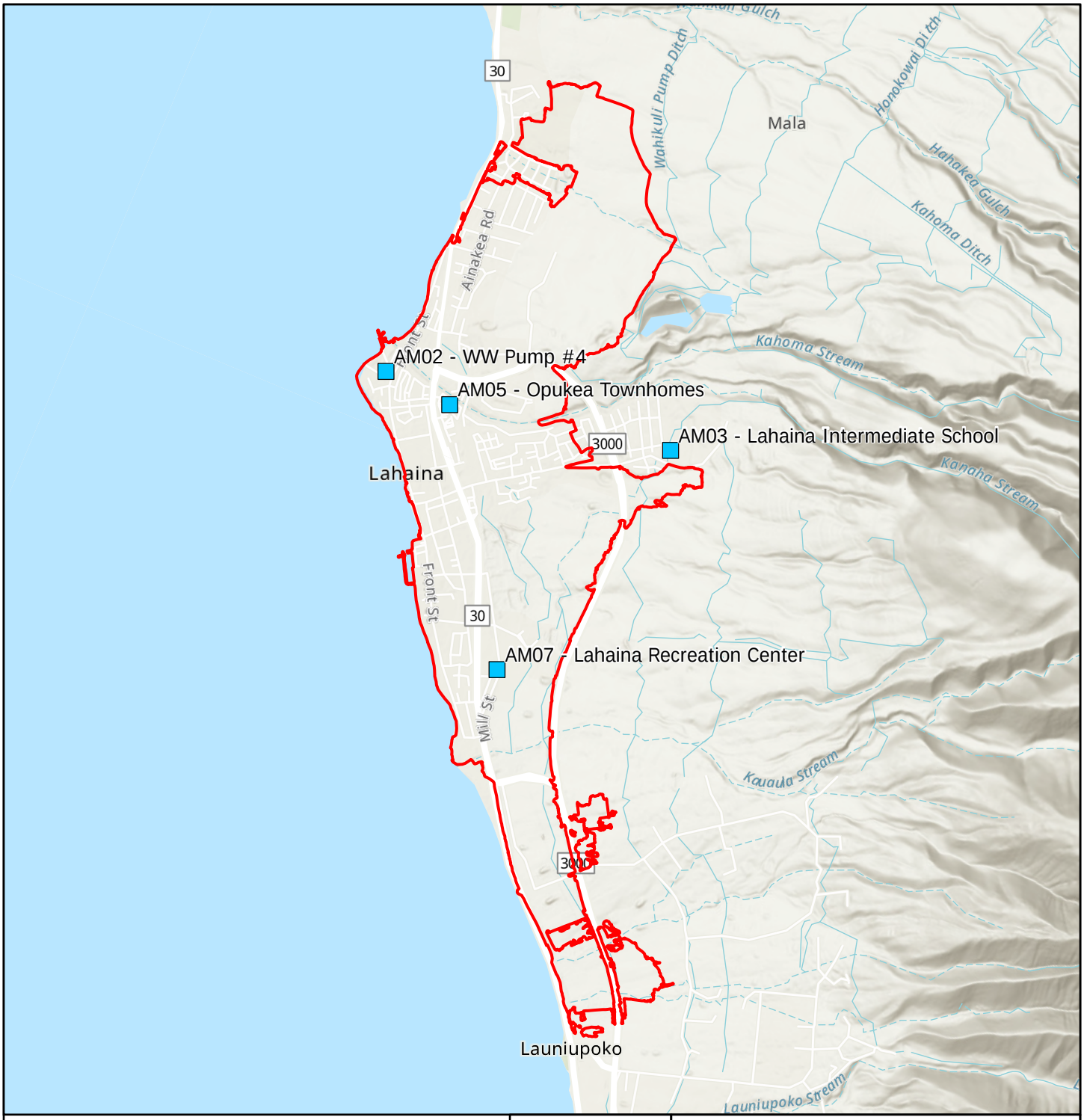
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- 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 31 through November 6, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
10/31/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	7.4
	Lahaina Intermediate School (AM-03)	4.9
	Lahaina Recreation Center (AM-07)	6.0
11/1/2024	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	4.9
	Lahaina Recreation Center (AM-07)	5.6
11/2/2024	Opukea Townhomes (AM-05)	9.5
	WW Pump Station #4 (AM-02)	8.6
	Lahaina Intermediate School (AM-03)	6.6
	Lahaina Recreation Center (AM-07)	4.8
11/3/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	8.1
	Lahaina Recreation Center (AM-07)	5.4
11/4/2024	Opukea Townhomes (AM-05)	9.4
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	6.8
	Lahaina Recreation Center (AM-07)	5.7
11/5/2024	Opukea Townhomes (AM-05)	9.7
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	9.5
	Lahaina Recreation Center (AM-07)	100
11/6/2024	Opukea Townhomes (AM-05)	13
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Recreation Center (AM-07)	6.0

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 31 through November 6, 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
10/31/2024	Opukea Townhomes (AM-05)	<0.0024	0.000238	0.000903	0.00838	0.0000244	ND	0.00467	0.00106	0.0713	0.00250	0.0264	0.00229	0.00348	0.000210	0.00000211	0.00296	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000112	0.000371	0.00662	0.0000235	ND	0.00366	0.000982	0.0388	0.00106	0.0328	0.00152	0.00255	0.000210	0.00000215	0.00270	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000624	0.000136	0.00270	0.0000170	ND	0.00228	0.000347	0.0607	0.000352	0.00888	0.00237	0.00137	0.000164	0.00000112	0.000953	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000856	0.000582	0.00497	0.0000259	ND	0.00395	0.000888	0.0325	0.000596	0.0295	0.00156	0.00221	0.000244	0.00000183	0.00238	ND
11/1/2024	Opukea Townhomes (AM-05)	<0.0024	0.000155	0.000643	0.00727	0.0000230	ND	0.00462	0.00104	0.0613	0.00160	0.0252	0.00229	0.00317	0.000201	0.00000165	0.00285	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000134	0.000312	0.00576	0.0000176	ND	0.00294	0.000662	0.0575	0.00107	0.0206	0.00194	0.00202	0.000188	0.00000137	0.00196	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000560	0.000106	0.00234	0.00000973	ND	0.00195	0.000284	0.0766	0.000265	0.00717	0.00244	0.00119	0.000138	0.000000892	0.000756	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000819	0.000317	0.00325	0.0000130	ND	0.00282	0.000449	0.0335	0.000487	0.0147	0.00136	0.00141	0.000172	0.00000114	0.00133	ND
11/2/2024	Opukea Townhomes (AM-05)	<0.0024	0.000157	0.000626	0.00362	0.00000666	ND	ND	0.000261	0.0417	0.00108	0.00771	0.00128	0.00126	0.000149	0.00000193	0.000869	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000297	0.000311	0.00708	0.0000138	ND	0.00252	0.000453	0.0335	0.00106	0.0147	0.00155	0.00161	0.000213	0.00000236	0.00164	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000640	0.000131	0.00221	0.00000728	ND	ND	0.000236	0.0339	0.000418	0.00607	0.00136	0.00111	0.000184	0.00000211	0.000869	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000829	0.000215	0.00252	0.00000765	ND	0.00230	0.000276	0.0293	0.000367	0.00916	0.00151	0.00137	0.000195	0.00000206	0.00103	ND
11/3/2024	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000287	0.00312	0.00000474	ND	ND	0.000171	0.0328	0.000865	0.00562	0.00121	0.00112	0.000218	0.00000161	0.000874	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000249	0.000773	0.00585	0.0000105	ND	0.00263	0.000337	0.0337	0.00143	0.0112	0.00182	0.00179	0.000233	0.00000176	0.00148	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000533	0.0000878	0.00205	0.00000470	ND	ND	0.000132	0.0385	0.000342	0.00389	0.00155	0.00125	0.000221	0.00000145	0.000703	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000106	0.0000898	0.00193	0.00000342	ND	ND	0.000108	0.0195	0.000297	0.00363	0.00120	0.000820	0.000181	0.00000127	0.000627	ND
11/4/2024	Opukea Townhomes (AM-05)	<0.0024	0.000138	0.000413	0.00475	0.0000103	ND	0.00224	0.000410	0.0281	0.00106	0.0120	0.00137	0.00189	0.000217	0.00000116	0.00134	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000236	0.000391	0.00755	0.0000161	ND	0.00277	0.000575	0.0363	0.00113	0.0177	0.00199	0.00190	0.000238	0.00000125	0.00189	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000517	0.000125	0.00214	0.00000960	ND	ND	0.000203	0.0338	0.000240	0.00560	0.00141	0.000927	0.000172	0.000000996	0.000654	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000909	0.000282	0.00324	0.0000105	ND	0.00218	0.000364	0.0217	0.000366	0.0127	0.00131	0.00123	0.000189	0.00000115	0.00112	ND
11/5/2024	Opukea Townhomes (AM-05)	<0.0024	0.000135	0.000357	0.00420	0.00000732	ND	ND	0.000251	0.0296	0.000834	0.00863	0.00162	0.00118	0.000233	0.000000853	0.00106	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000120	0.000375	0.00344	0.00000791	ND	0.00181	0.000250	0.0316	0.000607	0.00884	0.00157	0.00136	0.000216	0.000000680	0.00106	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000687	0.000168	0.00321	0.0000119	ND	0.00212	0.000386	0.0251	0.000277	0.0112	0.00122	0.00142	0.000247	0.000000802	0.00138	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000133	0.000269	0.00299	0.0000100	ND	0.00194	0.000354	0.0194	0.000258	0.0130	0.00124	0.00163	0.000240	0.00000101	0.00132	ND
11/6/2024	Opukea Townhomes (AM-05)	<0.0024	0.000124	0.000641	0.0106	0.0000387	ND	0.00759	0.00194	0.0343	0.00123	0.0469	0.00180	0.00566	0.000355	0.00000284	0.00541	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000153	0.000553	0.00895	0.0000276	0.0000905	0.00452	0.000991	0.0451	0.00194	0.0295	0.00205	0.00306	0.000336	0.00000228	0.00333	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000576	0.000224	0.00454	0.0000458	ND	0.00452	0.000896	0.0344	0.000628	0.0222	0.00187	0.00264	0.000320	0.00000213	0.00222	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000848	0.000402	0.00408	0.0000144	ND	0.00310	0.000549	0.0219	0.000547	0.0177	0.00128	0.00177	0.000234	0.00000193	0.00162	ND
95% Upper Confidence Limit[2]		NA	0.000150	0.000480	0.00555	0.0000200	NA	0.00373	0.000710	0.0428	0.000108	0.0204	0.00177	0.00217	0.000240	0.00000180	0.00202	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 31, through November 6, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
10/31/2024	AM-02	WW Pump Station #4	1.0	SSE	81	65	763.2
10/31/2024	AM-03	Lahaina Intermediate School	1.2	SE	80	64	753.8
10/31/2024	AM-05	Opukea Townhomes	1.2	ESE	81	62	762.7
10/31/2024	AM-07	Lahaina Recreational Center	1.2	SSE	82	66	762.5
11/1/2024	AM-02	WW Pump Station #4	0.8	S	80	66	762.8
11/1/2024	AM-03	Lahaina Intermediate School	1.1	SE	80	63	753.5
11/1/2024	AM-05	Opukea Townhomes	1.1	SE	81	62	762.4
11/1/2024	AM-07	Lahaina Recreational Center	1.1	SE	81	66	762.2
11/2/2024	AM-02	WW Pump Station #4	0.9	SSE	79	65	762.0
11/2/2024	AM-03	Lahaina Intermediate School	1.0	SE	78	64	752.6
11/2/2024	AM-05	Opukea Townhomes	1.0	SE	80	61	761.5
11/2/2024	AM-07	Lahaina Recreational Center	1.4	SSE	79	68	761.3
11/3/2024	AM-02	WW Pump Station #4	1.0	SSE	79	68	761.6
11/3/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	66	752.3
11/3/2024	AM-05	Opukea Townhomes	1.2	SE	80	65	761.1
11/3/2024	AM-07	Lahaina Recreational Center	1.3	SE	80	69	760.9
11/4/2024	AM-02	WW Pump Station #4	0.8	S	80	72	761.5
11/4/2024	AM-03	Lahaina Intermediate School	0.9	SE	80	70	752.2
11/4/2024	AM-05	Opukea Townhomes	0.9	SE	81	68	761.1
11/4/2024	AM-07	Lahaina Recreational Center	1.2	SSE	81	73	760.8
11/5/2024	AM-02	WW Pump Station #4	0.8	S	81	77	762.5
11/5/2024	AM-03	Lahaina Intermediate School	1.1	SE	80	74	753.2
11/5/2024	AM-05	Opukea Townhomes	1.2	SSE	81	73	762.1
11/5/2024	AM-07	Lahaina Recreational Center	1.3	SSE	82	77	761.9
11/6/2024	AM-02	WW Pump Station #4	1.5	ESE	81	63	762.2
11/6/2024	AM-03	Lahaina Intermediate School	1.7	E	80	61	752.8
11/6/2024	AM-05	Opukea Townhomes	1.9	E	81	59	761.7
11/6/2024	AM-07	Lahaina Recreational Center	1.7	SE	82	62	761.4

