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

August 15 through August 21, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from August 15 through August 21, 2024 at the four community locations listed below and shown on **Figure 1**:

- Leialii Hawaiian Homelands (AM-01)
- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Lahaina Boys & Girls Club (AM-04)

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), and private contractors, significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the 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 August 15 through August 21 at each of the four locations listed above. 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 ($\mu g/m^3$), 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 [$PM_{2.5}$]). The Department of Health or 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 monitoring location throughout this reporting period. Monitoring was conducted for 24 hours a day at each station except for Leialii Hawaiian Homelands on August 16 which was monitored for 22 hours due to equipment maintenance. None of the results exceeded the 150 $\mu g/m^3$ 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 were below the SSAL of 0.003 structures per cubic centimeter (s/cc) and below the laboratory's analytical sensitivity (see **Table 2**).

The heavy metal sample collected on August 15, 2024, from WW Pump Station #4 was voided because of equipment motor malfunction resulting in insufficient sample time and volume. For all other heavy metals, only low levels (i.e., all below the respective SSALs) were detected in ambient air samples at all community sampling locations (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 1.1 miles per hour originating from a generally south-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, according to a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" 073-3 "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," which were included in the CAMSP.

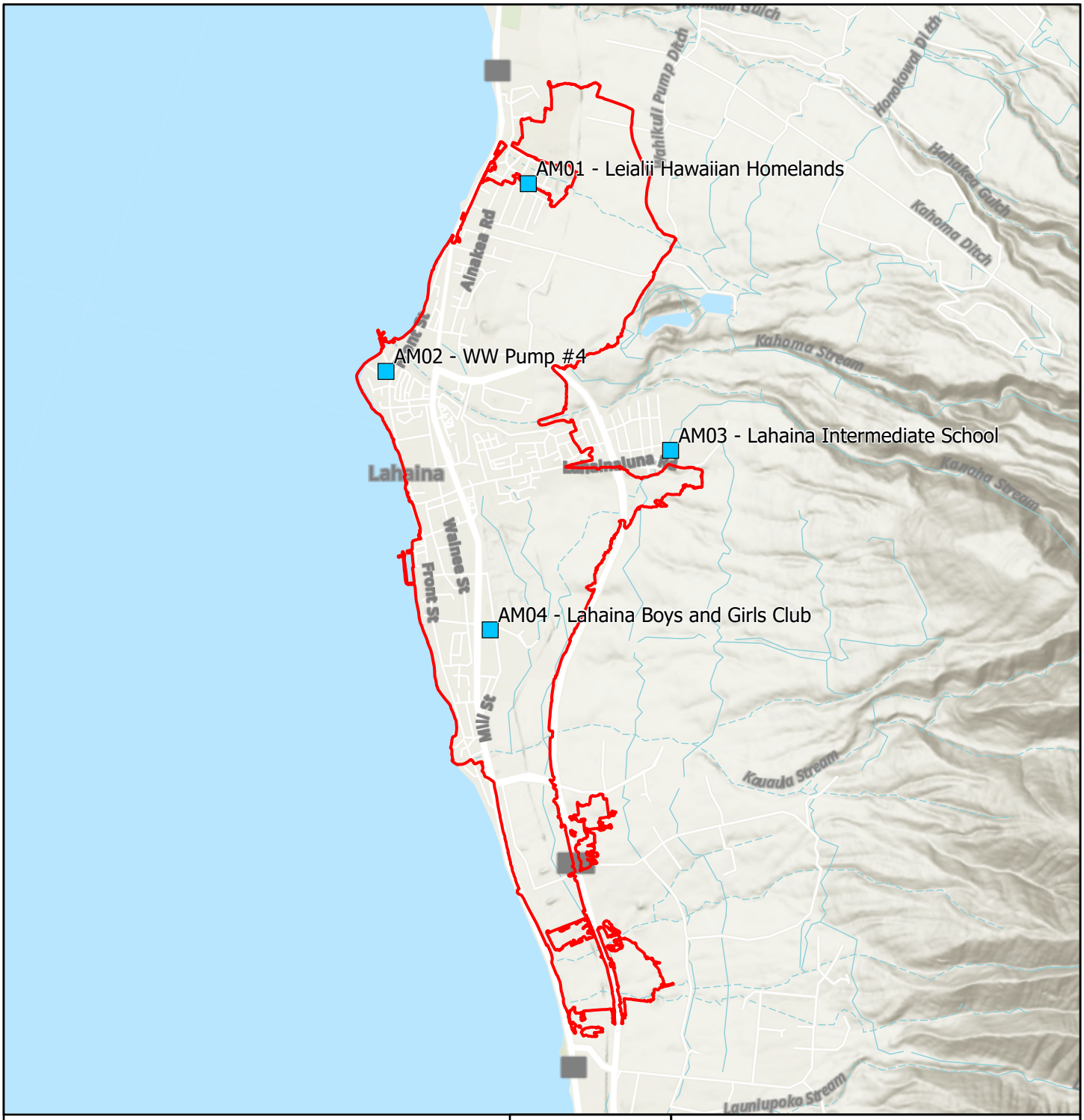
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- 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
- 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
August 15 through August 21, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
8/15/2024	Leialii Hawaiian Homelands (AM-01)	8.9
	WW Pump Station #4 (AM-02)	5.9
	Lahaina Intermediate School (AM-03)	7.0
	Lahaina Boys & Girls Club (AM-04)	16
8/16/2024	Leialii Hawaiian Homelands (AM-01)	6.7*
	WW Pump Station #4 (AM-02)	5.1
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	20
8/17/2024	Leialii Hawaiian Homelands (AM-01)	7.6
	WW Pump Station #4 (AM-02)	5.0
	Lahaina Intermediate School (AM-03)	7.4
	Lahaina Boys & Girls Club (AM-04)	18
8/18/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	4.8
	Lahaina Intermediate School (AM-03)	6.2
	Lahaina Boys & Girls Club (AM-04)	18
8/19/2024	Leialii Hawaiian Homelands (AM-01)	6.6
	WW Pump Station #4 (AM-02)	4.9
	Lahaina Intermediate School (AM-03)	41
	Lahaina Boys & Girls Club (AM-04)	15
8/20/2024	Leialii Hawaiian Homelands (AM-01)	7.0
	WW Pump Station #4 (AM-02)	4.9
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Boys & Girls Club (AM-04)	15
8/21/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	9.5
	Lahaina Boys & Girls Club (AM-04)	17

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
*Data provided as a 22-hour TWA due to equipment maintenance

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
August 15 through August 21, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
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
8/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000820	0.00164	0.00741	0.0000306	ND	0.00665	0.00139	0.197	0.000494	0.0330	0.0114	0.00341	0.000262	0.00000247	0.00417	ND
	WW Pump Station #4 (AM-02)	<0.0024																
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000575	0.000198	0.00283	0.0000205	ND	0.00244	0.000397	0.0628	0.000464	0.0107	0.00357	0.00122	0.000179	0.00000153	0.00112	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000100	0.000291	0.00305	0.00000948	ND	0.00247	0.000345	0.0477	0.000575	0.0102	0.00281	0.00133	0.000197	0.00000168	0.000951	ND
8/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000571	0.00132	0.0121	0.0000601	ND	0.00961	0.00235	0.276	0.000824	0.0602	0.0128	0.00618	0.000342	0.00000323	0.00701	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000115	0.000318	0.00414	0.0000123	ND	0.00221	0.000345	0.0654	0.00107	0.0112	0.00328	0.00101	0.000230	0.00000148	0.00134	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000479	0.000177	0.00298	0.0000289	ND	0.00295	0.000486	0.0453	0.000330	0.0126	0.00329	0.00161	0.000181	0.00000138	0.00133	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000134	0.000186	0.00291	0.00000966	ND	0.00298	0.000363	0.0563	0.000445	0.0114	0.00298	0.00171	0.000196	0.00000158	0.00102	ND
8/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000487	0.000526	0.00548	0.0000221	ND	0.00428	0.000906	0.366	0.000371	0.0274	0.0158	0.00231	0.000216	0.00000188	0.00285	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000944	0.000258	0.00360	0.0000126	ND	0.00212	0.000367	0.0676	0.000648	0.0118	0.00294	0.000961	0.000206	0.00000135	0.00131	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000378	0.000133	0.00232	0.0000187	ND	0.00253	0.000364	0.0571	0.000284	0.00990	0.00314	0.00147	0.000157	0.00000119	0.000984	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000960	0.000143	0.00230	0.00000644	ND	0.00315	0.000242	0.0329	0.000310	0.00717	0.00184	0.00187	0.000150	0.00000117	0.000684	ND
8/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000780	0.00154	0.00371	0.0000115	ND	0.00326	0.000459	0.281	0.000256	0.0126	0.0109	0.00127	0.000175	0.00000148	0.00150	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000956	0.000229	0.00315	0.00000867	ND	0.00205	0.000266	0.0837	0.000542	0.00794	0.00334	0.000865	0.000153	0.00000135	0.000877	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000155	0.00262	0.0000242	ND	0.00279	0.000391	0.0568	0.000276	0.0102	0.00320	0.00132	0.000167	0.00000150	0.00104	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.000141	0.00224	0.00000579	ND	0.00252	0.000217	0.0375	0.000334	0.00646	0.00231	0.00116	0.000142	0.00000129	0.000554	ND
8/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000129	0.00298	0.00802	0.0000251	ND	0.00633	0.00113	0.294	0.000458	0.0275	0.0111	0.00287	0.000193	0.00000202	0.00345	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000861	0.000393	0.00380	0.0000140	ND	0.00243	0.000407	0.112	0.000926	0.0126	0.00356	0.00112	0.000163	0.00000154	0.00140	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000448	0.000143	0.00268	0.0000178	0.000407	0.00263	0.000441	0.0428	0.000432	0.0104	0.00274	0.00464	0.000147	0.00000157	0.000953	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000910	0.000171	0.00338	0.00000737	ND	0.00239	0.000263	0.0376	0.000395	0.00773	0.00234	0.00118	0.000132	0.00000136	0.000753	ND
8/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000557	0.000865	0.00648	0.0000257	ND	0.00614	0.00123	0.299	0.000495	0.0279	0.0124	0.00372	0.000176	0.00000140	0.00362	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000933	0.000330	0.00484	0.0000166	ND	0.00278	0.000501	0.152	0.000868	0.0144	0.00502	0.00147	0.000167	0.00000108	0.00173	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000429	0.000151	0.00266	0.0000175	ND	0.00241	0.000350	0.0406	0.000352	0.00889	0.00293	0.00134	0.000118	0.000000809	0.00108	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000816	0.000228	0.00290	0.0000109	ND	0.00482	0.000416	0.0314	0.000424	0.0108	0.00218	0.00238	0.000124	0.000000886	0.00124	ND
8/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000490	0.000680	0.00867	0.0000332	ND	0.00622	0.00147	0.278	0.000643	0.0396	0.0106	0.00420	0.000289	0.00000233	0.00460	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000127	0.000383	0.00511	0.0000157	ND	0.00270	0.000479	0.136	0.000781	0.0148	0.00361	0.00143	0.000254	0.00000161	0.00197	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000576	0.000231	0.00452	0.0000385	ND	0.00339	0.000577	0.0471	0.000613	0.0144	0.00346	0.00204	0.000225	0.00000139	0.00174	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000100	0.000259	0.00338	0.0000124	0.000112	0.00249	0.000408	0.0321	0.000687	0.0126	0.00194	0.00134	0.000222	0.00000148	0.00143	ND
95% Upper Confidence Limit[2]		NA	0.0000900	0.000710	0.00508	0.0000240	NA	0.00413	0.000760	0.171	0.000940	0.0199	0.00693	0.00247	0.000210	0.00000170	0.00236	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