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:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-103124-AB**	**Sample Description:**	**DL267354**
EMSL Sample Number:	042422951-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7065.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042422951
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: 042422951-0001 **Customer Sample:** MFL-AM05-103124-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	I5	None Detected									
B1	G8	None Detected									
B1	C8	None Detected									
B2	H5	None Detected									
B2	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:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-103124-AB**	**Sample Description:**	**DL267687**
EMSL Sample Number:	042422951-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6688.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**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: 042422951
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: 042422951-0002 **Customer Sample:** MFL-AM02-103124-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	J6	None Detected									
B5	H4	None Detected									
B5	B2	None Detected									
B6	H2	None Detected									
B6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-103124-AB**	**Sample Description:**	**DL267399**
EMSL Sample Number:	042422951-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7156.8
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 %:	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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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: 042422951-0003 **Customer Sample:** MFL-AM03-103124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A4	None Detected									
C2	D8	None Detected									
C2	F10	None Detected									
C3	A7	None Detected									
C3	G10	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:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-103124-AB**	**Sample Description:**	**DL267526**
EMSL Sample Number:	042422951-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7225.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042422951-0004 **Customer Sample:** MFL-AM07-103124-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	A9	None Detected									
C5	C6	None Detected									
C5	J6	None Detected									
C6	G6	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:	042422951
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Project ID:	N/A

Attn: **Chelsea Saber**
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-103124-AB** **Sample Description: DL267602**

EMSL Sample Number:	042422951-0005		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: 042422951
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: 042422951-0005 **Customer Sample:** MFL-FB01-103124-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	A6	None Detected									
D2	C4	None Detected									
D2	E7	None Detected									
D2	G4	None Detected									
D2	I2	None Detected									
D3	J7	None Detected									
D3	H4	None Detected									
D3	F8	None Detected									
D3	D6	None Detected									
D3	B3	None Detected									

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

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EMSL Order:	042422951
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Project ID:	N/A

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Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110124-AB**	**Sample Description:**	**DL267513**
EMSL Sample Number:	042422951-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7203.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042422951-0006 **Customer Sample:** MFL-AM05-110124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	H3	None Detected									
D5	C5	None Detected									
D6	A6	None Detected									
D6	G7	None Detected									

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

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110124-AB**	**Sample Description:**	**DL267635**
EMSL Sample Number:	042422951-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7331.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042422951
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: 042422951-0007 **Customer Sample:** MFL-AM02-110124-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	C9	None Detected									
E1	F7	None Detected									
E1	H1	None Detected									
E2	B2	None Detected									
E2	H5	None Detected									

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

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

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Project: **Maui Fires Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-110124-AB** **Sample Description:** **DL267617**

EMSL Sample Number:	042422951-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7119.6
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 %:	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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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: 042422951-0008 **Customer Sample:** MFL-AM03-110124-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	A5	None Detected									
E5	E8	None Detected									
E5	H6	None Detected									
E6	I4	None Detected									
E6	C2	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:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-110124-AB** **Sample Description:** **DL267470**

EMSL Sample Number:	042422951-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7339.8
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: 042422951
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: 042422951-0009 **Customer Sample:** MFL-AM07-110124-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	G6	None Detected									
F1	D8	None Detected									
F1	B5	None Detected									
F2	C6	None Detected									
F2	H9	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-FB01-110124-AB** **Sample Description:** **DL267406**

EMSL Sample Number:	042422951-0010		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:	**042422951**
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: 042422951-0010 **Customer Sample:** MFL-FB01-110124-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	J6	None Detected									
F5	H1	None Detected									
F5	F4	None Detected									
F5	D3	None Detected									
F5	A2	None Detected									
F6	A6	None Detected									
F6	A8	None Detected									
F6	E7	None Detected									
F6	G4	None Detected									
F6	J10	None Detected									

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

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Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-110224-AB** **Sample Description:** **DL267626**

EMSL Sample Number:	042422951-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7116.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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EMSL Order ID: 042422951
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: 042422951-0011 **Customer Sample:** MFL-AM05-110224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B3	None Detected									
G2	D4	None Detected									
G2	I7	None Detected									
G3	J5	None Detected									
G3	D6	None Detected									

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

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

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Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110224-AB**	**Sample Description:**	**DL267441**
EMSL Sample Number:	042422951-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6857.6
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):	**0.0009**	**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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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: 042422951-0012 **Customer Sample:** MFL-AM02-110224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A7	None Detected									
G5	D6	None Detected									
G5	F3	None Detected									
G6	D3	None Detected									
G6	I7	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:	11/06/2024 09:30 AM
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Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110224-AB**	**Sample Description:**	**DL267532**
EMSL Sample Number:	042422951-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7167.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042422951-0013 **Customer Sample:** MFL-AM03-110224-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	D8	None Detected									
H1	F3	None Detected									
H1	I3	None Detected									
H2	B3	None Detected									
H2	G6	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110224-AB**	**Sample Description:**	**DL267600**
EMSL Sample Number:	042422951-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7116.3
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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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: 042422951-0014 **Customer Sample:** MFL-AM07-110224-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	A4	None Detected									
H5	D6	None Detected									
H5	G9	None Detected									
H6	C7	None Detected									
H6	I5	None Detected									

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

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

Attn: **Chelsea Saber**
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Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110224-AB** **Sample Description:** **DL267338**

EMSL Sample Number:	042422951-0015		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

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EMSL Order ID:	**042422951**
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: 042422951-0015 **Customer Sample:** MFL-FB01-110224-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					
I2	J4	None Detected									
I2	H5	None Detected									
I2	F1	None Detected									
I2	D3	None Detected									
I2	B5	None Detected									
I3	A6	None Detected									
I3	C7	None Detected									
I3	E7	None Detected									
I3	G4	None Detected									
I3	I10	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:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110324-AB**	**Sample Description:**	**DL267485**
EMSL Sample Number:	042422951-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7152.0
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: 042422951
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: 042422951-0016 **Customer Sample:** MFL-AM05-110324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J7	None Detected									
I5	G5	None Detected									
I5	D6	None Detected									
I6	C5	None Detected									
I6	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:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-110324-AB** **Sample Description: DL267520**

EMSL Sample Number:	042422951-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7049.8
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: 042422951
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: 042422951-0017 **Customer Sample:** MFL-AM02-110324-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	J7	None Detected									
J1	G8	None Detected									
J1	D5	None Detected									
J2	B7	None Detected									
J2	H10	None Detected									

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

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

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Received Date:	11/06/2024 09:30 AM
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Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-110324-AB** **Sample Description:** **DL267527**

EMSL Sample Number:	042422951-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7138.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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: 042422951
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: 042422951-0018 **Customer Sample:** MFL-AM03-110324-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	A10	None Detected									
J5	E8	None Detected									
J5	H6	None Detected									
J6	H3	None Detected									
J6	D6	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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Fax:	N/A
Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110324-AB**	**Sample Description:**	**DL267346**
EMSL Sample Number:	042422951-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7227.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	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: 042422951
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: 042422951-0019 **Customer Sample:** MFL-AM07-110324-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	A6	None Detected									
K1	D10	None Detected									
K1	H6	None Detected									
K2	H8	None Detected									
K2	C5	None Detected									

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

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EMSL Order:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110324-AB** **Sample Description: DL267614**

EMSL Sample Number:	042422951-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
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:	**042422951**
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: 042422951-0020 **Customer Sample:** MFL-FB01-110324-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	A5	None Detected									
K5	C8	None Detected									
K5	E4	None Detected									
K5	G6	None Detected									
K5	H5	None Detected									
K6	J3	None Detected									
K6	H6	None Detected									
K6	F8	None Detected									
K6	F7	None Detected									
K6	A5	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:	042422951
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/06/2024 09:30 AM
Analysis Date:	11/11/2024
Report Date:	11/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042422951-0021		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: 042422951
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: 042422951-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J5	None Detected									
A1	H1	None Detected									
A1	F2	None Detected									
A1	D6	None Detected									
A1	B3	None Detected									
A2	A10	None Detected									
A2	C1	None Detected									
A2	E2	None Detected									
A2	G5	None Detected									
A2	I3	None Detected									

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

OrderID: 042422951

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422951

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

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

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

RECEIVED EMSL CINNAMINSON, NJ 24 NOV -6 AM 9:40

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: Sheina Epstein
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

☐ 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-AM05-103124-AB	DL267354	7,065.154	10/31/24 1105
MFL-AM02-103124-AB	DL267687	6,688.911	10/31/24 1120
MFL-AM03-103124-AB	DL267399	7,156.763	10/31/24 1258
MFL-AM07-103124-AB	DL267526	7,225.568	10/31/24 1318
MFL-FB01-103124-AB	DL267602	0	10/31/24 1200
MFL-AM05-110124-AB	DL267513	7,203.744	11/01/24 1109
MFL-AM02-110124-AB	DL267635	7,331.638	11/01/24 1145
MFL-AM03-110124-AB	DL267617	7,119.618	11/01/24 1252

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

All samples received acceptable for analysis.

20 SP

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 11/04/24 1100 Received by: FedEx Date/Time 11/6/24 9:30A

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

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

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

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042422951

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-AM07-110124-AB	DL267470	7,339.842	11/01/24 1340
MFL-FB01-110124-AB	DL267406	0	11/01/24 1200
MFL-AM05-110224-AB	DL267626	7,116.472	11/02/24 1059
MFL-AM02-110224-AB	DL267441	6,857.557	11/02/24 1117
MFL-AM03-110224-AB	DL267532	7,167.659	11/02/24 1255
MFL-AM07-110224-AB	DL267600	7,116.270	11/02/24 1318
MFL-FB01-110224-AB	DL267338	0	11/02/24 1200
MFL-AM05-110324-AB	DL267485	7,151.960	11/03/24 1059
MFL-AM02-110324-AB	DL267520	7,049.759	11/03/24 1113
MFL-AM03-110324-AB	DL267527	7,138.882	11/03/24 1252
MFL-AM07-110324-AB	DL267346	7,227.862	11/03/24 1315
MFL-FB01-110324-AB	DL267614	0	11/03/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 NOV -6 AM 9:40

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: Shanna Epstein	Date/Time: 11/04/24 1100	Received by: FedEx	Date/Time: 11/6/24 9:30A
Relinquished by:	Date/Time:	Received by:	Date/Time:

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/12/2024 and Shanna Vasser 11/15/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/31/2024 – 11/03/2024
Report No: 42422951

√	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110424-AB**		**Sample Description:**	**DL267492**
EMSL Sample Number:	042423253-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7187.6
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253
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: 042423253-0001 **Customer Sample:** MFL-AM05-110424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B4	None Detected									
A5	D3	None Detected									
A6	J8	None Detected									
A6	H7	None Detected									
A7	A5	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110424-AB**	**Sample Description:**	**DL267411**
EMSL Sample Number:	042423253-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6918.0
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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

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: 042423253
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: 042423253-0002 **Customer Sample:** MFL-AM02-110424-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	C9	None Detected									
B1	A7	None Detected									
B3	D6	None Detected									
B3	E5	None Detected									
B4	J8	None Detected									

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

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

EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110424-AB**	**Sample Description:**	**DL267378**
EMSL Sample Number:	042423253-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7175.5
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
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EMSL Order ID: 042423253
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: 042423253-0003 **Customer Sample:** MFL-AM03-110424-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	C2	None Detected									
B5	E1	None Detected									
B6	J8	None Detected									
B6	I7	None Detected									
B7	H6	None Detected									

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

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EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110424-AB**		**Sample Description:**	**DL267484**
EMSL Sample Number:	042423253-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7253.7
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253
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: 042423253-0004 **Customer Sample:** MFL-AM07-110424-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	A7	None Detected									
C1	B8	None Detected									
C2	D5	None Detected									
C2	F6	None Detected									
C3	J9	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-110424-AB**		**Sample Description:**	**DL267368**
EMSL Sample Number:	042423253-0005		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:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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EMSL Order ID:	**042423253**
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: 042423253-0005 **Customer Sample:** MFL-FB01-110424-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	I8	None Detected									
C5	H7	None Detected									
C6	J5	None Detected									
C6	G4	None Detected									
C7	A6	None Detected									
C8	J8	None Detected									
C8	J6	None Detected									
C8	H7	None Detected									
C8	H5	None Detected									
C8	G4	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

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Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110524-AB**	**Sample Description:**	**DL267410**
EMSL Sample Number:	042423253-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7226.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253
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: 042423253-0006 **Customer Sample:** MFL-AM05-110524-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	B8	None Detected									
D1	C9	None Detected									
D2	J5	None Detected									
D2	I4	None Detected									
D3	H6	None Detected									

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

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EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110524-AB**	**Sample Description:**	**DL267628**
EMSL Sample Number:	042423253-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7183.7
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253
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: 042423253-0007 **Customer Sample:** MFL-AM02-110524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J7	None Detected									
D5	I5	None Detected									
D6	H9	None Detected									
D6	G10	None Detected									
D7	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110524-AB**	**Sample Description:**	**DL267337**
EMSL Sample Number:	042423253-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7186.6
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253
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: 042423253-0008 **Customer Sample:** MFL-AM03-110524-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	I7	None Detected									
E1	H6	None Detected									
E2	A3	None Detected									
E2	B4	None Detected									
E3	C5	None Detected									

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

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EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-110524-AB** **Sample Description: DL267344**

EMSL Sample Number:	042423253-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.0
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253-0009 **Customer Sample:** MFL-AM07-110524-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	B6	None Detected									
E5	C7	None Detected									
E6	A5	None Detected									
E6	D4	None Detected									
E7	J8	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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Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-110524-AB** **Sample Description: DL267465**

EMSL Sample Number:	042423253-0010		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:	S. Richey
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: 042423253
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: 042423253-0010 **Customer Sample:** MFL-FB01-110524-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	I8	None Detected									
F1	I6	None Detected									
F1	H7	None Detected									
F1	H5	None Detected									
F2	C7	None Detected									
F2	C9	None Detected									
F2	D10	None Detected									
F3	A4	None Detected									
F3	A6	None Detected									
F3	B5	None Detected									

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

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EMSL Order:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-110624-AB**	**Sample Description:**	**DL267661**
EMSL Sample Number:	042423253-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7088.5
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253
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: 042423253-0011 **Customer Sample:** MFL-AM05-110624-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	J8	None Detected									
F5	I7	None Detected									
F6	H3	None Detected									
F6	G4	None Detected									
F7	C5	None Detected									

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

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

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Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-110624-AB**	**Sample Description:**	**DL267598**
EMSL Sample Number:	042423253-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7035.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253
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: 042423253-0012 **Customer Sample:** MFL-AM02-110624-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	A7	None Detected									
G1	B8	None Detected									
G2	C5	None Detected									
G2	D6	None Detected									
G3	J4	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-110624-AB**	**Sample Description:**	**DL267673**
EMSL Sample Number:	042423253-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7143.8
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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

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: 042423253
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: 042423253-0013 **Customer Sample:** MFL-AM03-110624-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	B9	None Detected									
G5	C10	None Detected									
G6	J5	None Detected									
G6	I6	None Detected									
G7	A4	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-110624-AB**	**Sample Description:**	**DL267621**
EMSL Sample Number:	042423253-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7186.7
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:	S. Richey
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 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: 042423253
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: 042423253-0014 **Customer Sample:** MFL-AM07-110624-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					
H4	E9	None Detected									
H4	D10	None Detected									
H4	D8	None Detected									
H4	A10	None Detected									
H4	A8	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/14/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-110624-AB**		**Sample Description:**	**DL264134**
EMSL Sample Number:	042423253-0015		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:	S. Richey
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:	**042423253**
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: 042423253-0015 **Customer Sample:** MFL-FB01-110624-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	A6	None Detected									
H5	A8	None Detected									
H5	C7	None Detected									
H5	C9	None Detected									
H6	J5	None Detected									
H6	J3	None Detected									
H6	I6	None Detected									
H7	D4	None Detected									
H7	D6	None Detected									
H7	E5	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:	042423253
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	11/11/2024 09:20 AM
Analysis Date:	11/13/2024
Report Date:	11/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042423253-0016		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:	S. Richey
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: 042423253
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: 042423253-0016 **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	G4	None Detected									
A1	G6	None Detected									
A1	H7	None Detected									
A1	H9	None Detected									
A2	J5	None Detected									
A2	J3	None Detected									
A2	I4	None Detected									
A3	H8	None Detected									
A3	H6	None Detected									
A3	F7	None Detected									

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

OrderID: 042423253

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042423253

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

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

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

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

Project Information

Project Name/No: Maui Fires Lahaina

Purchase Order: 1207085

EMSL LIMS Project ID: (If applicable, EMSL will provide)

US State where samples collected: HI

State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)

Sampled By Name: Shaina Epstein

Sampled By Signature: [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

RECEIVED EMSL CINNAMINSON, N.J.

*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-AM05-110424-AB	DL267492	7,187.627	11/04/24 1053
MFL-AM02-110424-AB	DL267411	6,917.999	11/04/24 1110
MFL-AM03-110424-AB	DL267378	7,175.548	11/04/24 1253
MFL-AM07-110424-AB	DL267484	7,253.667	11/04/24 1313
MFL-FB01-110424-AB	DL267368	0	11/04/24 1200
MFL-AM05-110524-AB	DL267410	7,226.928	11/05/24 1055
MFL-AM02-110524-AB	DL267628	7,183.707	11/05/24 1111
MFL-AM03-110524-AB	DL267337	7,186.606	11/05/24 1252

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

All samples received acceptable for analysis.

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 11/07/24 1100	Received by: Angie O'Neill FX	Date/Time: 11/11/24 920a
Relinquished by:	Date/Time:	Received by:	Date/Time:

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

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

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042423253

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-AM07-110524-AB	DL267344	7,128.017	11/05/24 1313
MFL-FB01-110529-AB	DL267465	0	11/05/24 1200
MFL-AM05-110624-AB	DL267661	7,088.493	11/06/24 1055
MFL-AM02-110624-AB	DL267598	7,035.921	11/06/24 1113
MFL-AM03-110624-AB	DL267673	7,143.758	11/06/24 1252
MFL-AM07-110624-AB	DL267621	7,186.693	11/06/24 1314
MFL-FB01-110624-AB	DL264134	0	11/06/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 NOV 11 A 10: 29

Method of Shipment: Fedex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/07/24 1100	Received by: FedEx	Date/Time 11/11/24 9:20A
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/19/2024 and Shanna Vasser 11/20/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 11/04/2024 – 11/06/2024
Report No: 42423253

√	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 19, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 11/11/24 11:49.

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: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-103124-HM	4111215-01	Air	10/31/24 23:59	11/11/24 11:49
MFL-AM02-103124-HM	4111215-02	Air	10/31/24 23:59	11/11/24 11:49
MFL-AM03-103124-HM	4111215-03	Air	10/31/24 23:59	11/11/24 11:49
MFL-AM07-103124-HM	4111215-04	Air	10/31/24 23:59	11/11/24 11:49
MFL-FB01-103124-HM	4111215-05	Air	10/31/24 00:00	11/11/24 11:49
MFL-AM05-110124-HM	4111215-06	Air	11/01/24 23:59	11/11/24 11:49
MFL-AM02-110124-HM	4111215-07	Air	11/01/24 23:59	11/11/24 11:49
MFL-AM03-110124-HM	4111215-08	Air	11/01/24 23:59	11/11/24 11:49
MFL-AM07-110124-HM	4111215-09	Air	11/01/24 23:59	11/11/24 11:49
MFL-AM05-110224-HM	4111215-10	Air	11/02/24 23:59	11/11/24 11:49
MFL-AM02-110224-HM	4111215-11	Air	11/02/24 23:59	11/11/24 11:49
MFL-AM03-110224-HM	4111215-12	Air	11/02/24 23:59	11/11/24 11:49
MFL-AM07-110224-HM	4111215-13	Air	11/02/24 23:59	11/11/24 11:49
MFL-FB01-110224-HM	4111215-14	Air	11/02/24 00:00	11/11/24 11:49
MFL-AM05-110324-HM	4111215-15	Air	11/03/24 23:59	11/11/24 11:49
MFL-AM02-110324-HM	4111215-16	Air	11/03/24 23:59	11/11/24 11:49
MFL-AM03-110324-HM	4111215-17	Air	11/03/24 23:59	11/11/24 11:49
MFL-AM07-110324-HM	4111215-18	Air	11/03/24 23:59	11/11/24 11:49
MFL-AM05-110424-HM	4111215-19	Air	11/04/24 23:59	11/11/24 11:49
MFL-AM02-110424-HM	4111215-20	Air	11/04/24 23:59	11/11/24 11:49
MFL-AM03-110424-HM	4111215-21	Air	11/04/24 23:59	11/11/24 11:49

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AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-110424-HM	4111215-22	Air	11/04/24 23:59	11/11/24 11:49
MFL-FB01-110424-HM	4111215-23	Air	11/04/24 00:00	11/11/24 11:49
MFL-AM05-110524-HM	4111215-24	Air	11/05/24 23:59	11/11/24 11:49
MFL-AM02-110524-HM	4111215-25	Air	11/05/24 23:59	11/11/24 11:49
MFL-AM03-110524-HM	4111215-26	Air	11/05/24 23:59	11/11/24 11:49
MFL-AM07-110524-HM	4111215-27	Air	11/05/24 23:59	11/11/24 11:49
MFL-AM05-110624-HM	4111215-28	Air	11/06/24 23:59	11/11/24 11:49
MFL-AM02-110624-HM	4111215-29	Air	11/06/24 23:59	11/11/24 11:49
MFL-AM03-110624-HM	4111215-30	Air	11/06/24 23:59	11/11/24 11:49
MFL-AM07-110624-HM	4111215-31	Air	11/06/24 23:59	11/11/24 11:49
MFL-FB01-110624-HM	4111215-32	Air	11/06/24 00:00	11/11/24 11:49

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-103124-HM
Matrix: Air
Lab ID: 4111215-01
Sample Volume: 1911.749 m³
Filter ID:
Sampled: 10/31/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 00:10

Comments: Q8533727 - 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**	**0.238**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.903**		**0.00797**
Barium	**7440-39-3**	**8.38**		**0.911**
Beryllium	**7440-41-7**	**0.0244**		**0.00272**
Cadmium	7440-43-9	0.0287	U	0.0631
Chromium	**7440-47-3**	**4.67**		**1.88**
Cobalt	**7440-48-4**	**1.06**		**0.0371**
Copper	**7440-50-8**	**71.3**		**2.24**
Lead	**7439-92-1**	**2.50**		**0.182**
Manganese	**7439-96-5**	**26.4**		**1.61**
Molybdenum	**7439-98-7**	**2.29**		**0.306**
Nickel	**7440-02-0**	**3.48**		**0.555**
Selenium	**7782-49-2**	**0.210**		**0.00763**
Thallium	**7440-28-0**	**0.00211**		**5.01E-4**
Vanadium	**7440-62-2**	**2.96**		**0.0450**
Zinc	7440-66-6	36.9	U	65.4

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-103124-HM
Matrix: Air
Lab ID: 4111215-02
Sample Volume: 2073.495 m³
Filter ID:
Sampled: 10/31/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 00:30

Comments: Q8533725 - 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**	**0.112**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.371**		**0.00735**
Barium	**7440-39-3**	**6.62**		**0.840**
Beryllium	**7440-41-7**	**0.0235**		**0.00251**
Cadmium	7440-43-9	0.0207	U	0.0581
Chromium	**7440-47-3**	**3.66**		**1.73**
Cobalt	**7440-48-4**	**0.982**		**0.0342**
Copper	**7440-50-8**	**38.8**		**2.06**
Lead	**7439-92-1**	**1.06**		**0.168**
Manganese	**7439-96-5**	**32.8**		**1.48**
Molybdenum	**7439-98-7**	**1.52**		**0.282**
Nickel	**7440-02-0**	**2.55**		**0.512**
Selenium	**7782-49-2**	**0.210**		**0.00703**
Thallium	**7440-28-0**	**0.00215**		**4.62E-4**
Vanadium	**7440-62-2**	**2.70**		**0.0415**
Zinc	7440-66-6	17.0	U	60.3

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-103124-HM
Matrix: Air
Lab ID: 4111215-03
Sample Volume: 2015.175 m³
Filter ID:
Sampled: 10/31/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 00:45

Comments: Q8533718 - 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**	**0.0624**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.136**		**0.00757**
Barium	**7440-39-3**	**2.70**		**0.864**
Beryllium	**7440-41-7**	**0.0170**		**0.00258**
Cadmium	7440-43-9	0.00977	U	0.0598
Chromium	**7440-47-3**	**2.28**		**1.78**
Cobalt	**7440-48-4**	**0.347**		**0.0352**
Copper	**7440-50-8**	**60.7**		**2.12**
Lead	**7439-92-1**	**0.352**		**0.173**
Manganese	**7439-96-5**	**8.88**		**1.53**
Molybdenum	**7439-98-7**	**2.37**		**0.290**
Nickel	**7440-02-0**	**1.37**		**0.526**
Selenium	**7782-49-2**	**0.164**		**0.00723**
Thallium	**7440-28-0**	**0.00112**		**4.76E-4**
Vanadium	**7440-62-2**	**0.953**		**0.0427**
Zinc	7440-66-6	8.79	U	62.0

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REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-103124-HM
Matrix: Air
Lab ID: 4111215-04
Sample Volume: 1849.821 m³
Filter ID:
Sampled: 10/31/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 01:01