HM Sample voided due to equipment motor malfunction

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
August 15 through August 21, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
8/15/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	86	58	760.9
8/15/2024	AM-02	WW Pump Station #4	1.1	SSE	81	65	763.1
8/15/2024	AM-03	Lahaina Intermediate School	1.2	ESE	81	62	753.7
8/15/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	80	66	762.7
8/16/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	88	60	761.3
8/16/2024	AM-02	WW Pump Station #4	1.0	S	82	68	763.4
8/16/2024	AM-03	Lahaina Intermediate School	1.1	SE	83	64	754.0
8/16/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	82	69	763.0
8/17/2024	AM-01	Leialii Hawaiian Homelands	1.1	SSE	87	60	760.8
8/17/2024	AM-02	WW Pump Station #4	0.9	S	82	67	763.2
8/17/2024	AM-03	Lahaina Intermediate School	1.1	SE	83	63	753.8
8/17/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	82	68	762.8
8/18/2024	AM-01	Leialii Hawaiian Homelands	1.4	SE	86	63	760.0
8/18/2024	AM-02	WW Pump Station #4	0.9	SSE	83	66	762.4
8/18/2024	AM-03	Lahaina Intermediate School	1.1	SE	82	64	753.0
8/18/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	82	68	762.0
8/19/2024	AM-01	Leialii Hawaiian Homelands	1.2	SSE	85	66	759.5
8/19/2024	AM-02	WW Pump Station #4	0.8	SSE	82	71	761.9
8/19/2024	AM-03	Lahaina Intermediate School	1.0	SE	81	70	752.4
8/19/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	82	71	761.5
8/20/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	88	61	759.9
8/20/2024	AM-02	WW Pump Station #4	1.0	S	82	69	762.4
8/20/2024	AM-03	Lahaina Intermediate School	1.1	SE	82	66	752.9
8/20/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	82	69	762.0
8/21/2024	AM-01	Leialii Hawaiian Homelands	1.1	SSE	87	57	760.9
8/21/2024	AM-02	WW Pump Station #4	1.1	SSE	82	64	763.3
8/21/2024	AM-03	Lahaina Intermediate School	1.0	ESE	82	62	753.8
8/21/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	81	65	762.9

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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081524-AB** **Sample Description: DL274933**

EMSL Sample Number:	042417467-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7091.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0001 **Customer Sample:** MFL-AM01-081524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	B6	None Detected									
B2	F10	None Detected									
B2	I5	None Detected									
B3	G7	None Detected									
B3	C3	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-081524-AB**		**Sample Description:**	**DL275066**
EMSL Sample Number:	042417467-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417467
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: 042417467-0002 **Customer Sample:** MFL-AM02-081524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C7	G3	None Detected									
C7	D5	None Detected									
C7	A4	None Detected									
C8	D7	None Detected									
C8	H8	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081524-AB** **Sample Description:** **DL274851**

EMSL Sample Number:	042417467-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0003 **Customer Sample:** MFL-AM03-081524-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	H3	None Detected									
C2	E2	None Detected									
C2	A3	None Detected									
C3	H2	None Detected									
C3	E3	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081524-AB**		**Sample Description:**	**DL274860**
EMSL Sample Number:	042417467-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7270.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0004 **Customer Sample:** MFL-AM04-081524-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	A8	None Detected									
C5	E9	None Detected									
C5	I6	None Detected									
C6	C9	None Detected									
C6	I8	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-081524-AB**		**Sample Description:**	**DL274869**
EMSL Sample Number:	042417467-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042417467
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: 042417467-0005 **Customer Sample:** MFL-FB01-081524-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	A8	None Detected									
D2	C6	None Detected									
D2	D4	None Detected									
D2	E8	None Detected									
D2	H7	None Detected									
D3	J3	None Detected									
D3	H2	None Detected									
D3	F2	None Detected									
D3	D3	None Detected									
D3	A1	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081624-AB** **Sample Description:** **DL275003**

EMSL Sample Number:	042417467-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7276.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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:	**042417467**
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: 042417467-0006 **Customer Sample:** MFL-AM01-081624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	I7	None Detected									
D6	F8	None Detected									
D6	C10	None Detected									
D7	C1	None Detected									
D7	I4	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-081624-AB** **Sample Description: DL274852**

EMSL Sample Number:	042417467-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417467
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: 042417467-0007 **Customer Sample:** MFL-AM02-081624-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	H3	None Detected									
E1	E2	None Detected									
E1	C4	None Detected									
E2	B9	None Detected									
E2	I10	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-081624-AB**		**Sample Description:**	**DL274853**
EMSL Sample Number:	042417467-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417467
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: 042417467-0008 **Customer Sample:** MFL-AM03-081624-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	I2	None Detected									
E5	F7	None Detected									
E5	E1	None Detected									
E6	A10	None Detected									
E6	E8	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-081624-AB** **Sample Description:** **DL274873**

EMSL Sample Number:	042417467-0009		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):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417467
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: 042417467-0009 **Customer Sample:** MFL-AM04-081624-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	E2	None Detected									
F1	G2	None Detected									
F1	I5	None Detected									
F2	H6	None Detected									
F2	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-081624-AB**		**Sample Description:**	**DL274938**
EMSL Sample Number:	042417467-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042417467
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: 042417467-0010 **Customer Sample:** MFL-FB01-081624-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	B2	None Detected									
F1	B7	None Detected									
F1	D1	None Detected									
F2	J10	None Detected									
F2	J5	None Detected									
F2	I4	None Detected									
F2	G10	None Detected									
F2	B8	None Detected									
F2	B6	None Detected									
F2	A3	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081724-AB** **Sample Description: DL275097**

EMSL Sample Number:	042417467-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417467
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: 042417467-0011 **Customer Sample:** MFL-AM01-081724-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	H9	None Detected									
G2	F7	None Detected									
G2	D5	None Detected									
G3	I7	None Detected									
G3	F4	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-081724-AB** **Sample Description: DL274871**

EMSL Sample Number:	042417467-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0012 **Customer Sample:** MFL-AM02-081724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	A10	None Detected									
G6	D6	None Detected									
G6	I9	None Detected									
G7	G2	None Detected									
G7	B3	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081724-AB** **Sample Description: DL274850**

EMSL Sample Number:	042417467-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7057.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417467
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: 042417467-0013 **Customer Sample:** MFL-AM03-081724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	B10	None Detected									
H2	E9	None Detected									
H2	G5	None Detected									
H3	C5	None Detected									
H3	J7	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081724-AB**		**Sample Description:**	**DL275111**
EMSL Sample Number:	042417467-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7115.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0014 **Customer Sample:** MFL-AM04-081724-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	C7	None Detected									
H5	F3	None Detected									
H5	H3	None Detected									
H6	C5	None Detected									
H6	G9	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081724-AB** **Sample Description: DL275023**

EMSL Sample Number:	042417467-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042417467
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: 042417467-0015 **Customer Sample:** MFL-FB01-081724-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	A6	None Detected									
I2	C8	None Detected									
I2	E8	None Detected									
I2	G9	None Detected									
I2	I6	None Detected									
I3	A6	None Detected									
I3	C6	None Detected									
I3	E1	None Detected									
I3	G5	None Detected									
I3	I7	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-081824-AB**		**Sample Description:**	**DL274924**
EMSL Sample Number:	042417467-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0016 **Customer Sample:** MFL-AM01-081824-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	J3	None Detected									
I5	G1	None Detected									
I5	D3	None Detected									
I6	B8	None Detected									
I6	F10	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-081824-AB**		**Sample Description:**	**DL274915**
EMSL Sample Number:	042417467-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7145.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0017 **Customer Sample:** MFL-AM02-081824-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					
J2	I5	None Detected									
J2	G7	None Detected									
J2	D5	None Detected									
J3	H5	None Detected									
J3	B9	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-081824-AB** **Sample Description:** **DL274927**

EMSL Sample Number:	042417467-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7229.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0018 **Customer Sample:** MFL-AM03-081824-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	H8	None Detected									
J5	E7	None Detected									
J5	B7	None Detected									
J6	I7	None Detected									
J6	C8	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-081824-AB**	**Sample Description:**	**DL274946**
EMSL Sample Number:	042417467-0019	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7153.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417467
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: 042417467-0019 **Customer Sample:** MFL-AM04-081824-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					
K2	B8	None Detected									
K2	F9	None Detected									
K2	H6	None Detected									
K3	B7	None Detected									
K3	G5	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081824-AB** **Sample Description:** **DL274903**

EMSL Sample Number:	042417467-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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: 042417467
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: 042417467-0020 **Customer Sample:** MFL-FB01-081824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J4	None Detected									
K5	H7	None Detected									
K5	F7	None Detected									
K5	D6	None Detected									
K5	B4	None Detected									
K6	J6	None Detected									
K6	H1	None Detected									
K6	F3	None Detected									
K6	D2	None Detected									
K6	B1	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:	042417467
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:	08/21/2024 09:30 AM
Analysis Date:	08/26/2024
Report Date:	08/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042417467-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042417467
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: 042417467-0021 **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	J2	None Detected									
A1	I4	None Detected									
A1	H2	None Detected									
A1	G8	None Detected									
A1	D3	None Detected									
A2	J2	None Detected									
A2	H3	None Detected									
A2	F4	None Detected									
A2	C4	None Detected									
A2	A1	None Detected									

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

OrderID: 042417467

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417467

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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: E. Kanoa Saldana
Sampled By Signature:
No. of Samples in Shipment

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 NJ 24 AUG 21 AM 5:11

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-081524-AB	DL ~~247933~~ 274933 (EKS)	7,091.774	08/15/24 1101
MFL-AM02-081524-AB	DL275066	7,215.601	08/15/24 1119
MFL-AM03-081524-AB	DL274851	7,197.618	08/15/24 1310
MFL-AM04-081524-AB	DL274860	7,270.128	08/15/24 1326
MFL-FB01-081524-AB	DL274869	0	08/15/24 1200
MFL-AM01-081624-AB	DL275003	7,275.962	08/16/24 1100
* MFL-AM02-081624-AB	~~DL274853~~ (EKS)	~~7,212.708~~ (EKS)	08/16/24 1118
MFL-AM03-081624-AB	DL274853	7,212.708	08/16/24 1300

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

* Sample MFL-AM02-081624-AB s/n is DL274852 & volume is 7,238.284

All samples received acceptable for analysis.

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by	Date/Time	Received by	Date/Time
	08/19/24 1100	FX	8/21/24 9:30

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.

20 AM

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417467

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

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

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-081624-AB	DL274873	7,225.567	08/16/24 1318
MFL-FB01-081624-AB	DL274938	0	08/16/24 1200
MFL-AM01-081724-AB	DL275097	7,178.420	08/17/24 1059
MFL-AM02-081724-AB	DL274871	7,163.055	08/17/24 1117
MFL-AM03-081724-AB (EVS)	DL274850	7,057.576	08/17/24 1301
MFL-AM04-081724-AB	DL275111	7,115.306	08/17/24 1320
MFL-FB01-081724-AB	DL275023	0	08/17/24 1200
MFL-AM01-081824-AB	DL274924	7,174.256	08/18/24 1058
MFL-AM02-081824-AB	DL274915	7,145.583	08/18/24 1114
MFL-AM03-081824-AB	DL274927	7,229.772	08/18/24 1257
MFL-AM04-081824-AB	DL274946	7,153.578	08/18/24 1319
MFL-FB01-081824-AB	DL274903	0	08/18/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 AUG 21 AM 11:51

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: [illegible]	Date/Time: 08/19/24 1100	Received by: [signature]	Date/Time 8/21/24
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/29/2024 and Shanna Vasser 08/30/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/15/2024 – 08/18/2024
Report No: 42417467

√	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-081924-AB** **Sample Description:** **DL274889**

EMSL Sample Number:	042417809-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7273.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0001 **Customer Sample:** MFL-AM01-081924-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	B9	None Detected									
A5	D5	None Detected									
A5	H9	None Detected									
A6	C8	None Detected									
A6	I9	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-081924-AB**	**Sample Description:**	**DL274939**
EMSL Sample Number:	042417809-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7139.7
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0002 **Customer Sample:** MFL-AM02-081924-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	C8	None Detected									
B1	E7	None Detected									
B1	H8	None Detected									
B2	C10	None Detected									
B2	F7	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-081924-AB**		**Sample Description:**	**DL274985**
EMSL Sample Number:	042417809-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7170.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417809
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: 042417809-0003 **Customer Sample:** MFL-AM03-081924-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	I4	None Detected									
B5	G2	None Detected									
B5	B5	None Detected									
B6	G2	None Detected									
B6	D1	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-081924-AB** **Sample Description:** **DL275123**

EMSL Sample Number:	042417809-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417809
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: 042417809-0004 **Customer Sample:** MFL-AM04-081924-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	I1	None Detected									
C1	E5	None Detected									
C1	C5	None Detected									
C2	H5	None Detected									
C2	A7	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-081924-AB** **Sample Description:** **DL274920**

EMSL Sample Number:	042417809-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042417809
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: 042417809-0005 **Customer Sample:** MFL-FB01-081924-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	J8	None Detected									
C5	H7	None Detected									
C5	F4	None Detected									
C5	D9	None Detected									
C5	B8	None Detected									
C6	A5	None Detected									
C6	C8	None Detected									
C6	E7	None Detected									
C6	G6	None Detected									
C6	I8	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-082024-AB** **Sample Description:** **DL274911**