Comments: Q8533716 - 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**	**0.0856**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.582**		**0.00824**
Barium	**7440-39-3**	**4.97**		**0.941**
Beryllium	**7440-41-7**	**0.0259**		**0.00281**
Cadmium	7440-43-9	0.0146	U	0.0652
Chromium	**7440-47-3**	**3.95**		**1.94**
Cobalt	**7440-48-4**	**0.888**		**0.0383**
Copper	**7440-50-8**	**32.5**		**2.31**
Lead	**7439-92-1**	**0.596**		**0.188**
Manganese	**7439-96-5**	**29.5**		**1.66**
Molybdenum	**7439-98-7**	**1.56**		**0.316**
Nickel	**7440-02-0**	**2.21**		**0.573**
Selenium	**7782-49-2**	**0.244**		**0.00788**
Thallium	**7440-28-0**	**0.00183**		**5.18E-4**
Vanadium	**7440-62-2**	**2.38**		**0.0465**
Zinc	7440-66-6	12.8	U	67.5

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-103124-HM
Matrix: Air
Lab ID: 4111215-05
Sample Volume: 1911.749 m³
Filter ID:
Sampled: 10/31/24 00:00
Received: 11/11/24 11:49
Analysis Date: 11/14/24 01:17

Comments: Q8533710 - 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**	**0.0337**	FB-01, SL	**0.0329**
Arsenic	7440-38-2	0.00533	U	0.00797
Barium	7440-39-3	0.768	U	0.911
Beryllium	7440-41-7	1.04E-4	U	0.00272
Cadmium	7440-43-9	0.00117	U	0.0631
Chromium	7440-47-3	0.767	U	1.88
Cobalt	7440-48-4	0.0130	U	0.0371
Copper	7440-50-8	0.453	U	2.24
Lead	7439-92-1	0.0433	U	0.182
Manganese	7439-96-5	0.258	U	1.61
Molybdenum	7439-98-7	0.136	U	0.306
Nickel	7440-02-0	0.399	U	0.555
Selenium	7782-49-2	0.00290	U	0.00763
Thallium	7440-28-0	1.38E-4	U	5.01E-4
Vanadium	7440-62-2	0.0147	U	0.0450
Zinc	7440-66-6	6.63	U	65.4

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AQS SITE CODE:
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Description: MFL-AM05-110124-HM
Matrix: Air
Lab ID: 4111215-06
Sample Volume: 1879.887 m³
Filter ID:
Sampled: 11/01/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/13/24 17:17

Comments: Q8533714 - 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	**0.0334**
Arsenic	**7440-38-2**	**0.643**		**0.00811**
Barium	**7440-39-3**	**7.27**		**0.926**
Beryllium	**7440-41-7**	**0.0230**		**0.00277**
Cadmium	7440-43-9	0.0188	U	0.0641
Chromium	**7440-47-3**	**4.62**		**1.91**
Cobalt	**7440-48-4**	**1.04**		**0.0377**
Copper	**7440-50-8**	**61.3**		**2.28**
Lead	**7439-92-1**	**1.60**		**0.185**
Manganese	**7439-96-5**	**25.2**		**1.64**
Molybdenum	**7439-98-7**	**2.29**		**0.311**
Nickel	**7440-02-0**	**3.17**		**0.564**
Selenium	**7782-49-2**	**0.201**		**0.00775**
Thallium	**7440-28-0**	**0.00165**	QB-04	**5.10E-4**
Vanadium	**7440-62-2**	**2.85**		**0.0458**
Zinc	7440-66-6	24.6	U	66.5

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AQS SITE CODE:
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Description: MFL-AM02-110124-HM
Matrix: Air
Lab ID: 4111215-07
Sample Volume: 2105.582 m³
Filter ID:
Sampled: 11/01/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 01:31

Comments: Q8533713 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.312**		**0.00724**
Barium	**7440-39-3**	**5.76**		**0.827**
Beryllium	**7440-41-7**	**0.0176**		**0.00247**
Cadmium	7440-43-9	0.0209	U	0.0573
Chromium	**7440-47-3**	**2.94**		**1.71**
Cobalt	**7440-48-4**	**0.662**		**0.0337**
Copper	**7440-50-8**	**57.5**		**2.03**
Lead	**7439-92-1**	**1.07**		**0.165**
Manganese	**7439-96-5**	**20.6**		**1.46**
Molybdenum	**7439-98-7**	**1.94**		**0.277**
Nickel	**7440-02-0**	**2.02**		**0.504**
Selenium	**7782-49-2**	**0.188**		**0.00692**
Thallium	**7440-28-0**	**0.00137**		**4.55E-4**
Vanadium	**7440-62-2**	**1.96**		**0.0409**
Zinc	7440-66-6	19.3	U	59.3

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REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110124-HM
Matrix: Air
Lab ID: 4111215-08
Sample Volume: 2024.493 m³
Filter ID:
Sampled: 11/01/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 01:46

Comments: Q8533709 - 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**	**0.0560**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.106**		**0.00753**
Barium	**7440-39-3**	**2.34**		**0.860**
Beryllium	**7440-41-7**	**0.00973**		**0.00257**
Cadmium	7440-43-9	0.00824	U	0.0596
Chromium	**7440-47-3**	**1.95**		**1.78**
Cobalt	**7440-48-4**	**0.284**		**0.0350**
Copper	**7440-50-8**	**76.6**		**2.11**
Lead	**7439-92-1**	**0.265**		**0.172**
Manganese	**7439-96-5**	**7.17**		**1.52**
Molybdenum	**7439-98-7**	**2.44**		**0.289**
Nickel	**7440-02-0**	**1.19**		**0.524**
Selenium	**7782-49-2**	**0.138**		**0.00720**
Thallium	**7440-28-0**	**8.92E-4**		**4.73E-4**
Vanadium	**7440-62-2**	**0.756**		**0.0425**
Zinc	7440-66-6	8.51	U	61.7

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110124-HM
Matrix: Air
Lab ID: 4111215-09
Sample Volume: 2027.851 m³
Filter ID:
Sampled: 11/01/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 02:00

Comments: Q8533708 - 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**	**0.0819**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.317**		**0.00752**
Barium	**7440-39-3**	**3.25**		**0.858**
Beryllium	**7440-41-7**	**0.0130**		**0.00257**
Cadmium	7440-43-9	0.0132	U	0.0595
Chromium	**7440-47-3**	**2.82**		**1.77**
Cobalt	**7440-48-4**	**0.449**		**0.0350**
Copper	**7440-50-8**	**33.5**		**2.11**
Lead	**7439-92-1**	**0.487**		**0.172**
Manganese	**7439-96-5**	**14.7**		**1.52**
Molybdenum	**7439-98-7**	**1.36**		**0.288**
Nickel	**7440-02-0**	**1.41**		**0.523**
Selenium	**7782-49-2**	**0.172**		**0.00719**
Thallium	**7440-28-0**	**0.00114**		**4.73E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0424**
Zinc	7440-66-6	10.7	U	61.6

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REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110224-HM
Matrix: Air
Lab ID: 4111215-10
Sample Volume: 1866.151 m³
Filter ID:
Sampled: 11/02/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 02:14

Comments: Q8533707 - 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**	**0.157**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.626**		**0.00817**
Barium	**7440-39-3**	**3.62**		**0.933**
Beryllium	**7440-41-7**	**0.00666**		**0.00279**
Cadmium	7440-43-9	0.0168	U	0.0646
Chromium	7440-47-3	1.89	U	1.93
Cobalt	**7440-48-4**	**0.261**		**0.0380**
Copper	**7440-50-8**	**41.7**		**2.29**
Lead	**7439-92-1**	**1.08**		**0.187**
Manganese	**7439-96-5**	**7.71**		**1.65**
Molybdenum	**7439-98-7**	**1.28**		**0.313**
Nickel	**7440-02-0**	**1.26**		**0.568**
Selenium	**7782-49-2**	**0.149**		**0.00781**
Thallium	**7440-28-0**	**0.00193**		**5.14E-4**
Vanadium	**7440-62-2**	**0.869**		**0.0461**
Zinc	7440-66-6	20.3	U	67.0

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: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110224-HM
Matrix: Air
Lab ID: 4111215-11
Sample Volume: 2034.048 m³
Filter ID:
Sampled: 11/02/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 02:28

Comments: Q8533706 - 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**	**0.297**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.311**		**0.00749**
Barium	**7440-39-3**	**7.08**		**0.856**
Beryllium	**7440-41-7**	**0.0138**		**0.00256**
Cadmium	7440-43-9	0.0167	U	0.0593
Chromium	**7440-47-3**	**2.52**		**1.77**
Cobalt	**7440-48-4**	**0.453**		**0.0349**
Copper	**7440-50-8**	**33.5**		**2.10**
Lead	**7439-92-1**	**1.06**		**0.171**
Manganese	**7439-96-5**	**14.7**		**1.51**
Molybdenum	**7439-98-7**	**1.55**		**0.287**
Nickel	**7440-02-0**	**1.61**		**0.522**
Selenium	**7782-49-2**	**0.213**		**0.00717**
Thallium	**7440-28-0**	**0.00236**		**4.71E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0423**
Zinc	7440-66-6	24.8	U	61.4

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110224-HM
Matrix: Air
Lab ID: 4111215-12
Sample Volume: 1909.25 m³
Filter ID:
Sampled: 11/02/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 03:40

Comments: Q8533705 - 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**	**0.0640**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.131**		**0.00798**
Barium	**7440-39-3**	**2.21**		**0.912**
Beryllium	**7440-41-7**	**0.00728**		**0.00273**
Cadmium	7440-43-9	0.0130	U	0.0631
Chromium	7440-47-3	1.72	U	1.88
Cobalt	**7440-48-4**	**0.236**		**0.0372**
Copper	**7440-50-8**	**33.9**		**2.24**
Lead	**7439-92-1**	**0.418**		**0.182**
Manganese	**7439-96-5**	**6.07**		**1.61**
Molybdenum	**7439-98-7**	**1.36**		**0.306**
Nickel	**7440-02-0**	**1.11**		**0.556**
Selenium	**7782-49-2**	**0.184**		**0.00764**
Thallium	**7440-28-0**	**0.00211**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**0.869**		**0.0451**
Zinc	7440-66-6	9.24	U	65.4

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110224-HM
Matrix: Air
Lab ID: 4111215-13
Sample Volume: 1876.488 m³
Filter ID:
Sampled: 11/02/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 04:07

Comments: Q8533704 - 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**	**0.0829**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.215**		**0.00812**
Barium	**7440-39-3**	**2.52**		**0.928**
Beryllium	**7440-41-7**	**0.00765**		**0.00277**
Cadmium	7440-43-9	0.0103	U	0.0642
Chromium	**7440-47-3**	**2.30**		**1.92**
Cobalt	**7440-48-4**	**0.276**		**0.0378**
Copper	**7440-50-8**	**29.3**		**2.28**
Lead	**7439-92-1**	**0.367**		**0.186**
Manganese	**7439-96-5**	**9.16**		**1.64**
Molybdenum	**7439-98-7**	**1.51**		**0.311**
Nickel	**7440-02-0**	**1.37**		**0.565**
Selenium	**7782-49-2**	**0.195**		**0.00777**
Thallium	**7440-28-0**	**0.00206**	QB-04	**5.11E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0459**
Zinc	7440-66-6	8.58	U	66.6

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-110224-HM
Matrix: Air
Lab ID: 4111215-14
Sample Volume: 1866.151 m³
Filter ID:
Sampled: 11/02/24 00:00
Received: 11/11/24 11:49
Analysis Date: 11/14/24 04:21

Comments: Q8533699 - 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	0.0204	SL, U	0.0337
Arsenic	7440-38-2	0.00366	U	0.00817
Barium	7440-39-3	0.901	U	0.933
Beryllium	7440-41-7	ND	U	0.00279
Cadmium	7440-43-9	6.58E-4	U	0.0646
Chromium	7440-47-3	0.825	U	1.93
Cobalt	7440-48-4	0.00992	U	0.0380
Copper	7440-50-8	1.21	U	2.29
Lead	7439-92-1	0.0501	U	0.187
Manganese	7439-96-5	0.171	U	1.65
Molybdenum	7439-98-7	0.132	U	0.313
Nickel	7440-02-0	0.421	U	0.568
Selenium	7782-49-2	0.00326	U	0.00781
Thallium	7440-28-0	1.29E-4	QB-04, U	5.14E-4
Vanadium	7440-62-2	0.0126	U	0.0461
Zinc	7440-66-6	3.70	U	67.0

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110324-HM
Matrix: Air
Lab ID: 4111215-15
Sample Volume: 1910.07 m³
Filter ID:
Sampled: 11/03/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 04:35

Comments: Q8533701 - 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	**0.0329**
Arsenic	**7440-38-2**	**0.287**		**0.00798**
Barium	**7440-39-3**	**3.12**		**0.911**
Beryllium	**7440-41-7**	**0.00474**		**0.00273**
Cadmium	7440-43-9	0.0306	U	0.0631
Chromium	7440-47-3	1.42	U	1.88
Cobalt	**7440-48-4**	**0.171**		**0.0371**
Copper	**7440-50-8**	**32.8**		**2.24**
Lead	**7439-92-1**	**0.865**		**0.182**
Manganese	**7439-96-5**	**5.62**		**1.61**
Molybdenum	**7439-98-7**	**1.21**		**0.306**
Nickel	**7440-02-0**	**1.12**		**0.555**
Selenium	**7782-49-2**	**0.218**		**0.00763**
Thallium	**7440-28-0**	**0.00161**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**0.874**		**0.0451**
Zinc	7440-66-6	13.9	U	65.4

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110324-HM
Matrix: Air
Lab ID: 4111215-16
Sample Volume: 2079.365 m³
Filter ID:
Sampled: 11/03/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 04:49

Comments: Q8533700 - 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**	**0.249**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.773**		**0.00733**
Barium	**7440-39-3**	**5.85**		**0.837**
Beryllium	**7440-41-7**	**0.0105**		**0.00250**
Cadmium	7440-43-9	0.0289	U	0.0580
Chromium	**7440-47-3**	**2.63**		**1.73**
Cobalt	**7440-48-4**	**0.337**		**0.0341**
Copper	**7440-50-8**	**33.7**		**2.06**
Lead	**7439-92-1**	**1.43**		**0.167**
Manganese	**7439-96-5**	**11.2**		**1.48**
Molybdenum	**7439-98-7**	**1.82**		**0.281**
Nickel	**7440-02-0**	**1.79**		**0.510**
Selenium	**7782-49-2**	**0.233**		**0.00701**
Thallium	**7440-28-0**	**0.00176**	QB-04	**4.61E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0414**
Zinc	7440-66-6	26.9	U	60.1

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110324-HM
Matrix: Air
Lab ID: 4111215-17
Sample Volume: 1920.906 m³
Filter ID:
Sampled: 11/03/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 05:04

Comments: Q8533698 - 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**	**0.0533**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.0878**		**0.00794**
Barium	**7440-39-3**	**2.05**		**0.906**
Beryllium	**7440-41-7**	**0.00470**		**0.00271**
Cadmium	7440-43-9	0.0350	U	0.0628
Chromium	7440-47-3	1.51	U	1.87
Cobalt	**7440-48-4**	**0.132**		**0.0369**
Copper	**7440-50-8**	**38.5**		**2.23**
Lead	**7439-92-1**	**0.342**		**0.181**
Manganese	**7439-96-5**	**3.89**		**1.60**
Molybdenum	**7439-98-7**	**1.55**		**0.304**
Nickel	**7440-02-0**	**1.25**		**0.552**
Selenium	**7782-49-2**	**0.221**		**0.00759**
Thallium	**7440-28-0**	**0.00145**	QB-04	**4.99E-4**
Vanadium	**7440-62-2**	**0.703**		**0.0448**
Zinc	7440-66-6	9.45	U	65.0

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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: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110324-HM
Matrix: Air
Lab ID: 4111215-18
Sample Volume: 1881.796 m³
Filter ID:
Sampled: 11/03/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 05:18

Comments: Q8533696 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.0898**		**0.00810**
Barium	**7440-39-3**	**1.93**		**0.925**
Beryllium	**7440-41-7**	**0.00342**		**0.00277**
Cadmium	7440-43-9	0.00797	U	0.0641
Chromium	7440-47-3	1.30	U	1.91
Cobalt	**7440-48-4**	**0.108**		**0.0377**
Copper	**7440-50-8**	**19.5**		**2.27**
Lead	**7439-92-1**	**0.297**		**0.185**
Manganese	**7439-96-5**	**3.63**		**1.63**
Molybdenum	**7439-98-7**	**1.20**		**0.310**
Nickel	**7440-02-0**	**0.820**		**0.564**
Selenium	**7782-49-2**	**0.181**		**0.00775**
Thallium	**7440-28-0**	**0.00127**	QB-04	**5.09E-4**
Vanadium	**7440-62-2**	**0.627**		**0.0457**
Zinc	7440-66-6	9.06	U	66.4

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110424-HM
Matrix: Air
Lab ID: 4111215-19
Sample Volume: 1898.891 m³
Filter ID:
Sampled: 11/04/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 05:31

Comments: Q8533695 - 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**	**0.138**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.413**		**0.00803**
Barium	**7440-39-3**	**4.75**		**0.917**
Beryllium	**7440-41-7**	**0.0103**		**0.00274**
Cadmium	7440-43-9	0.0506	U	0.0635
Chromium	**7440-47-3**	**2.24**		**1.89**
Cobalt	**7440-48-4**	**0.410**		**0.0374**
Copper	**7440-50-8**	**28.1**		**2.25**
Lead	**7439-92-1**	**1.06**		**0.183**
Manganese	**7439-96-5**	**12.0**		**1.62**
Molybdenum	**7439-98-7**	**1.37**		**0.308**
Nickel	**7440-02-0**	**1.89**		**0.559**
Selenium	**7782-49-2**	**0.217**		**0.00768**
Thallium	**7440-28-0**	**0.00116**	QB-04	**5.05E-4**
Vanadium	**7440-62-2**	**1.34**		**0.0453**
Zinc	7440-66-6	18.2	U	65.8

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110424-HM
Matrix: Air
Lab ID: 4111215-20
Sample Volume: 2041.322 m³
Filter ID:
Sampled: 11/04/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 05:45

Comments: Q8533694 - 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**	**0.236**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.391**		**0.00747**
Barium	**7440-39-3**	**7.55**		**0.853**
Beryllium	**7440-41-7**	**0.0161**		**0.00255**
Cadmium	7440-43-9	0.0199	U	0.0591
Chromium	**7440-47-3**	**2.77**		**1.76**
Cobalt	**7440-48-4**	**0.575**		**0.0348**
Copper	**7440-50-8**	**36.3**		**2.10**
Lead	**7439-92-1**	**1.13**		**0.171**
Manganese	**7439-96-5**	**17.7**		**1.51**
Molybdenum	**7439-98-7**	**1.99**		**0.286**
Nickel	**7440-02-0**	**1.90**		**0.520**
Selenium	**7782-49-2**	**0.238**		**0.00714**
Thallium	**7440-28-0**	**0.00125**	QB-04	**4.69E-4**
Vanadium	**7440-62-2**	**1.89**		**0.0422**
Zinc	7440-66-6	27.0	U	61.2

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110424-HM
Matrix: Air
Lab ID: 4111215-21
Sample Volume: 1946.684 m³
Filter ID:
Sampled: 11/04/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 07:18

Comments: Q8533693 - 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**	**0.0517**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.125**		**0.00783**
Barium	**7440-39-3**	**2.14**		**0.894**
Beryllium	**7440-41-7**	**0.00960**		**0.00267**
Cadmium	7440-43-9	0.0219	U	0.0619
Chromium	7440-47-3	1.55	U	1.85
Cobalt	**7440-48-4**	**0.203**		**0.0364**
Copper	**7440-50-8**	**33.8**		**2.20**
Lead	**7439-92-1**	**0.240**		**0.179**
Manganese	**7439-96-5**	**5.60**		**1.58**
Molybdenum	**7439-98-7**	**1.41**		**0.300**
Nickel	**7440-02-0**	**0.927**		**0.545**
Selenium	**7782-49-2**	**0.172**		**0.00749**
Thallium	**7440-28-0**	**9.96E-4**	QB-04	**4.92E-4**
Vanadium	**7440-62-2**	**0.654**		**0.0442**
Zinc	7440-66-6	7.59	U	64.2

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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: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110424-HM
Matrix: Air
Lab ID: 4111215-22
Sample Volume: 1908.242 m³
Filter ID:
Sampled: 11/04/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 07:32

Comments: Q8533692 - 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**	**0.0909**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.282**		**0.00799**
Barium	**7440-39-3**	**3.24**		**0.912**
Beryllium	**7440-41-7**	**0.0105**		**0.00273**
Cadmium	7440-43-9	0.00713	U	0.0632
Chromium	**7440-47-3**	**2.18**		**1.88**
Cobalt	**7440-48-4**	**0.364**		**0.0372**
Copper	**7440-50-8**	**21.7**		**2.24**
Lead	**7439-92-1**	**0.366**		**0.182**
Manganese	**7439-96-5**	**12.7**		**1.61**
Molybdenum	**7439-98-7**	**1.31**		**0.306**
Nickel	**7440-02-0**	**1.23**		**0.556**
Selenium	**7782-49-2**	**0.189**		**0.00764**
Thallium	**7440-28-0**	**0.00115**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0451**
Zinc	7440-66-6	8.69	U	65.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-110424-HM
Matrix: Air
Lab ID: 4111215-23
Sample Volume: 1898.891 m³
Filter ID:
Sampled: 11/04/24 00:00
Received: 11/11/24 11:49
Analysis Date: 11/14/24 07:47

Comments: Q8533685 - 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	0.0196	SL, U	0.0331
Arsenic	7440-38-2	0.00220	U	0.00803
Barium	7440-39-3	0.798	U	0.917
Beryllium	7440-41-7	ND	U	0.00274
Cadmium	7440-43-9	7.31E-4	U	0.0635
Chromium	7440-47-3	0.745	U	1.89
Cobalt	7440-48-4	0.00874	U	0.0374
Copper	7440-50-8	0.363	U	2.25
Lead	7439-92-1	0.0318	U	0.183
Manganese	7439-96-5	0.146	U	1.62
Molybdenum	7439-98-7	0.129	U	0.308
Nickel	7440-02-0	0.375	U	0.559
Selenium	7782-49-2	0.00152	U	0.00768
Thallium	7440-28-0	1.59E-4	QB-04, U	5.05E-4
Vanadium	7440-62-2	0.00210	U	0.0453
Zinc	7440-66-6	4.10	U	65.8

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110524-HM
Matrix: Air
Lab ID: 4111215-24
Sample Volume: 1911.667 m³
Filter ID:
Sampled: 11/05/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:01

Comments: Q8533691 - 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	**0.0329**
Arsenic	**7440-38-2**	**0.357**		**0.00797**
Barium	**7440-39-3**	**4.20**		**0.911**
Beryllium	**7440-41-7**	**0.00732**		**0.00272**
Cadmium	7440-43-9	0.0134	U	0.0631
Chromium	7440-47-3	1.64	U	1.88
Cobalt	**7440-48-4**	**0.251**		**0.0371**
Copper	**7440-50-8**	**29.6**		**2.24**
Lead	**7439-92-1**	**0.834**		**0.182**
Manganese	**7439-96-5**	**8.63**		**1.61**
Molybdenum	**7439-98-7**	**1.62**		**0.306**
Nickel	**7440-02-0**	**1.18**		**0.555**
Selenium	**7782-49-2**	**0.233**		**0.00763**
Thallium	**7440-28-0**	**8.53E-4**	QB-04	**5.01E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0450**
Zinc	7440-66-6	17.6	U	65.4

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110524-HM
Matrix: Air
Lab ID: 4111215-25
Sample Volume: 2163.183 m³
Filter ID:
Sampled: 11/05/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:16

Comments: Q8533690 - 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**	**0.120**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.375**		**0.00705**
Barium	**7440-39-3**	**3.44**		**0.805**
Beryllium	**7440-41-7**	**0.00791**		**0.00241**
Cadmium	7440-43-9	0.0107	U	0.0557
Chromium	**7440-47-3**	**1.81**		**1.66**
Cobalt	**7440-48-4**	**0.250**		**0.0328**
Copper	**7440-50-8**	**31.6**		**1.98**
Lead	**7439-92-1**	**0.607**		**0.161**
Manganese	**7439-96-5**	**8.84**		**1.42**
Molybdenum	**7439-98-7**	**1.57**		**0.270**
Nickel	**7440-02-0**	**1.36**		**0.490**
Selenium	**7782-49-2**	**0.216**		**0.00674**
Thallium	**7440-28-0**	**6.80E-4**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0398**
Zinc	7440-66-6	13.2	U	57.8

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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: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110524-HM
Matrix: Air
Lab ID: 4111215-26
Sample Volume: 1946.684 m³
Filter ID:
Sampled: 11/05/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:30

Comments: Q8533688 - 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**	**0.0687**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.168**		**0.00783**
Barium	**7440-39-3**	**3.21**		**0.894**
Beryllium	**7440-41-7**	**0.0119**		**0.00267**
Cadmium	7440-43-9	0.00736	U	0.0619
Chromium	**7440-47-3**	**2.12**		**1.85**
Cobalt	**7440-48-4**	**0.386**		**0.0364**
Copper	**7440-50-8**	**25.1**		**2.20**
Lead	**7439-92-1**	**0.277**		**0.179**
Manganese	**7439-96-5**	**11.2**		**1.58**
Molybdenum	**7439-98-7**	**1.22**		**0.300**
Nickel	**7440-02-0**	**1.42**		**0.545**
Selenium	**7782-49-2**	**0.247**		**0.00749**
Thallium	**7440-28-0**	**8.02E-4**	QB-04	**4.92E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0442**
Zinc	7440-66-6	9.51	U	64.2

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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: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110524-HM
Matrix: Air
Lab ID: 4111215-27
Sample Volume: 1886.53 m³
Filter ID:
Sampled: 11/05/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/13/24 21:25