EMSL Sample Number:	042417809-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7240.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0006 **Customer Sample:** MFL-AM01-082024-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	G5	None Detected									
D1	E7	None Detected									
D1	C2	None Detected									
D2	B8	None Detected									
D2	I10	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-082024-AB** **Sample Description:** **DL274929**

EMSL Sample Number:	042417809-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7139.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042417809
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: 042417809-0007 **Customer Sample:** MFL-AM02-082024-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	A8	None Detected									
D5	E8	None Detected									
D5	I5	None Detected									
D6	A5	None Detected									
D6	H2	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-082024-AB** **Sample Description:** **DL274935**

EMSL Sample Number:	042417809-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0008 **Customer Sample:** MFL-AM03-082024-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	G4	None Detected									
E1	E2	None Detected									
E1	B5	None Detected									
E2	B5	None Detected									
E2	C2	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-082024-AB** **Sample Description:** **DL275045**

EMSL Sample Number:	042417809-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7172.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0009 **Customer Sample:** MFL-AM04-082024-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	C6	None Detected									
E5	F7	None Detected									
E5	J8	None Detected									
E6	I3	None Detected									
E6	E8	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082024-AB** **Sample Description:** **DL275090**

EMSL Sample Number:	042417809-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042417809
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: 042417809-0010 **Customer Sample:** MFL-FB01-082024-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	J7	None Detected									
F1	H10	None Detected									
F1	F7	None Detected									
F1	D9	None Detected									
F1	B5	None Detected									
F2	J5	None Detected									
F2	H3	None Detected									
F2	F4	None Detected									
F2	D5	None Detected									
F2	B3	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-082124-AB**	**Sample Description:**	**DL275088**
EMSL Sample Number:	042417809-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7196.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0011 **Customer Sample:** MFL-AM01-082124-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	A8	None Detected									
F5	D5	None Detected									
F5	G2	None Detected									
F6	H10	None Detected									
F6	E7	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082124-AB**	**Sample Description:**	**DL274956**
EMSL Sample Number:	042417809-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7297.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0012 **Customer Sample:** MFL-AM02-082124-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	B4	None Detected									
G1	E7	None Detected									
G1	I5	None Detected									
G2	D5	None Detected									
G2	I8	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082124-AB**	**Sample Description:**	**DL274916**
EMSL Sample Number:	042417809-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7243.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0013 **Customer Sample:** MFL-AM03-082124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	J3	None Detected									
G6	F4	None Detected									
G6	C5	None Detected									
G7	J7	None Detected									
G7	C3	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-082124-AB** **Sample Description: DL274947**

EMSL Sample Number:	042417809-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7266.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042417809
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: 042417809-0014 **Customer Sample:** MFL-AM04-082124-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	F2	None Detected									
H1	G6	None Detected									
H1	J7	None Detected									
H2	H2	None Detected									
H2	C5	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/29/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082124-AB** **Sample Description:** **DL274932**

EMSL Sample Number:	042417809-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042417809
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: 042417809-0015 **Customer Sample:** MFL-FB01-082124-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	J5	None Detected									
H5	H3	None Detected									
H5	F8	None Detected									
H5	D6	None Detected									
H5	B4	None Detected									
H6	J4	None Detected									
H6	H3	None Detected									
H6	F4	None Detected									
H6	D5	None Detected									
H6	B6	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:	042417809
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:	08/26/2024 09:10 AM
Analysis Date:	08/27/2024
Report Date:	08/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042417809-0016		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):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042417809
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: 042417809-0016 **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					
A2	A9	None Detected									
A2	C10	None Detected									
A2	E7	None Detected									
A2	D5	None Detected									
A2	I9	None Detected									
A3	A10	None Detected									
A3	C9	None Detected									
A3	E7	None Detected									
A3	G5	None Detected									
A3	I4	None Detected									

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

OrderID: 042417809

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042417809

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

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: E. Marysa Saldaña
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-081924-AB	DL274889	7,273.159	08/19/24 1101
MFL-AM02-081924-AB	DL274939	7,139.735	08/19/24 1115
MFL-AM03-081924-AB	DL274985	7,170.105	08/19/24 1259
MFL-AM04-081924-AB	DL275123	7,165.313	08/19/24 1319
MFL-FB01-081924-AB	DL274920	0	08/19/24 1200
MFL-AM01-082024-AB	DL274911	7,240.376	08/20/24 1057
MFL-AM02-082024-AB	DL274929	7,139.809	08/20/24 1111
MFL-AM03-082024-AB	DL274935	7,162.008	08/20/24 1300

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

All samples received acceptable for analysis.

15

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	08/22/24 1100	FedEx	8/26/24 940A
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

OrderID: 042417809

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042417809

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

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

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-082024-AB	DL275045	7,172.211	08/20/24 1319
MFL-FB01-082024-AB	DL275090	0	08/20/24 1200
MFL-AM01-082124-AB	DL275088	7,196.400	08/21/24 1100
MFL-AM02-082124-AB	DL274956	7,297.250	08/21/24 1119
MFL-AM03-082124-AB	DL274916	7,243.494	08/21/24 1300
MFL-AM04-082124-AB	DL274947	7,266.096	08/21/24 1323
MFL-FB01-082124-AB	DL274932	0	08/21/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 AUG 26 AM 9:42

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/22/24 1100	Received by: FedEx	Date/Time 8/26/24 9:10A
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 09/03/2024 and Shanna Vasser 09/04/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/19/2024 – 08/21/2024
Report No: 42417809

√	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

September 04, 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 08/26/24 07:05.

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: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-081524-HM	4H28001-01	Air	08/15/24 23:59	08/26/24 07:05
MFL-AM03-081524-HM	4H28001-03	Air	08/15/24 23:59	08/26/24 07:05
MFL-AM04-081524-HM	4H28001-04	Air	08/15/24 23:59	08/26/24 07:05
MFL-FB01-081524-HM	4H28001-05	Air	08/15/24 00:00	08/26/24 07:05
MFL-AM01-081624-HM	4H28001-06	Air	08/16/24 23:59	08/26/24 07:05
MFL-AM02-081624-HM	4H28001-07	Air	08/16/24 23:59	08/26/24 07:05
MFL-AM03-081624-HM	4H28001-08	Air	08/16/24 23:59	08/26/24 07:05
MFL-AM04-081624-HM	4H28001-09	Air	08/16/24 23:59	08/26/24 07:05
MFL-AM01-081724-HM	4H28001-10	Air	08/17/24 23:59	08/26/24 07:05
MFL-AM02-081724-HM	4H28001-11	Air	08/17/24 23:59	08/26/24 07:05
MFL-AM03-081724-HM	4H28001-12	Air	08/17/24 23:59	08/26/24 07:05
MFL-AM04-081724-HM	4H28001-13	Air	08/17/24 23:59	08/26/24 07:05
MFL-FB01-081724-HM	4H28001-14	Air	08/17/24 00:00	08/26/24 07:05
MFL-AM01-081824-HM	4H28001-15	Air	08/18/24 23:59	08/26/24 07:05
MFL-AM02-081824-HM	4H28001-16	Air	08/18/24 23:59	08/26/24 07:05
MFL-AM03-081824-HM	4H28001-17	Air	08/18/24 23:59	08/26/24 07:05
MFL-AM04-081824-HM	4H28001-18	Air	08/18/24 23:59	08/26/24 07:05
MFL-AM01-081924-HM	4H28001-19	Air	08/19/24 23:59	08/26/24 07:05
MFL-AM02-081924-HM	4H28001-20	Air	08/19/24 23:59	08/26/24 07:05
MFL-AM03-081924-HM	4H28001-21	Air	08/19/24 23:59	08/26/24 07:05
MFL-AM04-081924-HM	4H28001-22	Air	08/19/24 23:59	08/26/24 07:05

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: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-FB01-081924-HM	4H28001-23	Air	08/19/24 00:00	08/26/24 07:05
MFL-AM01-082024-HM	4H28001-24	Air	08/20/24 23:59	08/26/24 07:05
MFL-AM02-082024-HM	4H28001-25	Air	08/20/24 23:59	08/26/24 07:05
MFL-AM03-082024-HM	4H28001-26	Air	08/20/24 23:59	08/26/24 07:05
MFL-AM04-082024-HM	4H28001-27	Air	08/20/24 23:59	08/26/24 07:05
MFL-AM01-082124-HM	4H28001-28	Air	08/21/24 23:59	08/26/24 07:05
MFL-AM02-082124-HM	4H28001-29	Air	08/21/24 23:59	08/26/24 07:05
MFL-AM03-082124-HM	4H28001-30	Air	08/21/24 23:59	08/26/24 07:05
MFL-AM04-082124-HM	4H28001-31	Air	08/21/24 23:59	08/26/24 07:05
MFL-FB01-082124-HM	4H28001-32	Air	08/21/24 00:00	08/26/24 07:05

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: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081524-HM
Matrix: Air
Lab ID: 4H28001-01
Sample Volume: 1946.723 m³
Filter ID:
Sampled: 08/15/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 02:07

Comments: Q9553177 - Recieved 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**	**0.0820**	SL	**0.0323**
Arsenic	**7440-38-2**	**1.64**		**0.00783**
Barium	**7440-39-3**	**7.41**		**0.894**
Beryllium	**7440-41-7**	**0.0306**		**0.00267**
Cadmium	7440-43-9	0.0397	U	0.0619
Chromium	**7440-47-3**	**6.65**		**1.85**
Cobalt	**7440-48-4**	**1.39**	QB-01	**0.0364**
Copper	**7440-50-8**	**197**		**2.20**
Lead	**7439-92-1**	**0.494**		**0.179**
Manganese	**7439-96-5**	**33.0**		**1.58**
Molybdenum	**7439-98-7**	**11.4**		**0.300**
Nickel	**7440-02-0**	**3.41**		**0.545**
Selenium	**7782-49-2**	**0.262**		**0.00749**
Thallium	**7440-28-0**	**0.00247**	QB-04	**4.92E-4**
Vanadium	**7440-62-2**	**4.17**		**0.0442**
Zinc	7440-66-6	11.9	U	64.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081524-HM
Matrix: Air
Lab ID: 4H28001-03
Sample Volume: 2042.821 m³
Filter ID:
Sampled: 08/15/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 02:27

Comments: Q9553175 - Recieved 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**	**0.0575**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.198**		**0.00746**
Barium	**7440-39-3**	**2.83**		**0.852**
Beryllium	**7440-41-7**	**0.0205**		**0.00255**
Cadmium	7440-43-9	0.0237	U	0.0590
Chromium	**7440-47-3**	**2.44**		**1.76**
Cobalt	**7440-48-4**	**0.397**	QB-01	**0.0347**
Copper	**7440-50-8**	**62.8**		**2.09**
Lead	**7439-92-1**	**0.464**		**0.170**
Manganese	**7439-96-5**	**10.7**		**1.51**
Molybdenum	**7439-98-7**	**3.57**		**0.286**
Nickel	**7440-02-0**	**1.22**		**0.519**
Selenium	**7782-49-2**	**0.179**		**0.00714**
Thallium	**7440-28-0**	**0.00153**	QB-04	**4.69E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0421**
Zinc	7440-66-6	12.3	U	61.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081524-HM
Matrix: Air
Lab ID: 4H28001-04
Sample Volume: 1642.174 m³
Filter ID:
Sampled: 08/15/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 02:44

Comments: Q9553171 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0382**
Arsenic	**7440-38-2**	**0.291**		**0.00928**
Barium	**7440-39-3**	**3.05**		**1.06**
Beryllium	**7440-41-7**	**0.00948**		**0.00317**
Cadmium	7440-43-9	0.0121	U	0.0734
Chromium	**7440-47-3**	**2.47**		**2.19**
Cobalt	**7440-48-4**	**0.345**	QB-01	**0.0432**
Copper	**7440-50-8**	**47.7**		**2.61**
Lead	**7439-92-1**	**0.575**		**0.212**
Manganese	**7439-96-5**	**10.2**		**1.87**
Molybdenum	**7439-98-7**	**2.81**		**0.356**
Nickel	**7440-02-0**	**1.33**		**0.646**
Selenium	**7782-49-2**	**0.197**		**0.00888**
Thallium	**7440-28-0**	**0.00168**	QB-04	**5.84E-4**
Vanadium	**7440-62-2**	**0.951**		**0.0524**
Zinc	7440-66-6	15.4	U	76.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-081524-HM
Matrix: Air
Lab ID: 4H28001-05
Sample Volume: 1946.723 m³
Filter ID:
Sampled: 08/15/24 00:00
Received: 08/26/24 07:05
Analysis Date: 08/28/24 03:00