Comments: Q8533684 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.269**		**0.00808**
Barium	**7440-39-3**	**2.99**		**0.923**
Beryllium	**7440-41-7**	**0.0100**		**0.00276**
Cadmium	7440-43-9	0.0161	U	0.0639
Chromium	**7440-47-3**	**1.94**		**1.91**
Cobalt	**7440-48-4**	**0.354**		**0.0376**
Copper	**7440-50-8**	**19.4**		**2.27**
Lead	**7439-92-1**	**0.258**		**0.185**
Manganese	**7439-96-5**	**13.0**		**1.63**
Molybdenum	**7439-98-7**	**1.24**		**0.310**
Nickel	**7440-02-0**	**1.63**	QM-07	**0.562**
Selenium	**7782-49-2**	**0.240**		**0.00773**
Thallium	**7440-28-0**	**0.00101**		**5.08E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0456**
Zinc	7440-66-6	12.3	U	66.2

CERTIFICATE OF ANALYSIS

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-110624-HM
Matrix: Air
Lab ID: 4111215-28
Sample Volume: 1909.271 m³
Filter ID:
Sampled: 11/06/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:44

Comments: Q8533683 - 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**	**0.124**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.641**		**0.00798**
Barium	**7440-39-3**	**10.6**		**0.912**
Beryllium	**7440-41-7**	**0.0387**		**0.00273**
Cadmium	7440-43-9	0.0239	U	0.0631
Chromium	**7440-47-3**	**7.59**		**1.88**
Cobalt	**7440-48-4**	**1.94**		**0.0372**
Copper	**7440-50-8**	**34.3**		**2.24**
Lead	**7439-92-1**	**1.23**		**0.182**
Manganese	**7439-96-5**	**46.9**		**1.61**
Molybdenum	**7439-98-7**	**1.80**		**0.306**
Nickel	**7440-02-0**	**5.66**		**0.556**
Selenium	**7782-49-2**	**0.355**		**0.00764**
Thallium	**7440-28-0**	**0.00284**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**5.41**		**0.0451**
Zinc	7440-66-6	22.5	U	65.4

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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: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-110624-HM
Matrix: Air
Lab ID: 4111215-29
Sample Volume: 2087.208 m³
Filter ID:
Sampled: 11/06/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 08:59

Comments: Q8533682 - 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**	**0.153**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.553**		**0.00730**
Barium	**7440-39-3**	**8.95**		**0.834**
Beryllium	**7440-41-7**	**0.0276**		**0.00249**
Cadmium	**7440-43-9**	**0.0905**		**0.0578**
Chromium	**7440-47-3**	**4.52**		**1.72**
Cobalt	**7440-48-4**	**0.991**		**0.0340**
Copper	**7440-50-8**	**45.1**		**2.05**
Lead	**7439-92-1**	**1.94**		**0.167**
Manganese	**7439-96-5**	**29.5**		**1.47**
Molybdenum	**7439-98-7**	**2.05**		**0.280**
Nickel	**7440-02-0**	**3.06**		**0.508**
Selenium	**7782-49-2**	**0.336**		**0.00698**
Thallium	**7440-28-0**	**0.00228**	QB-04	**4.59E-4**
Vanadium	**7440-62-2**	**3.33**		**0.0412**
Zinc	7440-66-6	27.7	U	59.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-110624-HM
Matrix: Air
Lab ID: 4111215-30
Sample Volume: 1965.987 m³
Filter ID:
Sampled: 11/06/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 09:33

Comments: Q8533681 - 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**	**0.0576**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.224**		**0.00775**
Barium	**7440-39-3**	**4.54**		**0.886**
Beryllium	**7440-41-7**	**0.0458**		**0.00265**
Cadmium	7440-43-9	0.0148	U	0.0613
Chromium	**7440-47-3**	**4.52**		**1.83**
Cobalt	**7440-48-4**	**0.896**		**0.0361**
Copper	**7440-50-8**	**34.4**		**2.18**
Lead	**7439-92-1**	**0.628**		**0.177**
Manganese	**7439-96-5**	**22.2**		**1.56**
Molybdenum	**7439-98-7**	**1.87**		**0.297**
Nickel	**7440-02-0**	**2.64**		**0.540**
Selenium	**7782-49-2**	**0.320**		**0.00742**
Thallium	**7440-28-0**	**0.00213**	QB-04	**4.87E-4**
Vanadium	**7440-62-2**	**2.22**		**0.0438**
Zinc	7440-66-6	12.2	U	63.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-110624-HM
Matrix: Air
Lab ID: 4111215-31
Sample Volume: 1861.641 m³
Filter ID:
Sampled: 11/06/24 23:59
Received: 11/11/24 11:49
Analysis Date: 11/14/24 10:42

Comments: Q8533680 - 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**	**0.0848**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.402**		**0.00819**
Barium	**7440-39-3**	**4.08**		**0.935**
Beryllium	**7440-41-7**	**0.0144**		**0.00280**
Cadmium	7440-43-9	0.0407	U	0.0648
Chromium	**7440-47-3**	**3.10**		**1.93**
Cobalt	**7440-48-4**	**0.549**		**0.0381**
Copper	**7440-50-8**	**21.9**		**2.30**
Lead	**7439-92-1**	**0.547**		**0.187**
Manganese	**7439-96-5**	**17.7**		**1.65**
Molybdenum	**7439-98-7**	**1.28**		**0.314**
Nickel	**7440-02-0**	**1.77**		**0.570**
Selenium	**7782-49-2**	**0.234**		**0.00783**
Thallium	**7440-28-0**	**0.00193**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**1.62**		**0.0462**
Zinc	7440-66-6	10.6	U	67.1

CERTIFICATE OF ANALYSIS

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FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-110624-HM
Matrix: Air
Lab ID: 4111215-32
Sample Volume: 1909.271 m³
Filter ID:
Sampled: 11/06/24 00:00
Received: 11/11/24 11:49
Analysis Date: 11/14/24 10:56

Comments: Q8533679 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0202	SL, U	0.0329
Arsenic	7440-38-2	0.00408	U	0.00798
Barium	7440-39-3	0.816	U	0.912
Beryllium	7440-41-7	1.48E-4	U	0.00273
Cadmium	7440-43-9	6.39E-4	U	0.0631
Chromium	7440-47-3	0.848	U	1.88
Cobalt	7440-48-4	0.0125	U	0.0372
Copper	7440-50-8	0.387	U	2.24
Lead	7439-92-1	0.0303	U	0.182
Manganese	7439-96-5	0.241	U	1.61
Molybdenum	7439-98-7	0.140	U	0.306
Nickel	7440-02-0	0.396	U	0.556
Selenium	7782-49-2	5.14E-4	U	0.00764
Thallium	7440-28-0	1.95E-4	QB-04, U	5.02E-4
Vanadium	7440-62-2	0.0135	U	0.0451
Zinc	7440-66-6	3.87	U	65.4

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: 11/19/24 11:11
SUBMITTED: 11/11/24
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 2411029 - B4K1305										
Calibration Blank (2411029-CCB1)				Prepared & Analyzed: 11/13/24						
Antimony	0.847		ng/l							
Arsenic	4.34		ng/l							
Barium	2.98		ng/l							
Beryllium	-0.966		ng/l							U
Cadmium	0.149		ng/l							
Chromium	-0.571		ng/l							U
Cobalt	0.181		ng/l							
Copper	26.1		ng/l							
Lead	14.0		ng/l							
Manganese	2.94		ng/l							
Molybdenum	25.2		ng/l							
Nickel	-1.89		ng/l							U
Selenium	3.74		ng/l							
Thallium	1.51		ng/l							QB-04
Vanadium	-68.7		ng/l							U
Zinc	-24.8		ng/l							U
Calibration Blank (2411029-CCB2)				Prepared & Analyzed: 11/13/24						
Antimony	0.304		ng/l							
Arsenic	2.79		ng/l							
Barium	1.74		ng/l							
Beryllium	-1.94		ng/l							U
Cadmium	0.0701		ng/l							
Chromium	0.783		ng/l							
Cobalt	0.107		ng/l							
Copper	12.9		ng/l							
Lead	5.90		ng/l							
Manganese	1.06		ng/l							
Molybdenum	6.21		ng/l							
Nickel	-1.90		ng/l							U
Selenium	4.84		ng/l							
Thallium	1.33		ng/l							
Vanadium	-75.7		ng/l							U
Zinc	-38.6		ng/l							U
Calibration Blank (2411029-CCB3)				Prepared & Analyzed: 11/13/24						
Antimony	0.701		ng/l							
Arsenic	5.39		ng/l							
Barium	2.93		ng/l							
Beryllium	-1.77		ng/l							U

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: 11/19/24 11:11
SUBMITTED: 11/11/24
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 2411029 - B4K1305										
Calibration Blank (2411029-CCB3) Contin				Prepared & Analyzed: 11/13/24						
Cadmium	0.0738		ng/l							
Chromium	1.45		ng/l							
Cobalt	0.182		ng/l							
Copper	11.0		ng/l							
Lead	3.34		ng/l							
Manganese	1.77		ng/l							
Molybdenum	4.63		ng/l							
Nickel	-0.549		ng/l							U
Selenium	6.86		ng/l							
Thallium	1.28		ng/l							
Vanadium	-75.6		ng/l							U
Zinc	-24.6		ng/l							U
Calibration Blank (2411029-CCB4)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	0.538		ng/l							
Arsenic	0.898		ng/l							
Barium	1.56		ng/l							
Beryllium	-2.38		ng/l							U
Cadmium	0.0830		ng/l							
Chromium	0.643		ng/l							
Cobalt	0.0663		ng/l							
Copper	7.37		ng/l							
Lead	2.55		ng/l							
Manganese	0.920		ng/l							
Molybdenum	5.20		ng/l							
Nickel	-0.914		ng/l							U
Selenium	8.80		ng/l							
Thallium	1.09		ng/l							
Vanadium	-76.8		ng/l							U
Zinc	-29.9		ng/l							U
Calibration Blank (2411029-CCB5)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	0.673		ng/l							
Arsenic	-0.353		ng/l							U
Barium	2.18		ng/l							
Beryllium	-2.29		ng/l							U
Cadmium	0.0343		ng/l							
Chromium	0.284		ng/l							
Cobalt	0.0750		ng/l							
Copper	17.6		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Blank (2411029-CCB5) Contin				Prepared: 11/13/24 Analyzed: 11/14/24						
Lead	3.44		ng/l							
Manganese	2.01		ng/l							
Molybdenum	10.4		ng/l							
Nickel	-1.43		ng/l							U
Selenium	10.0		ng/l							
Thallium	1.55		ng/l							QB-04
Vanadium	-84.1		ng/l							U
Zinc	-23.2		ng/l							U
Calibration Blank (2411029-CCB6)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	0.495		ng/l							
Arsenic	2.68		ng/l							
Barium	2.26		ng/l							
Beryllium	-2.86		ng/l							U
Cadmium	-0.0284		ng/l							U
Chromium	2.26		ng/l							
Cobalt	0.169		ng/l							
Copper	9.53		ng/l							
Lead	2.46		ng/l							
Manganese	0.878		ng/l							
Molybdenum	6.20		ng/l							
Nickel	1.34		ng/l							
Selenium	4.80		ng/l							
Thallium	1.08		ng/l							
Vanadium	-79.9		ng/l							U
Zinc	-11.5		ng/l							U
Calibration Blank (2411029-CCB7)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	0.701		ng/l							
Arsenic	3.81		ng/l							
Barium	1.63		ng/l							
Beryllium	-2.67		ng/l							U
Cadmium	0.0450		ng/l							
Chromium	-0.201		ng/l							U
Cobalt	0.142		ng/l							
Copper	14.1		ng/l							
Lead	3.68		ng/l							
Manganese	1.16		ng/l							
Molybdenum	8.01		ng/l							
Nickel	-1.94		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Blank (2411029-CCB7) Contin				Prepared: 11/13/24 Analyzed: 11/14/24						
Selenium	9.98		ng/l							
Thallium	1.51		ng/l							QB-04
Vanadium	-88.9		ng/l							U
Zinc	-8.53		ng/l							U
Calibration Check (2411029-CCV1)				Prepared & Analyzed: 11/13/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	234000		ng/l	240000		97.7	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	49600		ng/l	50000		99.2	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	19400		ng/l	20000		96.9	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2411029-CCV2)				Prepared & Analyzed: 11/13/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4970		ng/l	5000.0		99.5	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	237000		ng/l	240000		98.7	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19800		ng/l	20000		99.1	90-110			
Thallium	487		ng/l	500.00		97.4	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	524000		ng/l	500000		105	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Check (2411029-CCV3)				Prepared & Analyzed: 11/13/24						
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5000		ng/l	5000.0		99.9	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	235000		ng/l	240000		98.1	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	49100		ng/l	50000		98.2	90-110			
Nickel	120000		ng/l	120000		99.6	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	19300		ng/l	20000		96.3	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2411029-CCV4)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	237000		ng/l	240000		98.9	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Calibration Check (2411029-CCV5)				Prepared: 11/13/24 Analyzed: 11/14/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	4980		ng/l	5000.0		99.5	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 2411029 - B4K1305										
Calibration Check (2411029-CCV5) Contin					Prepared: 11/13/24 Analyzed: 11/14/24					
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	238000		ng/l	240000		99.0	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.7	90-110			
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2411029-CCV6)					Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	4890		ng/l	5000.0		97.8	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19700		ng/l	20000		98.4	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Calibration Check (2411029-CCV7)					Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	232000		ng/l	240000		96.8	90-110			
Cobalt	49700		ng/l	50000		99.3	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Calibration Check (2411029-CCV7) Contin					Prepared: 11/13/24 Analyzed: 11/14/24					
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	49700		ng/l	50000		99.3	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19100		ng/l	20000		95.7	90-110			
Zinc	523000		ng/l	500000		105	90-110			
High Cal Check (2411029-HCV1)					Prepared & Analyzed: 11/13/24					
Antimony	40000		ng/l	40000		100	95-105			
Arsenic	39700		ng/l	40000		99.3	95-105			
Barium	397000		ng/l	400000		99.3	95-105			
Beryllium	9830		ng/l	10000		98.3	95-105			
Cadmium	39600		ng/l	40000		98.9	95-105			
Chromium	474000		ng/l	480000		98.7	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.90E6		ng/l	4.0000E6		97.5	95-105			
Lead	396000		ng/l	400000		99.0	95-105			
Manganese	997000		ng/l	1.0000E6		99.7	95-105			
Molybdenum	98800		ng/l	100000		98.8	95-105			
Nickel	235000		ng/l	240000		97.8	95-105			
Selenium	39900		ng/l	40000		99.8	95-105			
Thallium	977		ng/l	1000.0		97.7	95-105			
Vanadium	39600		ng/l	40000		99.1	95-105			
Zinc	969000		ng/l	1.0000E6		96.9	95-105			
Initial Cal Blank (2411029-ICB1)					Prepared & Analyzed: 11/13/24					
Antimony	1.18		ng/l							
Arsenic	-0.688		ng/l							U
Barium	2.10		ng/l							
Beryllium	-0.979		ng/l							U
Cadmium	0.0439		ng/l							
Chromium	-0.0858		ng/l							U
Cobalt	0.196		ng/l							
Copper	23.5		ng/l							
Lead	13.6		ng/l							
Manganese	3.92		ng/l							
Molybdenum	9.00		ng/l							
Nickel	-3.77		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Initial Cal Blank (2411029-ICB1) Continu				Prepared & Analyzed: 11/13/24						
Selenium	10.0		ng/l							
Thallium	1.28		ng/l							
Vanadium	-65.7		ng/l							U
Zinc	-5.85		ng/l							U
Initial Cal Check (2411029-ICV1)				Prepared & Analyzed: 11/13/24						
Antimony	19500		ng/l	20000		97.5	90-110			
Arsenic	18900		ng/l	20000		94.7	90-110			
Barium	188000		ng/l	200000		93.9	90-110			
Beryllium	4900		ng/l	5000.0		98.0	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	229000		ng/l	240000		95.4	90-110			
Cobalt	48600		ng/l	50000		97.2	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	489000		ng/l	500000		97.9	90-110			
Molybdenum	47900		ng/l	50000		95.8	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Interference Check A (2411029-IFA1)				Prepared & Analyzed: 11/13/24						
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	311000		ng/l	300000		104	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2411029 - B4K1305										
Interference Check B (2411029-IFB1)				Prepared & Analyzed: 11/13/24						
Antimony	20300		ng/l	20000		101	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	200000		ng/l	200000		99.9	80-120			
Beryllium	4740		ng/l	5000.0		94.9	80-120			
Cadmium	19300		ng/l	20000		96.7	80-120			
Chromium	235000		ng/l	240000		97.8	80-120			
Cobalt	48500		ng/l	50000		96.9	80-120			
Copper	1.88E6		ng/l	2.0000E6		94.2	80-120			
Lead	205000		ng/l	200000		102	80-120			
Manganese	508000		ng/l	500000		102	80-120			
Molybdenum	364000		ng/l	350000		104	80-120			
Nickel	114000		ng/l	120000		95.0	80-120			
Selenium	18900		ng/l	20000		94.7	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	19300		ng/l	20000		96.6	80-120			
Zinc	479000		ng/l	500000		95.8	80-120			
Batch B4K1305 - ICP-MS Extraction										
Blank (B4K1305-BLK1)				Prepared & Analyzed: 11/13/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4K1305-BS1)				Prepared & Analyzed: 11/13/24						
Antimony	0.796	0.0386	ng/m³ Air	1.3829		57.5	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.8	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.6	80-120			