Comments: Q9553158 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00982	SL, U	0.0323
Arsenic	7440-38-2	0.00236	U	0.00783
Barium	7440-39-3	0.394	U	0.894
Beryllium	7440-41-7	7.62E-4	U	0.00267
Cadmium	7440-43-9	9.64E-4	U	0.0619
Chromium	7440-47-3	1.12	U	1.85
Cobalt	7440-48-4	0.0229	QB-01, U	0.0364
Copper	7440-50-8	0.419	U	2.20
Lead	7439-92-1	0.0253	U	0.179
Manganese	7439-96-5	0.136	U	1.58
Molybdenum	7439-98-7	0.171	U	0.300
Nickel	7440-02-0	0.272	U	0.545
Selenium	7782-49-2	0.00245	U	0.00749
Thallium	7440-28-0	1.62E-4	QB-04, U	4.92E-4
Vanadium	7440-62-2	0.0175	U	0.0442
Zinc	7440-66-6	3.98	U	64.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081624-HM
Matrix: Air
Lab ID: 4H28001-06
Sample Volume: 1908.475 m³
Filter ID:
Sampled: 08/16/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 03:14

Comments: Q9553165 - Recieved 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**	**0.0571**	SL	**0.0329**
Arsenic	**7440-38-2**	**1.32**		**0.00799**
Barium	**7440-39-3**	**12.1**		**0.912**
Beryllium	**7440-41-7**	**0.0601**		**0.00273**
Cadmium	7440-43-9	0.0296	U	0.0632
Chromium	**7440-47-3**	**9.61**		**1.88**
Cobalt	**7440-48-4**	**2.35**	QB-01	**0.0372**
Copper	**7440-50-8**	**276**		**2.24**
Lead	**7439-92-1**	**0.824**		**0.182**
Manganese	**7439-96-5**	**60.2**		**1.61**
Molybdenum	**7439-98-7**	**12.8**		**0.306**
Nickel	**7440-02-0**	**6.18**		**0.556**
Selenium	**7782-49-2**	**0.342**		**0.00764**
Thallium	**7440-28-0**	**0.00323**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**7.01**		**0.0451**
Zinc	7440-66-6	12.5	U	65.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081624-HM
Matrix: Air
Lab ID: 4H28001-07
Sample Volume: 1968.051 m³
Filter ID:
Sampled: 08/16/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 03:32

Comments: Q9553164 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.318**		**0.00775**
Barium	**7440-39-3**	**4.14**		**0.885**
Beryllium	**7440-41-7**	**0.0123**		**0.00265**
Cadmium	7440-43-9	0.0134	U	0.0613
Chromium	**7440-47-3**	**2.21**		**1.83**
Cobalt	**7440-48-4**	**0.345**	QB-01	**0.0360**
Copper	**7440-50-8**	**65.4**		**2.17**
Lead	**7439-92-1**	**1.07**		**0.177**
Manganese	**7439-96-5**	**11.2**		**1.56**
Molybdenum	**7439-98-7**	**3.28**		**0.297**
Nickel	**7440-02-0**	**1.01**		**0.539**
Selenium	**7782-49-2**	**0.230**		**0.00741**
Thallium	**7440-28-0**	**0.00148**	QB-04	**4.87E-4**
Vanadium	**7440-62-2**	**1.34**		**0.0437**
Zinc	7440-66-6	12.8	U	63.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081624-HM
Matrix: Air
Lab ID: 4H28001-08
Sample Volume: 1864.084 m³
Filter ID:
Sampled: 08/16/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 03:49

Comments: Q9553161 - Recieved 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**	**0.0479**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.177**		**0.00818**
Barium	**7440-39-3**	**2.98**		**0.934**
Beryllium	**7440-41-7**	**0.0289**		**0.00279**
Cadmium	7440-43-9	0.0241	U	0.0647
Chromium	**7440-47-3**	**2.95**		**1.93**
Cobalt	**7440-48-4**	**0.486**	QB-01	**0.0381**
Copper	**7440-50-8**	**45.3**		**2.30**
Lead	**7439-92-1**	**0.330**		**0.187**
Manganese	**7439-96-5**	**12.6**		**1.65**
Molybdenum	**7439-98-7**	**3.29**		**0.313**
Nickel	**7440-02-0**	**1.61**		**0.569**
Selenium	**7782-49-2**	**0.181**		**0.00782**
Thallium	**7440-28-0**	**0.00138**	QB-04	**5.14E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0462**
Zinc	7440-66-6	14.4	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: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081624-HM
Matrix: Air
Lab ID: 4H28001-09
Sample Volume: 1548.518 m³
Filter ID:
Sampled: 08/16/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/27/24 19:02

Comments: Q9553159 - Recieved 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	**0.0406**
Arsenic	**7440-38-2**	**0.186**		**0.00984**
Barium	**7440-39-3**	**2.91**		**1.12**
Beryllium	**7440-41-7**	**0.00966**		**0.00336**
Cadmium	7440-43-9	0.0219	U	0.0779
Chromium	**7440-47-3**	**2.98**		**2.32**
Cobalt	**7440-48-4**	**0.363**	QB-01	**0.0458**
Copper	**7440-50-8**	**56.3**	QM-07	**2.76**
Lead	**7439-92-1**	**0.445**		**0.225**
Manganese	**7439-96-5**	**11.4**	QM-07	**1.99**
Molybdenum	**7439-98-7**	**2.98**	QM-07	**0.377**
Nickel	**7440-02-0**	**1.71**	QM-07	**0.685**
Selenium	**7782-49-2**	**0.196**		**0.00941**
Thallium	**7440-28-0**	**0.00158**	QB-04	**6.19E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0556**
Zinc	7440-66-6	17.2	U	80.7

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081724-HM
Matrix: Air
Lab ID: 4H28001-10
Sample Volume: 1908.475 m³
Filter ID:
Sampled: 08/17/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 04:05

Comments: Q9553157 - Recieved 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**	**0.0487**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.526**		**0.00799**
Barium	**7440-39-3**	**5.48**		**0.912**
Beryllium	**7440-41-7**	**0.0221**		**0.00273**
Cadmium	7440-43-9	0.0174	U	0.0632
Chromium	**7440-47-3**	**4.28**		**1.88**
Cobalt	**7440-48-4**	**0.906**	QB-01	**0.0372**
Copper	**7440-50-8**	**366**		**2.24**
Lead	**7439-92-1**	**0.371**		**0.182**
Manganese	**7439-96-5**	**27.4**		**1.61**
Molybdenum	**7439-98-7**	**15.8**		**0.306**
Nickel	**7440-02-0**	**2.31**		**0.556**
Selenium	**7782-49-2**	**0.216**		**0.00764**
Thallium	**7440-28-0**	**0.00188**	QB-04	**5.02E-4**
Vanadium	**7440-62-2**	**2.85**		**0.0451**
Zinc	7440-66-6	8.97	U	65.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081724-HM
Matrix: Air
Lab ID: 4H28001-11
Sample Volume: 2008.883 m³
Filter ID:
Sampled: 08/17/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 04:21

Comments: Q9553155 - Recieved 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**	**0.0944**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.258**		**0.00759**
Barium	**7440-39-3**	**3.60**		**0.867**
Beryllium	**7440-41-7**	**0.0126**		**0.00259**
Cadmium	7440-43-9	0.00979	U	0.0600
Chromium	**7440-47-3**	**2.12**		**1.79**
Cobalt	**7440-48-4**	**0.367**	QB-01	**0.0353**
Copper	**7440-50-8**	**67.6**		**2.13**
Lead	**7439-92-1**	**0.648**		**0.173**
Manganese	**7439-96-5**	**11.8**		**1.53**
Molybdenum	**7439-98-7**	**2.94**		**0.291**
Nickel	**7440-02-0**	**0.961**		**0.528**
Selenium	**7782-49-2**	**0.206**		**0.00726**
Thallium	**7440-28-0**	**0.00135**	QB-04	**4.77E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0428**
Zinc	7440-66-6	10.2	U	62.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081724-HM
Matrix: Air
Lab ID: 4H28001-12
Sample Volume: 2061.081 m³
Filter ID:
Sampled: 08/17/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 05:33

Comments: Q9553153 - Recieved 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**	**0.0378**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.133**		**0.00740**
Barium	**7440-39-3**	**2.32**		**0.845**
Beryllium	**7440-41-7**	**0.0187**		**0.00253**
Cadmium	7440-43-9	0.0107	U	0.0585
Chromium	**7440-47-3**	**2.53**		**1.74**
Cobalt	**7440-48-4**	**0.364**	QB-01	**0.0344**
Copper	**7440-50-8**	**57.1**		**2.08**
Lead	**7439-92-1**	**0.284**		**0.169**
Manganese	**7439-96-5**	**9.90**		**1.49**
Molybdenum	**7439-98-7**	**3.14**		**0.283**
Nickel	**7440-02-0**	**1.47**		**0.515**
Selenium	**7782-49-2**	**0.157**		**0.00707**
Thallium	**7440-28-0**	**0.00119**	QB-04	**4.65E-4**
Vanadium	**7440-62-2**	**0.984**		**0.0418**
Zinc	7440-66-6	10.4	U	60.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081724-HM
Matrix: Air
Lab ID: 4H28001-13
Sample Volume: 1589.685 m³
Filter ID:
Sampled: 08/17/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 05:50

Comments: Q9553150 - Recieved 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**	**0.0960**	SL	**0.0395**
Arsenic	**7440-38-2**	**0.143**		**0.00959**
Barium	**7440-39-3**	**2.30**		**1.10**
Beryllium	**7440-41-7**	**0.00644**		**0.00328**
Cadmium	7440-43-9	0.0102	U	0.0758
Chromium	**7440-47-3**	**3.15**		**2.26**
Cobalt	**7440-48-4**	**0.242**	QB-01	**0.0446**
Copper	**7440-50-8**	**32.9**		**2.69**
Lead	**7439-92-1**	**0.310**		**0.219**
Manganese	**7439-96-5**	**7.17**		**1.93**
Molybdenum	**7439-98-7**	**1.84**		**0.367**
Nickel	**7440-02-0**	**1.87**		**0.667**
Selenium	**7782-49-2**	**0.150**		**0.00917**
Thallium	**7440-28-0**	**0.00117**	QB-04	**6.03E-4**
Vanadium	**7440-62-2**	**0.684**		**0.0541**
Zinc	7440-66-6	11.7	U	78.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-081724-HM
Matrix: Air
Lab ID: 4H28001-14
Sample Volume: 1908.475 m³
Filter ID:
Sampled: 08/17/24 00:00
Received: 08/26/24 07:05
Analysis Date: 08/28/24 06:07

Comments: Q9553147 - Recieved 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	0.0112	SL, U	0.0329
Arsenic	7440-38-2	0.00699	U	0.00799
Barium	7440-39-3	0.478	U	0.912
Beryllium	7440-41-7	9.47E-4	U	0.00273
Cadmium	7440-43-9	0.00121	U	0.0632
Chromium	7440-47-3	1.05	U	1.88
Cobalt	7440-48-4	0.0264	QB-01, U	0.0372
Copper	7440-50-8	0.943	U	2.24
Lead	7439-92-1	0.0417	U	0.182
Manganese	7439-96-5	0.280	U	1.61
Molybdenum	7439-98-7	0.194	U	0.306
Nickel	7440-02-0	0.266	U	0.556
Selenium	7782-49-2	0.00335	U	0.00764
Thallium	7440-28-0	1.78E-4	QB-04, U	5.02E-4
Vanadium	7440-62-2	0.0333	U	0.0451
Zinc	7440-66-6	10.5	U	65.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081824-HM
Matrix: Air
Lab ID: 4H28001-15
Sample Volume: 1906.083 m³
Filter ID:
Sampled: 08/18/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 06:21

Comments: Q9553148 - Recieved 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**	**0.0780**	SL	**0.0329**
Arsenic	**7440-38-2**	**1.54**		**0.00800**
Barium	**7440-39-3**	**3.71**		**0.913**
Beryllium	**7440-41-7**	**0.0115**		**0.00273**
Cadmium	7440-43-9	0.0248	U	0.0633
Chromium	**7440-47-3**	**3.26**		**1.89**
Cobalt	**7440-48-4**	**0.459**	QB-01	**0.0372**
Copper	**7440-50-8**	**281**		**2.24**
Lead	**7439-92-1**	**0.256**		**0.183**
Manganese	**7439-96-5**	**12.6**		**1.61**
Molybdenum	**7439-98-7**	**10.9**		**0.306**
Nickel	**7440-02-0**	**1.27**		**0.557**
Selenium	**7782-49-2**	**0.175**		**0.00765**
Thallium	**7440-28-0**	**0.00148**	QB-04	**5.03E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0452**
Zinc	7440-66-6	12.9	U	65.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081824-HM
Matrix: Air
Lab ID: 4H28001-16
Sample Volume: 1963.939 m³
Filter ID:
Sampled: 08/18/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 06:51

Comments: Q9553145 - Recieved 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**	**0.0956**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.229**		**0.00776**
Barium	**7440-39-3**	**3.15**		**0.886**
Beryllium	**7440-41-7**	**0.00867**		**0.00265**
Cadmium	7440-43-9	0.0121	U	0.0614
Chromium	**7440-47-3**	**2.05**		**1.83**
Cobalt	**7440-48-4**	**0.266**	QB-01	**0.0361**
Copper	**7440-50-8**	**83.7**		**2.18**
Lead	**7439-92-1**	**0.542**		**0.177**
Manganese	**7439-96-5**	**7.94**		**1.57**
Molybdenum	**7439-98-7**	**3.34**		**0.297**
Nickel	**7440-02-0**	**0.865**		**0.540**
Selenium	**7782-49-2**	**0.153**		**0.00742**
Thallium	**7440-28-0**	**0.00135**	QB-04	**4.88E-4**
Vanadium	**7440-62-2**	**0.877**		**0.0438**
Zinc	7440-66-6	12.2	U	63.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081824-HM
Matrix: Air
Lab ID: 4H28001-17
Sample Volume: 1897.72 m³
Filter ID:
Sampled: 08/18/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 07:06

Comments: Q9553144 - Recieved 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	0.0313	SL, U	0.0331
Arsenic	**7440-38-2**	**0.155**		**0.00803**
Barium	**7440-39-3**	**2.62**		**0.917**
Beryllium	**7440-41-7**	**0.0242**		**0.00274**
Cadmium	7440-43-9	0.0227	U	0.0635
Chromium	**7440-47-3**	**2.79**		**1.89**
Cobalt	**7440-48-4**	**0.391**	QB-01	**0.0374**
Copper	**7440-50-8**	**56.8**		**2.25**
Lead	**7439-92-1**	**0.276**		**0.183**
Manganese	**7439-96-5**	**10.2**		**1.62**
Molybdenum	**7439-98-7**	**3.20**		**0.308**
Nickel	**7440-02-0**	**1.32**		**0.559**
Selenium	**7782-49-2**	**0.167**		**0.00768**
Thallium	**7440-28-0**	**0.00150**	QB-04	**5.05E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0454**
Zinc	7440-66-6	10.8	U	65.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081824-HM
Matrix: Air
Lab ID: 4H28001-18
Sample Volume: 1585.703 m³
Filter ID:
Sampled: 08/18/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 07:22

Comments: Q9553143 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0396**
Arsenic	**7440-38-2**	**0.141**		**0.00961**
Barium	**7440-39-3**	**2.24**		**1.10**
Beryllium	**7440-41-7**	**0.00579**		**0.00328**
Cadmium	7440-43-9	0.0110	U	0.0760
Chromium	**7440-47-3**	**2.52**		**2.27**
Cobalt	**7440-48-4**	**0.217**	QB-01	**0.0447**
Copper	**7440-50-8**	**37.5**		**2.70**
Lead	**7439-92-1**	**0.334**		**0.220**
Manganese	**7439-96-5**	**6.46**		**1.94**
Molybdenum	**7439-98-7**	**2.31**		**0.368**
Nickel	**7440-02-0**	**1.16**		**0.669**
Selenium	**7782-49-2**	**0.142**		**0.00919**
Thallium	**7440-28-0**	**0.00129**	QB-04	**6.04E-4**
Vanadium	**7440-62-2**	**0.554**		**0.0543**
Zinc	7440-66-6	12.3	U	78.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-081924-HM
Matrix: Air
Lab ID: 4H28001-19
Sample Volume: 1888.861 m³
Filter ID:
Sampled: 08/19/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 07:36

Comments: Q9553142 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0332**
Arsenic	**7440-38-2**	**2.98**		**0.00807**
Barium	**7440-39-3**	**8.02**		**0.922**
Beryllium	**7440-41-7**	**0.0251**		**0.00276**
Cadmium	7440-43-9	0.0358	U	0.0638
Chromium	**7440-47-3**	**6.33**		**1.90**
Cobalt	**7440-48-4**	**1.13**	QB-01	**0.0376**
Copper	**7440-50-8**	**294**		**2.27**
Lead	**7439-92-1**	**0.458**		**0.184**
Manganese	**7439-96-5**	**27.5**		**1.63**
Molybdenum	**7439-98-7**	**11.1**		**0.309**
Nickel	**7440-02-0**	**2.87**		**0.562**
Selenium	**7782-49-2**	**0.193**		**0.00772**
Thallium	**7440-28-0**	**0.00202**	QB-04	**5.07E-4**
Vanadium	**7440-62-2**	**3.45**		**0.0456**
Zinc	7440-66-6	13.7	U	66.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-081924-HM
Matrix: Air
Lab ID: 4H28001-20
Sample Volume: 1968.874 m³
Filter ID:
Sampled: 08/19/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 07:54

Comments: Q9553141 - Recieved 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**	**0.0861**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.393**		**0.00774**
Barium	**7440-39-3**	**3.80**		**0.884**
Beryllium	**7440-41-7**	**0.0140**		**0.00264**
Cadmium	7440-43-9	0.0209	U	0.0612
Chromium	**7440-47-3**	**2.43**		**1.83**
Cobalt	**7440-48-4**	**0.407**	QB-01	**0.0360**
Copper	**7440-50-8**	**112**		**2.17**
Lead	**7439-92-1**	**0.926**		**0.177**
Manganese	**7439-96-5**	**12.6**		**1.56**
Molybdenum	**7439-98-7**	**3.56**		**0.297**
Nickel	**7440-02-0**	**1.12**		**0.539**
Selenium	**7782-49-2**	**0.163**		**0.00740**
Thallium	**7440-28-0**	**0.00154**	QB-04	**4.87E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0437**
Zinc	7440-66-6	14.1	U	63.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-081924-HM
Matrix: Air
Lab ID: 4H28001-21
Sample Volume: 1851.547 m³
Filter ID:
Sampled: 08/19/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 09:06

Comments: Q9553139 - Recieved 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**	**0.0448**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.143**		**0.00823**
Barium	**7440-39-3**	**2.68**		**0.940**
Beryllium	**7440-41-7**	**0.0178**		**0.00281**
Cadmium	**7440-43-9**	**0.407**		**0.0651**
Chromium	**7440-47-3**	**2.63**		**1.94**
Cobalt	**7440-48-4**	**0.441**	QB-01	**0.0383**
Copper	**7440-50-8**	**42.8**		**2.31**
Lead	**7439-92-1**	**0.432**		**0.188**
Manganese	**7439-96-5**	**10.4**		**1.66**
Molybdenum	**7439-98-7**	**2.74**		**0.315**
Nickel	**7440-02-0**	**4.64**		**0.573**
Selenium	**7782-49-2**	**0.147**		**0.00787**
Thallium	**7440-28-0**	**0.00157**		**5.18E-4**
Vanadium	**7440-62-2**	**0.953**		**0.0465**
Zinc	7440-66-6	13.8	U	67.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-081924-HM
Matrix: Air
Lab ID: 4H28001-22
Sample Volume: 1539.443 m³
Filter ID:
Sampled: 08/19/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 09:38

Comments: Q9553137 - Recieved 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**	**0.0910**	SL	**0.0408**
Arsenic	**7440-38-2**	**0.171**		**0.00990**
Barium	**7440-39-3**	**3.38**		**1.13**
Beryllium	**7440-41-7**	**0.00737**		**0.00338**
Cadmium	7440-43-9	0.0176	U	0.0783
Chromium	**7440-47-3**	**2.39**		**2.34**
Cobalt	**7440-48-4**	**0.263**	QB-01	**0.0461**
Copper	**7440-50-8**	**37.6**		**2.78**
Lead	**7439-92-1**	**0.395**		**0.226**
Manganese	**7439-96-5**	**7.73**		**2.00**
Molybdenum	**7439-98-7**	**2.34**		**0.379**
Nickel	**7440-02-0**	**1.18**		**0.689**
Selenium	**7782-49-2**	**0.132**		**0.00947**
Thallium	**7440-28-0**	**0.00136**		**6.22E-4**
Vanadium	**7440-62-2**	**0.753**		**0.0559**
Zinc	7440-66-6	11.7	U	81.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-081924-HM
Matrix: Air
Lab ID: 4H28001-23
Sample Volume: 1888.861 m³
Filter ID:
Sampled: 08/19/24 00:00
Received: 08/26/24 07:05
Analysis Date: 08/28/24 09:52

Comments: Q9553133 - Recieved 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	0.0108	SL, U	0.0332
Arsenic	7440-38-2	0.00467	U	0.00807
Barium	7440-39-3	0.529	U	0.922
Beryllium	7440-41-7	7.00E-4	U	0.00276
Cadmium	7440-43-9	0.00122	U	0.0638
Chromium	7440-47-3	1.21	U	1.90
Cobalt	7440-48-4	0.0240	QB-01, U	0.0376
Copper	7440-50-8	2.10	U	2.27
Lead	7439-92-1	0.0636	U	0.184
Manganese	7439-96-5	0.249	U	1.63
Molybdenum	7439-98-7	0.294	U	0.309
Nickel	7440-02-0	0.332	U	0.562
Selenium	7782-49-2	0.00195	U	0.00772
Thallium	7440-28-0	1.39E-4	U	5.07E-4
Vanadium	7440-62-2	0.0267	U	0.0456
Zinc	7440-66-6	5.33	U	66.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-082024-HM
Matrix: Air
Lab ID: 4H28001-24
Sample Volume: 1967.813 m³
Filter ID:
Sampled: 08/20/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 10:06

Comments: Q9553135 - Recieved 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**	**0.0557**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.865**		**0.00775**
Barium	**7440-39-3**	**6.48**		**0.885**
Beryllium	**7440-41-7**	**0.0257**		**0.00265**
Cadmium	7440-43-9	0.0281	U	0.0613
Chromium	**7440-47-3**	**6.14**		**1.83**
Cobalt	**7440-48-4**	**1.23**	QB-01	**0.0360**
Copper	**7440-50-8**	**299**		**2.17**
Lead	**7439-92-1**	**0.495**		**0.177**
Manganese	**7439-96-5**	**27.9**		**1.56**
Molybdenum	**7439-98-7**	**12.4**		**0.297**
Nickel	**7440-02-0**	**3.72**		**0.539**
Selenium	**7782-49-2**	**0.176**		**0.00741**
Thallium	**7440-28-0**	**0.00140**		**4.87E-4**
Vanadium	**7440-62-2**	**3.62**		**0.0437**
Zinc	7440-66-6	9.56	U	63.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082024-HM
Matrix: Air
Lab ID: 4H28001-25
Sample Volume: 1939.892 m³
Filter ID:
Sampled: 08/20/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 10:24

Comments: Q9553134 - Recieved 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**	**0.0933**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.330**		**0.00786**
Barium	**7440-39-3**	**4.84**		**0.897**
Beryllium	**7440-41-7**	**0.0166**		**0.00268**
Cadmium	7440-43-9	0.0255	U	0.0621
Chromium	**7440-47-3**	**2.78**		**1.85**
Cobalt	**7440-48-4**	**0.501**	QB-01	**0.0366**
Copper	**7440-50-8**	**152**		**2.21**
Lead	**7439-92-1**	**0.868**		**0.179**
Manganese	**7439-96-5**	**14.4**		**1.59**
Molybdenum	**7439-98-7**	**5.02**		**0.301**
Nickel	**7440-02-0**	**1.47**		**0.547**
Selenium	**7782-49-2**	**0.167**		**0.00751**
Thallium	**7440-28-0**	**0.00108**		**4.94E-4**
Vanadium	**7440-62-2**	**1.73**		**0.0444**
Zinc	7440-66-6	13.7	U	64.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082024-HM
Matrix: Air
Lab ID: 4H28001-26
Sample Volume: 1875.848 m³
Filter ID:
Sampled: 08/20/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 10:41