Tetra Tech, Inc.
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REPORTED: 11/19/24 11:11
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
LCS (B4K1305-BS1) Continued					Prepared & Analyzed: 11/13/24					
Beryllium	1.36	0.00320	ng/m³ Air	1.3829		98.7	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.9	80-120			
Copper	30.0	2.63	ng/m³ Air	27.658		109	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.87	1.89	ng/m³ Air	8.2975		107	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.19	0.652	ng/m³ Air	2.7658		115	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.6	80-120			
Thallium	0.139	5.89E-4	ng/m³ Air	0.13829		100	80-120			QB-04
Vanadium	2.69	0.0529	ng/m³ Air	2.7658		97.3	80-120			
Zinc	93.3	76.8	ng/m³ Air	82.975		112	80-120			
LCS (B4K1305-BS2)					Prepared & Analyzed: 11/13/24					
Antimony	0.783	0.0386	ng/m³ Air	1.3829		56.6	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.7	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.8	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.6	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	14.7	2.21	ng/m³ Air	13.829		106	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.7	80-120			
Copper	29.9	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.5	80-120			
Manganese	8.83	1.89	ng/m³ Air	8.2975		106	80-120			
Molybdenum	1.45	0.359	ng/m³ Air	1.3829		105	80-120			
Nickel	3.15	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.7	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.1	80-120			
Vanadium	2.68	0.0529	ng/m³ Air	2.7658		97.1	80-120			
Zinc	93.4	76.8	ng/m³ Air	82.975		113	80-120			
Duplicate (B4K1305-DUP1)		**Source: 4111215-06**			Prepared & Analyzed: 11/13/24					
Antimony	0.160	0.0334	ng/m³ Air		0.155			3.06	10	SL
Arsenic	0.597	0.00811	ng/m³ Air		0.643			7.35	10	
Barium	6.89	0.926	ng/m³ Air		7.27			5.33	10	
Beryllium	0.0216	0.00277	ng/m³ Air		0.0230			6.42	10	
Cadmium	ND	0.0641	ng/m³ Air		ND				10	U
Chromium	4.29	1.91	ng/m³ Air		4.62			7.47	10	
Cobalt	0.984	0.0377	ng/m³ Air		1.04			5.56	10	

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REPORTED: 11/19/24 11:11
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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 B4K1305 - ICP-MS Extraction										
Duplicate (B4K1305-DUP1) Continued			**Source: 4111215-06**		Prepared & Analyzed: 11/13/24					
Copper	62.4	2.28	ng/m³ Air		61.3			1.87	10	
Lead	1.58	0.185	ng/m³ Air		1.60			1.53	10	
Manganese	23.8	1.64	ng/m³ Air		25.2			5.46	10	
Molybdenum	2.32	0.311	ng/m³ Air		2.29			1.21	10	
Nickel	3.00	0.564	ng/m³ Air		3.17			5.66	10	
Selenium	0.200	0.00775	ng/m³ Air		0.201			0.910	10	
Thallium	0.00156	5.10E-4	ng/m³ Air		0.00165			5.46	10	QB-04
Vanadium	2.66	0.0458	ng/m³ Air		2.85			6.92	10	
Zinc	ND	66.5	ng/m³ Air		ND				10	U
Duplicate (B4K1305-DUP2)			**Source: 4111215-27**		Prepared & Analyzed: 11/13/24					
Antimony	0.0899	0.0333	ng/m³ Air		0.133			38.6	10	SL
Arsenic	0.302	0.00808	ng/m³ Air		0.269			11.5	10	
Barium	3.04	0.923	ng/m³ Air		2.99			1.67	10	
Beryllium	0.0101	0.00276	ng/m³ Air		0.0100			1.33	10	
Cadmium	ND	0.0639	ng/m³ Air		ND				10	U
Chromium	1.98	1.91	ng/m³ Air		1.94			2.18	10	
Cobalt	0.338	0.0376	ng/m³ Air		0.354			4.71	10	
Copper	18.6	2.27	ng/m³ Air		19.4			4.00	10	
Lead	0.259	0.185	ng/m³ Air		0.258			0.515	10	
Manganese	12.6	1.63	ng/m³ Air		13.0			3.22	10	
Molybdenum	1.17	0.310	ng/m³ Air		1.24			5.95	10	
Nickel	1.27	0.562	ng/m³ Air		1.63			24.5	10	
Selenium	0.234	0.00773	ng/m³ Air		0.240			2.64	10	
Thallium	9.36E-4	5.08E-4	ng/m³ Air		0.00101			7.27	10	
Vanadium	1.31	0.0456	ng/m³ Air		1.32			0.231	10	
Zinc	ND	66.2	ng/m³ Air		ND				10	U
Duplicate (B4K1305-DUP3)			**Source: 4111215-12**		Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	0.0644	0.0329	ng/m³ Air		0.0640			0.501	10	SL
Arsenic	0.129	0.00798	ng/m³ Air		0.131			1.69	10	
Barium	2.20	0.912	ng/m³ Air		2.21			0.288	10	
Beryllium	0.00713	0.00273	ng/m³ Air		0.00728			2.06	10	
Cadmium	ND	0.0631	ng/m³ Air		ND				10	U
Chromium	ND	1.88	ng/m³ Air		ND				10	U
Cobalt	0.236	0.0372	ng/m³ Air		0.236			0.0184	10	
Copper	33.8	2.24	ng/m³ Air		33.9			0.548	10	
Lead	0.417	0.182	ng/m³ Air		0.418			0.279	10	
Manganese	6.09	1.61	ng/m³ Air		6.07			0.336	10	
Molybdenum	1.35	0.306	ng/m³ Air		1.36			0.664	10	

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FILE #: 4205.00.003.001
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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 B4K1305 - ICP-MS Extraction										
Duplicate (B4K1305-DUP3) Continued		**Source: 4111215-12**			Prepared: 11/13/24 Analyzed: 11/14/24					
Nickel	1.11	0.556	ng/m³ Air		1.11			0.261	10	
Selenium	0.183	0.00764	ng/m³ Air		0.184			0.833	10	
Thallium	0.00212	5.02E-4	ng/m³ Air		0.00211			0.442	10	QB-04
Vanadium	0.861	0.0451	ng/m³ Air		0.869			0.869	10	
Zinc	ND	65.4	ng/m³ Air		ND				10	U
Duplicate (B4K1305-DUP4)		**Source: 4111215-29**			Prepared: 11/13/24 Analyzed: 11/14/24					
Antimony	0.157	0.0301	ng/m³ Air		0.153			2.27	10	SL
Arsenic	0.559	0.00730	ng/m³ Air		0.553			1.13	10	
Barium	9.06	0.834	ng/m³ Air		8.95			1.20	10	
Beryllium	0.0271	0.00249	ng/m³ Air		0.0276			1.81	10	
Cadmium	0.0915	0.0578	ng/m³ Air		0.0905			1.12	10	
Chromium	4.55	1.72	ng/m³ Air		4.52			0.455	10	
Cobalt	0.999	0.0340	ng/m³ Air		0.991			0.811	10	
Copper	45.4	2.05	ng/m³ Air		45.1			0.607	10	
Lead	1.96	0.167	ng/m³ Air		1.94			1.00	10	
Manganese	29.7	1.47	ng/m³ Air		29.5			0.622	10	
Molybdenum	2.11	0.280	ng/m³ Air		2.05			3.00	10	
Nickel	3.10	0.508	ng/m³ Air		3.06			1.13	10	
Selenium	0.340	0.00698	ng/m³ Air		0.336			1.00	10	
Thallium	0.00223	4.59E-4	ng/m³ Air		0.00228			2.59	10	QB-04
Vanadium	3.34	0.0412	ng/m³ Air		3.33			0.122	10	
Zinc	ND	59.9	ng/m³ Air		ND				10	U
Matrix Spike (B4K1305-MS1)		**Source: 4111215-06**			Prepared & Analyzed: 11/13/24					
Antimony	0.799	0.0334	ng/m³ Air	1.1969	0.155	53.8	80-120			SL
Arsenic	2.88	0.00811	ng/m³ Air	2.3938	0.643	93.5	80-120			
Barium	31.3	0.926	ng/m³ Air	23.938	7.27	100	80-120			
Beryllium	1.20	0.00277	ng/m³ Air	1.1969	0.0230	98.0	80-120			
Cadmium	1.21	0.0641	ng/m³ Air	1.1969	ND	101	80-120			
Chromium	16.8	1.91	ng/m³ Air	11.969	4.62	102	80-120			
Cobalt	2.25	0.0377	ng/m³ Air	1.1969	1.04	101	80-120			
Copper	86.5	2.28	ng/m³ Air	23.938	61.3	105	80-120			
Lead	13.7	0.185	ng/m³ Air	11.969	1.60	101	80-120			
Manganese	33.2	1.64	ng/m³ Air	7.1813	25.2	111	80-120			
Molybdenum	3.47	0.311	ng/m³ Air	1.1969	2.29	98.0	80-120			
Nickel	5.70	0.564	ng/m³ Air	2.3938	3.17	106	80-120			
Selenium	2.49	0.00775	ng/m³ Air	2.3938	0.201	95.8	80-120			
Thallium	0.115	5.10E-4	ng/m³ Air	0.11969	0.00165	94.5	80-120			QB-04
Vanadium	5.23	0.0458	ng/m³ Air	2.3938	2.85	99.4	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Matrix Spike (B4K1305-MS1) Continued Source: 4111215-06 Prepared & Analyzed: 11/13/24										
Zinc	103	66.5	ng/m³ Air	71.813	ND	143	80-120			
Matrix Spike (B4K1305-MS2) Source: 4111215-27 Prepared & Analyzed: 11/13/24										
Antimony	0.769	0.0333	ng/m³ Air	1.1927	0.133	53.4	80-120			SL
Arsenic	2.55	0.00808	ng/m³ Air	2.3853	0.269	95.5	80-120			
Barium	26.3	0.923	ng/m³ Air	23.853	2.99	97.6	80-120			
Beryllium	1.17	0.00276	ng/m³ Air	1.1927	0.0100	97.4	80-120			
Cadmium	1.20	0.0639	ng/m³ Air	1.1927	ND	101	80-120			
Chromium	13.6	1.91	ng/m³ Air	11.927	1.94	97.8	80-120			
Cobalt	1.54	0.0376	ng/m³ Air	1.1927	0.354	99.2	80-120			
Copper	43.5	2.27	ng/m³ Air	23.853	19.4	101	80-120			
Lead	12.4	0.185	ng/m³ Air	11.927	0.258	102	80-120			
Manganese	20.7	1.63	ng/m³ Air	7.1560	13.0	108	80-120			
Molybdenum	2.39	0.310	ng/m³ Air	1.1927	1.24	96.4	80-120			
Nickel	4.12	0.562	ng/m³ Air	2.3853	1.63	105	80-120			
Selenium	2.49	0.00773	ng/m³ Air	2.3853	0.240	94.2	80-120			
Thallium	0.120	5.08E-4	ng/m³ Air	0.11927	0.00101	99.6	80-120			
Vanadium	3.58	0.0456	ng/m³ Air	2.3853	1.32	95.0	80-120			
Zinc	87.8	66.2	ng/m³ Air	71.560	ND	123	80-120			
Matrix Spike Dup (B4K1305-MSD1) Source: 4111215-06 Prepared & Analyzed: 11/13/24										
Antimony	0.787	0.0334	ng/m³ Air	1.1969	0.155	52.8	80-120	1.60	20	SL
Arsenic	2.84	0.00811	ng/m³ Air	2.3938	0.643	91.9	80-120	1.33	20	
Barium	30.6	0.926	ng/m³ Air	23.938	7.27	97.4	80-120	2.16	20	
Beryllium	1.17	0.00277	ng/m³ Air	1.1969	0.0230	95.8	80-120	2.25	20	
Cadmium	1.19	0.0641	ng/m³ Air	1.1969	ND	99.2	80-120	1.75	20	
Chromium	16.6	1.91	ng/m³ Air	11.969	4.62	100	80-120	1.17	20	
Cobalt	2.22	0.0377	ng/m³ Air	1.1969	1.04	98.4	80-120	1.50	20	
Copper	86.3	2.28	ng/m³ Air	23.938	61.3	104	80-120	0.220	20	
Lead	13.6	0.185	ng/m³ Air	11.969	1.60	101	80-120	0.301	20	
Manganese	33.1	1.64	ng/m³ Air	7.1813	25.2	110	80-120	0.304	20	
Molybdenum	3.42	0.311	ng/m³ Air	1.1969	2.29	94.1	80-120	1.36	20	
Nickel	5.55	0.564	ng/m³ Air	2.3938	3.17	99.6	80-120	2.58	20	
Selenium	2.47	0.00775	ng/m³ Air	2.3938	0.201	94.9	80-120	0.793	20	
Thallium	0.114	5.10E-4	ng/m³ Air	0.11969	0.00165	94.3	80-120	0.273	20	QB-04
Vanadium	5.13	0.0458	ng/m³ Air	2.3938	2.85	95.3	80-120	1.88	20	
Zinc	100	66.5	ng/m³ Air	71.813	ND	140	80-120	2.02	20	
Matrix Spike Dup (B4K1305-MSD2) Source: 4111215-27 Prepared & Analyzed: 11/13/24										
Antimony	0.742	0.0333	ng/m³ Air	1.1927	0.133	51.1	80-120	3.56	20	SL
Arsenic	2.58	0.00808	ng/m³ Air	2.3853	0.269	96.8	80-120	1.21	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Matrix Spike Dup (B4K1305-MSD2) Conti			**Source: 4111215-27**			Prepared & Analyzed: 11/13/24				
Barium	26.5	0.923	ng/m³ Air	23.853	2.99	98.5	80-120	0.765	20	
Beryllium	1.18	0.00276	ng/m³ Air	1.1927	0.0100	97.8	80-120	0.419	20	
Cadmium	1.20	0.0639	ng/m³ Air	1.1927	ND	100	80-120	0.180	20	
Chromium	13.7	1.91	ng/m³ Air	11.927	1.94	99.0	80-120	1.04	20	
Cobalt	1.52	0.0376	ng/m³ Air	1.1927	0.354	97.7	80-120	1.15	20	
Copper	44.7	2.27	ng/m³ Air	23.853	19.4	106	80-120	2.62	20	
Lead	12.5	0.185	ng/m³ Air	11.927	0.258	102	80-120	0.435	20	
Manganese	20.3	1.63	ng/m³ Air	7.1560	13.0	102	80-120	2.30	20	
Molybdenum	2.27	0.310	ng/m³ Air	1.1927	1.24	86.7	80-120	4.94	20	
Nickel	3.49	0.562	ng/m³ Air	2.3853	1.63	77.9	80-120	16.7	20	QM-07
Selenium	2.52	0.00773	ng/m³ Air	2.3853	0.240	95.6	80-120	1.35	20	
Thallium	0.119	5.08E-4	ng/m³ Air	0.11927	0.00101	98.7	80-120	0.887	20	
Vanadium	3.66	0.0456	ng/m³ Air	2.3853	1.32	98.1	80-120	2.02	20	
Zinc	84.8	66.2	ng/m³ Air	71.560	ND	119	80-120	3.49	20	
Post Spike (B4K1305-PS1)			**Source: 4111215-06**			Prepared & Analyzed: 11/13/24				
Antimony	0.392	0.0334	ng/m³ Air	0.23938	0.155	99.0	75-125			SL
Arsenic	1.75	0.00811	ng/m³ Air	1.1969	0.643	92.8	75-125			
Barium	9.65	0.926	ng/m³ Air	2.3938	7.27	99.5	75-125			
Beryllium	0.254	0.00277	ng/m³ Air	0.23938	0.0230	96.5	75-125			
Cadmium	0.136	0.0641	ng/m³ Air	0.11969	ND	114	75-125			
Chromium	5.81	1.91	ng/m³ Air	1.1969	4.62	99.4	75-125			
Cobalt	1.29	0.0377	ng/m³ Air	0.23938	1.04	104	75-125			
Copper	74.0	2.28	ng/m³ Air	11.969	61.3	106	75-125			
Lead	25.3	0.185	ng/m³ Air	23.938	1.60	98.9	75-125			
Manganese	28.0	1.64	ng/m³ Air	2.3938	25.2	118	75-125			
Molybdenum	3.35	0.311	ng/m³ Air	1.1969	2.29	88.6	75-125			
Nickel	5.57	0.564	ng/m³ Air	2.3938	3.17	100	75-125			
Selenium	1.35	0.00775	ng/m³ Air	1.1969	0.201	96.0	75-125			
Thallium	0.0593	5.10E-4	ng/m³ Air	5.9844E-2	0.00165	96.3	75-125			QB-04
Vanadium	3.99	0.0458	ng/m³ Air	1.1969	2.85	95.3	75-125			
Zinc	ND	66.5	ng/m³ Air	23.938	ND		75-125			U
Post Spike (B4K1305-PS2)			**Source: 4111215-27**			Prepared & Analyzed: 11/13/24				
Antimony	0.367	0.0333	ng/m³ Air	0.23853	0.133	98.2	75-125			SL
Arsenic	1.36	0.00808	ng/m³ Air	1.1927	0.269	91.3	75-125			
Barium	5.21	0.923	ng/m³ Air	2.3853	2.99	92.8	75-125			
Beryllium	0.241	0.00276	ng/m³ Air	0.23853	0.0100	96.8	75-125			
Cadmium	0.134	0.0639	ng/m³ Air	0.11927	ND	113	75-125			
Chromium	3.06	1.91	ng/m³ Air	1.1927	1.94	94.4	75-125			

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 11/19/24 11:11
SUBMITTED: 11/11/24
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 B4K1305 - ICP-MS Extraction										
Post Spike (B4K1305-PS2) Continued		**Source: 4111215-27**		Prepared & Analyzed: 11/13/24						
Cobalt	0.585	0.0376	ng/m³ Air	0.23853	0.354	96.6	75-125			
Copper	31.9	2.27	ng/m³ Air	11.927	19.4	105	75-125			
Lead	23.8	0.185	ng/m³ Air	23.853	0.258	98.9	75-125			
Manganese	15.4	1.63	ng/m³ Air	2.3853	13.0	102	75-125			
Molybdenum	2.33	0.310	ng/m³ Air	1.1927	1.24	91.4	75-125			
Nickel	3.96	0.562	ng/m³ Air	2.3853	1.63	97.6	75-125			
Selenium	1.38	0.00773	ng/m³ Air	1.1927	0.240	95.8	75-125			
Thallium	0.0603	5.08E-4	ng/m³ Air	5.9633E-2	0.00101	99.4	75-125			
Vanadium	2.43	0.0456	ng/m³ Air	1.1927	1.32	93.8	75-125			
Zinc	ND	66.2	ng/m³ Air	23.853	ND		75-125			U
Dilution Check (B4K1305-SRL1)		**Source: 4111215-06**		Prepared & Analyzed: 11/13/24						
Antimony	ND	0.167	ng/m³ Air		ND				10	SL, U
Arsenic	0.627	0.0405	ng/m³ Air		0.643			2.56	10	
Barium	6.96	4.63	ng/m³ Air		7.27			4.34	10	
Beryllium	0.0215	0.0138	ng/m³ Air		0.0230			6.75	10	
Cadmium	ND	0.321	ng/m³ Air		ND				10	U
Chromium	ND	9.56	ng/m³ Air		ND				10	U
Cobalt	1.01	0.189	ng/m³ Air		1.04			2.51	10	
Copper	62.4	11.4	ng/m³ Air		61.3			1.76	10	
Lead	1.50	0.926	ng/m³ Air		1.60			6.32	10	
Manganese	24.4	8.18	ng/m³ Air		25.2			3.19	10	
Molybdenum	2.25	1.55	ng/m³ Air		2.29			2.12	10	
Nickel	3.11	2.82	ng/m³ Air		3.17			1.90	10	
Selenium	0.203	0.0388	ng/m³ Air		0.201			0.670	10	
Thallium	0.00475	0.00255	ng/m³ Air		ND			96.8	10	QB-04
Vanadium	2.71	0.229	ng/m³ Air		2.85			5.11	10	
Zinc	ND	332	ng/m³ Air		ND				10	U
Dilution Check (B4K1305-SRL2)		**Source: 4111215-27**		Prepared & Analyzed: 11/13/24						
Antimony	ND	0.166	ng/m³ Air		ND				10	SL, U
Arsenic	0.274	0.0404	ng/m³ Air		0.269			1.93	10	
Barium	ND	4.61	ng/m³ Air		ND				10	U
Beryllium	ND	0.0138	ng/m³ Air		ND				10	U
Cadmium	ND	0.320	ng/m³ Air		ND				10	U
Chromium	ND	9.53	ng/m³ Air		ND				10	U
Cobalt	0.364	0.188	ng/m³ Air		0.354			2.76	10	
Copper	19.9	11.3	ng/m³ Air		19.4			2.74	10	
Lead	ND	0.923	ng/m³ Air		ND				10	U
Manganese	13.1	8.15	ng/m³ Air		13.0			1.10	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4K1305 - ICP-MS Extraction										
Dilution Check (B4K1305-SRL2) ContinueSource: 4111215-27 Prepared & Analyzed: 11/13/24										
Molybdenum	ND	1.55	ng/m³ Air		ND				10	U
Nickel	ND	2.81	ng/m³ Air		ND				10	U
Selenium	0.261	0.0386	ng/m³ Air		0.240			8.18	10	
Thallium	0.00260	0.00254	ng/m³ Air		ND			88.3	10	
Vanadium	1.34	0.228	ng/m³ Air		1.32			1.79	10	
Zinc	ND	331	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 11/20/2024 and Shanna Vasser 11/25/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/31/2024 – 11/06/2024
Report No: 4111215

√	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 antimony in MFL-FB01-103124-HM

Notes: None.