Comments: Q9553132 - Recieved 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**	**0.0429**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.151**		**0.00813**
Barium	**7440-39-3**	**2.66**		**0.928**
Beryllium	**7440-41-7**	**0.0175**		**0.00278**
Cadmium	7440-43-9	0.0261	U	0.0643
Chromium	**7440-47-3**	**2.41**		**1.92**
Cobalt	**7440-48-4**	**0.350**	QB-01	**0.0378**
Copper	**7440-50-8**	**40.6**		**2.28**
Lead	**7439-92-1**	**0.352**		**0.186**
Manganese	**7439-96-5**	**8.89**		**1.64**
Molybdenum	**7439-98-7**	**2.93**		**0.311**
Nickel	**7440-02-0**	**1.34**		**0.566**
Selenium	**7782-49-2**	**0.118**		**0.00777**
Thallium	**7440-28-0**	**8.09E-4**		**5.11E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0459**
Zinc	7440-66-6	11.2	U	66.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-082024-HM
Matrix: Air
Lab ID: 4H28001-27
Sample Volume: 1681.619 m³
Filter ID:
Sampled: 08/20/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 10:55

Comments: Q9553131 - Recieved 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**	**0.0816**	SL	**0.0373**
Arsenic	**7440-38-2**	**0.228**		**0.00907**
Barium	**7440-39-3**	**2.90**		**1.04**
Beryllium	**7440-41-7**	**0.0109**		**0.00310**
Cadmium	7440-43-9	0.0374	U	0.0717
Chromium	**7440-47-3**	**4.82**		**2.14**
Cobalt	**7440-48-4**	**0.416**	QB-01	**0.0422**
Copper	**7440-50-8**	**31.4**		**2.54**
Lead	**7439-92-1**	**0.424**		**0.207**
Manganese	**7439-96-5**	**10.8**		**1.83**
Molybdenum	**7439-98-7**	**2.18**		**0.347**
Nickel	**7440-02-0**	**2.38**		**0.631**
Selenium	**7782-49-2**	**0.124**		**0.00867**
Thallium	**7440-28-0**	**8.86E-4**		**5.70E-4**
Vanadium	**7440-62-2**	**1.24**		**0.0512**
Zinc	7440-66-6	11.6	U	74.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-082124-HM
Matrix: Air
Lab ID: 4H28001-28
Sample Volume: 1910.07 m³
Filter ID:
Sampled: 08/21/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 11:10

Comments: Q9553130 - Recieved 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**	**0.0490**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.680**		**0.00798**
Barium	**7440-39-3**	**8.67**		**0.911**
Beryllium	**7440-41-7**	**0.0332**		**0.00273**
Cadmium	7440-43-9	0.0218	U	0.0631
Chromium	**7440-47-3**	**6.22**		**1.88**
Cobalt	**7440-48-4**	**1.47**	QB-01	**0.0371**
Copper	**7440-50-8**	**278**		**2.24**
Lead	**7439-92-1**	**0.643**		**0.182**
Manganese	**7439-96-5**	**39.6**		**1.61**
Molybdenum	**7439-98-7**	**10.6**		**0.306**
Nickel	**7440-02-0**	**4.20**		**0.555**
Selenium	**7782-49-2**	**0.289**		**0.00763**
Thallium	**7440-28-0**	**0.00233**		**5.02E-4**
Vanadium	**7440-62-2**	**4.60**		**0.0451**
Zinc	7440-66-6	12.8	U	65.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082124-HM
Matrix: Air
Lab ID: 4H28001-29
Sample Volume: 1954.539 m³
Filter ID:
Sampled: 08/21/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/27/24 23:09

Comments: Q9553129 - Recieved 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**	**0.127**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.383**		**0.00780**
Barium	**7440-39-3**	**5.11**		**0.891**
Beryllium	**7440-41-7**	**0.0157**		**0.00266**
Cadmium	7440-43-9	0.0202	U	0.0617
Chromium	**7440-47-3**	**2.70**		**1.84**
Cobalt	**7440-48-4**	**0.479**	QB-01	**0.0363**
Copper	**7440-50-8**	**136**	QM-4X	**2.19**
Lead	**7439-92-1**	**0.781**		**0.178**
Manganese	**7439-96-5**	**14.8**		**1.57**
Molybdenum	**7439-98-7**	**3.61**	QM-07	**0.299**
Nickel	**7440-02-0**	**1.43**		**0.543**
Selenium	**7782-49-2**	**0.254**		**0.00746**
Thallium	**7440-28-0**	**0.00161**	QB-04	**4.90E-4**
Vanadium	**7440-62-2**	**1.97**		**0.0440**
Zinc	7440-66-6	14.0	U	63.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082124-HM
Matrix: Air
Lab ID: 4H28001-30
Sample Volume: 1849.226 m³
Filter ID:
Sampled: 08/21/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 11:26

Comments: Q9553128 - Recieved 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	**0.0340**
Arsenic	**7440-38-2**	**0.231**		**0.00824**
Barium	**7440-39-3**	**4.52**		**0.941**
Beryllium	**7440-41-7**	**0.0385**		**0.00282**
Cadmium	7440-43-9	0.0650	U	0.0652
Chromium	**7440-47-3**	**3.39**		**1.94**
Cobalt	**7440-48-4**	**0.577**	QB-01	**0.0384**
Copper	**7440-50-8**	**47.1**		**2.31**
Lead	**7439-92-1**	**0.613**		**0.188**
Manganese	**7439-96-5**	**14.4**		**1.66**
Molybdenum	**7439-98-7**	**3.46**		**0.316**
Nickel	**7440-02-0**	**2.04**		**0.574**
Selenium	**7782-49-2**	**0.225**		**0.00788**
Thallium	**7440-28-0**	**0.00139**		**5.18E-4**
Vanadium	**7440-62-2**	**1.74**		**0.0465**
Zinc	7440-66-6	14.7	U	67.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-082124-HM
Matrix: Air
Lab ID: 4H28001-31
Sample Volume: 1779.256 m³
Filter ID:
Sampled: 08/21/24 23:59
Received: 08/26/24 07:05
Analysis Date: 08/28/24 12:39

Comments: Q9553127 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0353**
Arsenic	**7440-38-2**	**0.259**		**0.00857**
Barium	**7440-39-3**	**3.38**		**0.978**
Beryllium	**7440-41-7**	**0.0124**		**0.00293**
Cadmium	**7440-43-9**	**0.112**		**0.0678**
Chromium	**7440-47-3**	**2.49**		**2.02**
Cobalt	**7440-48-4**	**0.408**	QB-01	**0.0399**
Copper	**7440-50-8**	**32.1**		**2.40**
Lead	**7439-92-1**	**0.687**		**0.196**
Manganese	**7439-96-5**	**12.6**		**1.73**
Molybdenum	**7439-98-7**	**1.94**		**0.328**
Nickel	**7440-02-0**	**1.34**		**0.596**
Selenium	**7782-49-2**	**0.222**		**0.00819**
Thallium	**7440-28-0**	**0.00148**	QB-04	**5.39E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0484**
Zinc	7440-66-6	11.6	U	70.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-082124-HM
Matrix: Air
Lab ID: 4H28001-32
Sample Volume: 1910.07 m³
Filter ID:
Sampled: 08/21/24 00:00
Received: 08/26/24 07:05
Analysis Date: 08/28/24 12:57

Comments: Q9553123 - Recieved 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	0.0116	SL, U	0.0329
Arsenic	7440-38-2	0.00553	U	0.00798
Barium	7440-39-3	0.549	U	0.911
Beryllium	7440-41-7	0.00108	U	0.00273
Cadmium	7440-43-9	0.00151	U	0.0631
Chromium	7440-47-3	1.31	U	1.88
Cobalt	7440-48-4	0.0255	QB-01, U	0.0371
Copper	**7440-50-8**	**5.25**	FB-01	**2.24**
Lead	7439-92-1	0.154	U	0.182
Manganese	7439-96-5	0.330	U	1.61
Molybdenum	**7439-98-7**	**0.310**	FB-01	**0.306**
Nickel	7440-02-0	0.391	U	0.555
Selenium	7782-49-2	0.00280	U	0.00763
Thallium	7440-28-0	1.60E-4	QB-04, U	5.02E-4
Vanadium	7440-62-2	0.0356	U	0.0451
Zinc	7440-66-6	11.7	U	65.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Calibration Blank (2408066-CCB1)				Prepared & Analyzed: 08/27/24						
Antimony	0.978		ng/l							
Arsenic	-7.32		ng/l							U
Barium	0.105		ng/l							
Beryllium	-0.639		ng/l							U
Cadmium	-0.0633		ng/l							U
Chromium	-1.18		ng/l							U
Cobalt	-0.0182		ng/l							U
Copper	107		ng/l							
Lead	11.6		ng/l							
Manganese	0.704		ng/l							
Molybdenum	23.7		ng/l							
Nickel	-5.84		ng/l							U
Selenium	6.24		ng/l							
Thallium	1.65		ng/l							QB-04
Vanadium	-40.2		ng/l							U
Zinc	-14.8		ng/l							U
Calibration Blank (2408066-CCB2)				Prepared & Analyzed: 08/27/24						
Antimony	-0.302		ng/l							U
Arsenic	-6.58		ng/l							U
Barium	-0.926		ng/l							U
Beryllium	-0.788		ng/l							U
Cadmium	0.0448		ng/l							
Chromium	-0.483		ng/l							U
Cobalt	-0.455		ng/l							U
Copper	79.8		ng/l							
Lead	2.39		ng/l							
Manganese	-1.02		ng/l							U
Molybdenum	7.89		ng/l							
Nickel	-5.73		ng/l							U
Selenium	7.14		ng/l							
Thallium	1.52		ng/l							QB-04
Vanadium	-37.6		ng/l							U
Zinc	-29.6		ng/l							U
Calibration Blank (2408066-CCB3)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.466		ng/l							
Arsenic	-6.02		ng/l							U
Barium	-0.121		ng/l							U
Beryllium	-0.947		ng/l							U

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Calibration Blank (2408066-CCB3) Contin				Prepared: 08/27/24 Analyzed: 08/28/24						
Cadmium	0.0119		ng/l							
Chromium	-0.925		ng/l							U
Cobalt	-0.402		ng/l							U
Copper	91.8		ng/l							
Lead	1.87		ng/l							
Manganese	1.44		ng/l							
Molybdenum	6.67		ng/l							
Nickel	-6.87		ng/l							U
Selenium	9.78		ng/l							
Thallium	1.96		ng/l							QB-04
Vanadium	-38.9		ng/l							U
Zinc	-41.2		ng/l							U
Calibration Blank (2408066-CCB4)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.0659		ng/l							
Arsenic	-5.05		ng/l							U
Barium	1.76		ng/l							
Beryllium	-1.36		ng/l							U
Cadmium	0.277		ng/l							
Chromium	-1.39		ng/l							U
Cobalt	-0.172		ng/l							U
Copper	69.3		ng/l							
Lead	1.70		ng/l							
Manganese	1.46		ng/l							
Molybdenum	4.31		ng/l							
Nickel	-6.69		ng/l							U
Selenium	11.7		ng/l							
Thallium	1.54		ng/l							QB-04
Vanadium	-44.9		ng/l							U
Zinc	-37.9		ng/l							U
Calibration Blank (2408066-CCB5)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	-0.170		ng/l							U
Arsenic	-0.380		ng/l							U
Barium	1.55		ng/l							
Beryllium	-1.58		ng/l							U
Cadmium	-0.160		ng/l							U
Chromium	4.39E-5		ng/l							
Cobalt	0.0752		ng/l							
Copper	69.5		ng/l							

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Calibration Blank (2408066-CCB5) Contin				Prepared: 08/27/24 Analyzed: 08/28/24						
Lead	2.28		ng/l							
Manganese	1.52		ng/l							
Molybdenum	8.34		ng/l							
Nickel	-8.63		ng/l							U
Selenium	14.3		ng/l							
Thallium	1.20		ng/l							
Vanadium	-47.4		ng/l							U
Zinc	-17.7		ng/l							U
Calibration Blank (2408066-CCB6)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.299		ng/l							
Arsenic	-0.0533		ng/l							U
Barium	4.29		ng/l							
Beryllium	-1.38		ng/l							U
Cadmium	0.0193		ng/l							
Chromium	0.566		ng/l							
Cobalt	0.265		ng/l							
Copper	60.9		ng/l							
Lead	2.40		ng/l							
Manganese	3.97		ng/l							
Molybdenum	8.85		ng/l							
Nickel	-7.37		ng/l							U
Selenium	-0.705		ng/l							U
Thallium	1.29		ng/l							
Vanadium	-49.8		ng/l							U
Zinc	-24.4		ng/l							U
Calibration Blank (2408066-CCB7)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.368		ng/l							
Arsenic	-4.39		ng/l							U
Barium	1.58		ng/l							
Beryllium	-1.35		ng/l							U
Cadmium	-0.128		ng/l							U
Chromium	0.730		ng/l							
Cobalt	-0.0308		ng/l							U
Copper	44.3		ng/l							
Lead	2.49		ng/l							
Manganese	3.62		ng/l							
Molybdenum	7.65		ng/l							
Nickel	-6.49		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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Calibration Blank (2408066-CCB7) Contin				Prepared: 08/27/24 Analyzed: 08/28/24						
Selenium	13.1		ng/l							
Thallium	1.43		ng/l							
Vanadium	-48.4		ng/l							U
Zinc	-15.1		ng/l							U
Calibration Check (2408066-CCV1)				Prepared & Analyzed: 08/27/24						
Antimony	19800		ng/l	20000		99.2	90-110			
Arsenic	19500		ng/l	20000		97.4	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	49500		ng/l	50000		99.1	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.8	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	479000		ng/l	500000		95.7	90-110			
Molybdenum	49100		ng/l	50000		98.3	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			
Thallium	470		ng/l	500.00		94.0	90-110			
Vanadium	19400		ng/l	20000		96.9	90-110			
Zinc	496000		ng/l	500000		99.1	90-110			
Calibration Check (2408066-CCV2)				Prepared & Analyzed: 08/27/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	49200		ng/l	50000		98.3	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.6	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	489000		ng/l	500000		97.8	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	118000		ng/l	120000		98.5	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	458		ng/l	500.00		91.7	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	497000		ng/l	500000		99.3	90-110			

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Calibration Check (2408066-CCV3)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19400		ng/l	20000		97.2	90-110			
Barium	197000		ng/l	200000		98.5	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Cadmium	19700		ng/l	20000		98.4	90-110			
Chromium	237000		ng/l	240000		98.6	90-110			
Cobalt	48600		ng/l	50000		97.2	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.7	90-110			
Lead	194000		ng/l	200000		97.1	90-110			
Manganese	483000		ng/l	500000		96.6	90-110			
Molybdenum	48400		ng/l	50000		96.8	90-110			
Nickel	117000		ng/l	120000		97.9	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	450		ng/l	500.00		90.0	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	491000		ng/l	500000		98.1	90-110			
Calibration Check (2408066-CCV4)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5410		ng/l	5000.0		108	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	49800		ng/l	50000		99.7	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	495000		ng/l	500000		99.0	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	466		ng/l	500.00		93.2	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	502000		ng/l	500000		100	90-110			
Calibration Check (2408066-CCV5)				Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Calibration Check (2408066-CCV5) Contin					Prepared: 08/27/24 Analyzed: 08/28/24					
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	51400		ng/l	50000		103	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	480		ng/l	500.00		95.9	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2408066-CCV6)					Prepared: 08/27/24 Analyzed: 08/28/24					
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5360		ng/l	5000.0		107	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	475		ng/l	500.00		95.1	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Calibration Check (2408066-CCV7)					Prepared: 08/27/24 Analyzed: 08/28/24					
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Calibration Check (2408066-CCV7) Contin					Prepared: 08/27/24 Analyzed: 08/28/24					
Lead	204000		ng/l	200000		102	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	508000		ng/l	500000		102	90-110			
High Cal Check (2408066-HCV1)					Prepared & Analyzed: 08/27/24					
Antimony	40700		ng/l	40000		102	95-105			
Arsenic	40500		ng/l	40000		101	95-105			
Barium	406000		ng/l	400000		102	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	40400		ng/l	40000		101	95-105			
Chromium	487000		ng/l	480000		101	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.01E6		ng/l	4.0000E6		100	95-105			
Lead	407000		ng/l	400000		102	95-105			
Manganese	1.02E6		ng/l	1.0000E6		102	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Selenium	41000		ng/l	40000		103	95-105			
Thallium	996		ng/l	1000.0		99.6	95-105			
Vanadium	41000		ng/l	40000		102	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2408066-ICB1)					Prepared & Analyzed: 08/27/24					
Antimony	0.589		ng/l							
Arsenic	-7.31		ng/l							U
Barium	0.279		ng/l							
Beryllium	-0.654		ng/l							U
Cadmium	0.0397		ng/l							
Chromium	-0.324		ng/l							U
Cobalt	-0.219		ng/l							U
Copper	87.3		ng/l							
Lead	6.42		ng/l							
Manganese	4.19		ng/l							
Molybdenum	11.2		ng/l							
Nickel	-4.91		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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Initial Cal Blank (2408066-ICB1) Continu				Prepared & Analyzed: 08/27/24						
Selenium	5.65		ng/l							
Thallium	0.950		ng/l							
Vanadium	-37.1		ng/l							U
Zinc	31.3		ng/l							
Initial Cal Check (2408066-ICV1)				Prepared & Analyzed: 08/27/24						
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	49000		ng/l	50000		98.0	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	510		ng/l	500.00		102	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Interference Check A (2408066-IFA1)				Prepared & Analyzed: 08/27/24						
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	316000		ng/l	300000		105	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

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 2408066 - B4H2812										
Interference Check B (2408066-IFB1)				Prepared & Analyzed: 08/27/24						
Antimony	20800		ng/l	20000		104	80-120			
Arsenic	20700		ng/l	20000		103	80-120			
Barium	206000		ng/l	200000		103	80-120			
Beryllium	4900		ng/l	5000.0		98.1	80-120			
Cadmium	20100		ng/l	20000		101	80-120			
Chromium	238000		ng/l	240000		99.2	80-120			
Cobalt	50300		ng/l	50000		101	80-120			
Copper	1.93E6		ng/l	2.0000E6		96.5	80-120			
Lead	213000		ng/l	200000		106	80-120			
Manganese	491000		ng/l	500000		98.2	80-120			
Molybdenum	374000		ng/l	350000		107	80-120			
Nickel	117000		ng/l	120000		97.9	80-120			
Selenium	19500		ng/l	20000		97.7	80-120			
Thallium	530		ng/l	500.00		106	80-120			
Vanadium	19200		ng/l	20000		95.8	80-120			
Zinc	472000		ng/l	500000		94.3	80-120			
Batch B4H2812 - ICP-MS Extraction										
Blank (B4H2812-BLK1)				Prepared & Analyzed: 08/27/24						
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							QB-01, 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 (B4H2812-BS1)				Prepared & Analyzed: 08/27/24						
Antimony	0.695	0.0386	ng/m³ Air	1.3829		50.3	80-120			GC-BS, SL
Arsenic	3.51	0.00937	ng/m³ Air	2.7658		127	80-120			GC-BS
Barium	36.6	1.07	ng/m³ Air	27.658		132	80-120			GC-BS

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 B4H2812 - ICP-MS Extraction										
LCS (B4H2812-BS1) Continued				Prepared & Analyzed: 08/27/24						
Beryllium	1.76	0.00320	ng/m³ Air	1.3829		127	80-120			GC-BS
Cadmium	1.81	0.0741	ng/m³ Air	1.3829		131	80-120			GC-BS
Chromium	20.1	2.21	ng/m³ Air	13.829		145	80-120			GC-BS
Cobalt	1.73	0.0436	ng/m³ Air	1.3829		125	80-120			GC-BS, QB-01
Copper	36.8	2.63	ng/m³ Air	27.658		133	80-120			GC-BS
Lead	17.8	0.214	ng/m³ Air	13.829		129	80-120			GC-BS
Manganese	10.7	1.89	ng/m³ Air	8.2975		129	80-120			GC-BS
Molybdenum	2.05	0.359	ng/m³ Air	1.3829		148	80-120			GC-BS
Nickel	4.03	0.652	ng/m³ Air	2.7658		146	80-120			GC-BS
Selenium	3.59	0.00896	ng/m³ Air	2.7658		130	80-120			GC-BS
Thallium	0.176	5.89E-4	ng/m³ Air	0.13829		127	80-120			GC-BS, QB-04
Vanadium	3.60	0.0529	ng/m³ Air	2.7658		130	80-120			GC-BS
Zinc	117	76.8	ng/m³ Air	82.975		141	80-120			GC-BS
LCS (B4H2812-BS2)				Prepared & Analyzed: 08/27/24						
Antimony	0.509	0.0386	ng/m³ Air	1.3829		36.8	80-120			SL
Arsenic	2.73	0.00937	ng/m³ Air	2.7658		98.7	80-120			
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.9	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.36	0.0436	ng/m³ Air	1.3829		98.5	80-120			QB-01
Copper	28.5	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.36	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.66	0.359	ng/m³ Air	1.3829		120	80-120			
Nickel	3.06	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.2	80-120			QB-04
Vanadium	2.81	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	92.7	76.8	ng/m³ Air	82.975		112	80-120			
Duplicate (B4H2812-DUP1)		**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24						
Antimony	0.109	0.0406	ng/m³ Air		0.134			21.1	10	SL
Arsenic	0.163	0.00984	ng/m³ Air		0.186			13.0	10	
Barium	2.56	1.12	ng/m³ Air		2.91			13.0	10	
Beryllium	0.00855	0.00336	ng/m³ Air		0.00966			12.1	10	
Cadmium	ND	0.0779	ng/m³ Air		ND				10	U
Chromium	6.60	2.32	ng/m³ Air		2.98			75.7	10	
Cobalt	0.377	0.0458	ng/m³ Air		0.363			3.77	10	QB-01

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 B4H2812 - ICP-MS Extraction										
Duplicate (B4H2812-DUP1) Continued			**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24					
Copper	50.4	2.76	ng/m³ Air		56.3			11.0	10	
Lead	0.505	0.225	ng/m³ Air		0.445			12.5	10	
Manganese	9.25	1.99	ng/m³ Air		11.4			21.1	10	
Molybdenum	2.68	0.377	ng/m³ Air		2.98			10.5	10	
Nickel	3.71	0.685	ng/m³ Air		1.71			74.0	10	
Selenium	0.165	0.00941	ng/m³ Air		0.196			17.2	10	
Thallium	0.00125	6.19E-4	ng/m³ Air		0.00158			23.4	10	QB-04
Vanadium	0.963	0.0556	ng/m³ Air		1.02			5.88	10	
Zinc	ND	80.7	ng/m³ Air		ND				10	U
Duplicate (B4H2812-DUP2)			**Source: 4H28001-29**		Prepared & Analyzed: 08/27/24					
Antimony	0.131	0.0321	ng/m³ Air		0.127			2.82	10	SL
Arsenic	0.405	0.00780	ng/m³ Air		0.383			5.60	10	
Barium	5.17	0.891	ng/m³ Air		5.11			1.31	10	
Beryllium	0.0157	0.00266	ng/m³ Air		0.0157			0.425	10	
Cadmium	ND	0.0617	ng/m³ Air		ND				10	U
Chromium	2.59	1.84	ng/m³ Air		2.70			4.38	10	
Cobalt	0.483	0.0363	ng/m³ Air		0.479			0.793	10	QB-01
Copper	140	2.19	ng/m³ Air		136			3.15	10	
Lead	0.808	0.178	ng/m³ Air		0.781			3.36	10	
Manganese	14.8	1.57	ng/m³ Air		14.8			0.391	10	
Molybdenum	3.75	0.299	ng/m³ Air		3.61			3.97	10	
Nickel	1.45	0.543	ng/m³ Air		1.43			1.80	10	
Selenium	0.244	0.00746	ng/m³ Air		0.254			3.99	10	
Thallium	0.00151	4.90E-4	ng/m³ Air		0.00161			6.49	10	QB-04
Vanadium	1.99	0.0440	ng/m³ Air		1.97			0.912	10	
Zinc	ND	63.9	ng/m³ Air		ND				10	U
Duplicate (B4H2812-DUP3)			**Source: 4H28001-15**		Prepared: 08/27/24 Analyzed: 08/28/24					
Antimony	0.0794	0.0329	ng/m³ Air		0.0780			1.83	10	SL
Arsenic	1.54	0.00800	ng/m³ Air		1.54			0.204	10	
Barium	3.72	0.913	ng/m³ Air		3.71			0.254	10	
Beryllium	0.0115	0.00273	ng/m³ Air		0.0115			0.406	10	
Cadmium	ND	0.0633	ng/m³ Air		ND				10	U
Chromium	3.27	1.89	ng/m³ Air		3.26			0.162	10	
Cobalt	0.459	0.0372	ng/m³ Air		0.459			0.00468	10	QB-01
Copper	281	2.24	ng/m³ Air		281			0.195	10	
Lead	0.257	0.183	ng/m³ Air		0.256			0.495	10	
Manganese	12.6	1.61	ng/m³ Air		12.6			0.0771	10	
Molybdenum	10.9	0.306	ng/m³ Air		10.9			0.0383	10	

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 B4H2812 - ICP-MS Extraction										
Duplicate (B4H2812-DUP3) Continued		**Source: 4H28001-15**		Prepared: 08/27/24 Analyzed: 08/28/24						
Nickel	1.28	0.557	ng/m³ Air		1.27			0.669	10	
Selenium	0.163	0.00765	ng/m³ Air		0.175			7.08	10	
Thallium	0.00147	5.03E-4	ng/m³ Air		0.00148			0.533	10	QB-04
Vanadium	1.50	0.0452	ng/m³ Air		1.50			0.151	10	
Zinc	ND	65.6	ng/m³ Air		ND				10	U
Duplicate (B4H2812-DUP4)		**Source: 4H28001-21**		Prepared: 08/27/24 Analyzed: 08/28/24						
Antimony	0.0455	0.0339	ng/m³ Air		0.0448			1.46	10	SL
Arsenic	0.141	0.00823	ng/m³ Air		0.143			1.87	10	
Barium	2.72	0.940	ng/m³ Air		2.68			1.58	10	
Beryllium	0.0167	0.00281	ng/m³ Air		0.0178			6.51	10	
Cadmium	0.417	0.0651	ng/m³ Air		0.407			2.35	10	
Chromium	2.66	1.94	ng/m³ Air		2.63			0.851	10	
Cobalt	0.448	0.0383	ng/m³ Air		0.441			1.68	10	QB-01
Copper	43.5	2.31	ng/m³ Air		42.8			1.48	10	
Lead	0.435	0.188	ng/m³ Air		0.432			0.763	10	
Manganese	10.6	1.66	ng/m³ Air		10.4			1.64	10	
Molybdenum	2.81	0.315	ng/m³ Air		2.74			2.65	10	
Nickel	4.70	0.573	ng/m³ Air		4.64			1.29	10	
Selenium	0.155	0.00787	ng/m³ Air		0.147			5.69	10	
Thallium	0.00150	5.18E-4	ng/m³ Air		0.00157			4.57	10	
Vanadium	0.960	0.0465	ng/m³ Air		0.953			0.717	10	
Zinc	ND	67.5	ng/m³ Air		ND				10	U
Matrix Spike (B4H2812-MS1)		**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24						
Antimony	0.850	0.0406	ng/m³ Air	1.4530	0.134	49.3	80-120			SL
Arsenic	2.98	0.00984	ng/m³ Air	2.9060	0.186	96.1	80-120			
Barium	31.6	1.12	ng/m³ Air	29.060	2.91	98.7	80-120			
Beryllium	1.44	0.00336	ng/m³ Air	1.4530	0.00966	98.4	80-120			
Cadmium	1.45	0.0779	ng/m³ Air	1.4530	ND	99.7	80-120			
Chromium	16.9	2.32	ng/m³ Air	14.530	2.98	95.8	80-120			
Cobalt	1.69	0.0458	ng/m³ Air	1.4530	0.363	91.6	80-120			QB-01
Copper	78.5	2.76	ng/m³ Air	29.060	56.3	76.3	80-120			QM-07
Lead	14.9	0.225	ng/m³ Air	14.530	0.445	99.5	80-120			
Manganese	18.3	1.99	ng/m³ Air	8.7180	11.4	79.2	80-120			QM-07
Molybdenum	3.85	0.377	ng/m³ Air	1.4530	2.98	60.3	80-120			QM-07
Nickel	4.00	0.685	ng/m³ Air	2.9060	1.71	79.1	80-120			QM-07
Selenium	3.03	0.00941	ng/m³ Air	2.9060	0.196	97.5	80-120			
Thallium	0.141	6.19E-4	ng/m³ Air	0.14530	0.00158	96.1	80-120			QB-04
Vanadium	3.86	0.0556	ng/m³ Air	2.9060	1.02	97.8	80-120			

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 B4H2812 - ICP-MS Extraction										
Matrix Spike (B4H2812-MS1) Continued Source: 4H28001-09 Prepared & Analyzed: 08/27/24										
Zinc	102	80.7	ng/m³ Air	87.180	ND	117	80-120			
Matrix Spike (B4H2812-MS2) Source: 4H28001-29 Prepared & Analyzed: 08/27/24										
Antimony	0.697	0.0321	ng/m³ Air	1.1512	0.127	49.5	80-120			SL
Arsenic	2.61	0.00780	ng/m³ Air	2.3023	0.383	96.7	80-120			
Barium	28.4	0.891	ng/m³ Air	23.023	5.11	101	80-120			
Beryllium	1.16	0.00266	ng/m³ Air	1.1512	0.0157	99.8	80-120			
Cadmium	1.17	0.0617	ng/m³ Air	1.1512	ND	101	80-120			
Chromium	13.9	1.84	ng/m³ Air	11.512	2.70	97.4	80-120			
Cobalt	1.56	0.0363	ng/m³ Air	1.1512	0.479	93.6	80-120			QB-01
Copper	162	2.19	ng/m³ Air	23.023	136	115	80-120			
Lead	12.5	0.178	ng/m³ Air	11.512	0.781	102	80-120			
Manganese	21.0	1.57	ng/m³ Air	6.9070	14.8	90.7	80-120			
Molybdenum	4.89	0.299	ng/m³ Air	1.1512	3.61	112	80-120			
Nickel	3.66	0.543	ng/m³ Air	2.3023	1.43	97.2	80-120			
Selenium	2.47	0.00746	ng/m³ Air	2.3023	0.254	96.2	80-120			
Thallium	0.107	4.90E-4	ng/m³ Air	0.11512	0.00161	91.5	80-120			QB-04
Vanadium	4.17	0.0440	ng/m³ Air	2.3023	1.97	95.8	80-120			
Zinc	82.4	63.9	ng/m³ Air	69.070	ND	119	80-120			
Matrix Spike Dup (B4H2812-MSD1) Source: 4H28001-09 Prepared & Analyzed: 08/27/24										
Antimony	0.830	0.0406	ng/m³ Air	1.4530	0.134	47.9	80-120	2.44	20	SL
Arsenic	2.96	0.00984	ng/m³ Air	2.9060	0.186	95.4	80-120	0.685	20	
Barium	31.3	1.12	ng/m³ Air	29.060	2.91	97.6	80-120	0.941	20	
Beryllium	1.49	0.00336	ng/m³ Air	1.4530	0.00966	102	80-120	3.71	20	
Cadmium	1.45	0.0779	ng/m³ Air	1.4530	ND	100	80-120	0.383	20	
Chromium	16.7	2.32	ng/m³ Air	14.530	2.98	94.6	80-120	1.03	20	
Cobalt	1.67	0.0458	ng/m³ Air	1.4530	0.363	90.0	80-120	1.35	20	QB-01
Copper	72.6	2.76	ng/m³ Air	29.060	56.3	56.2	80-120	7.75	20	QM-07
Lead	14.8	0.225	ng/m³ Air	14.530	0.445	98.9	80-120	0.594	20	
Manganese	17.4	1.99	ng/m³ Air	8.7180	11.4	68.2	80-120	5.38	20	QM-07
Molybdenum	3.53	0.377	ng/m³ Air	1.4530	2.98	38.3	80-120	8.63	20	QM-07
Nickel	3.87	0.685	ng/m³ Air	2.9060	1.71	74.5	80-120	3.36	20	QM-07
Selenium	2.96	0.00941	ng/m³ Air	2.9060	0.196	95.0	80-120	2.36	20	
Thallium	0.140	6.19E-4	ng/m³ Air	0.14530	0.00158	95.3	80-120	0.774	20	QB-04
Vanadium	3.75	0.0556	ng/m³ Air	2.9060	1.02	93.8	80-120	3.12	20	
Zinc	96.2	80.7	ng/m³ Air	87.180	ND	110	80-120	6.02	20	
Matrix Spike Dup (B4H2812-MSD2) Source: 4H28001-29 Prepared: 08/27/24 Analyzed: 08/28/24										
Antimony	0.661	0.0321	ng/m³ Air	1.1512	0.127	46.4	80-120	5.34	20	SL
Arsenic	2.60	0.00780	ng/m³ Air	2.3023	0.383	96.1	80-120	0.521	20	

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/04/24 13:09
SUBMITTED: 08/26/24
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 B4H2812 - ICP-MS Extraction										
Matrix Spike Dup (B4H2812-MSD2) Conti				**Source: 4H28001-29**		Prepared: 08/27/24		Analyzed: 08/28/24		
Barium	27.6	0.891	ng/m³ Air	23.023	5.11	97.9	80-120	2.84	20	
Beryllium	1.13	0.00266	ng/m³ Air	1.1512	0.0157	96.4	80-120	3.38	20	
Cadmium	1.13	0.0617	ng/m³ Air	1.1512	ND	98.5	80-120	2.83	20	
Chromium	13.6	1.84	ng/m³ Air	11.512	2.70	94.6	80-120	2.33	20	
Cobalt	1.55	0.0363	ng/m³ Air	1.1512	0.479	93.1	80-120	0.354	20	QB-01
Copper	174	2.19	ng/m³ Air	23.023	136	166	80-120	7.06	20	QM-4X
Lead	12.2	0.178	ng/m³ Air	11.512	0.781	99.1	80-120	2.34	20	
Manganese	20.6	1.57	ng/m³ Air	6.9070	14.8	83.7	80-120	2.33	20	
Molybdenum	5.07	0.299	ng/m³ Air	1.1512	3.61	127	80-120	3.51	20	QM-07
Nickel	3.62	0.543	ng/m³ Air	2.3023	1.43	95.2	80-120	1.25	20	
Selenium	2.45	0.00746	ng/m³ Air	2.3023	0.254	95.3	80-120	0.856	20	
Thallium	0.107	4.90E-4	ng/m³ Air	0.11512	0.00161	91.6	80-120	0.148	20	QB-04
Vanadium	4.10	0.0440	ng/m³ Air	2.3023	1.97	92.6	80-120	1.78	20	
Zinc	80.1	63.9	ng/m³ Air	69.070	ND	116	80-120	2.80	20	
Post Spike (B4H2812-PS1)				**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24				
Antimony	0.414	0.0406	ng/m³ Air	0.29060	0.134	96.4	75-125			SL
Arsenic	1.56	0.00984	ng/m³ Air	1.4530	0.186	94.4	75-125			
Barium	5.68	1.12	ng/m³ Air	2.9060	2.91	95.1	75-125			
Beryllium	0.299	0.00336	ng/m³ Air	0.29060	0.00966	99.5	75-125			
Cadmium	0.164	0.0779	ng/m³ Air	0.14530	ND	113	75-125			
Chromium	4.30	2.32	ng/m³ Air	1.4530	2.98	91.4	75-125			
Cobalt	0.629	0.0458	ng/m³ Air	0.29060	0.363	91.7	75-125			QB-01
Copper	70.3	2.76	ng/m³ Air	14.530	56.3	96.2	75-125			
Lead	29.6	0.225	ng/m³ Air	29.060	0.445	100	75-125			
Manganese	13.9	1.99	ng/m³ Air	2.9060	11.4	86.5	75-125			
Molybdenum	4.30	0.377	ng/m³ Air	1.4530	2.98	91.3	75-125			
Nickel	4.53	0.685	ng/m³ Air	2.9060	1.71	97.2	75-125			
Selenium	1.64	0.00941	ng/m³ Air	1.4530	0.196	99.0	75-125			
Thallium	0.0711	6.19E-4	ng/m³ Air	7.2650E-2	0.00158	95.7	75-125			QB-04
Vanadium	2.37	0.0556	ng/m³ Air	1.4530	1.02	93.2	75-125			
Zinc	ND	80.7	ng/m³ Air	29.060	ND		75-125			U
Post Spike (B4H2812-PS2)				**Source: 4H28001-29**		Prepared: 08/27/24		Analyzed: 08/28/24		
Antimony	0.357	0.0321	ng/m³ Air	0.23023	0.127	100	75-125			SL
Arsenic	1.47	0.00780	ng/m³ Air	1.1512	0.383	94.5	75-125			
Barium	7.41	0.891	ng/m³ Air	2.3023	5.11	100	75-125			
Beryllium	0.250	0.00266	ng/m³ Air	0.23023	0.0157	102	75-125			
Cadmium	0.135	0.0617	ng/m³ Air	0.11512	ND	117	75-125			
Chromium	3.79	1.84	ng/m³ Air	1.1512	2.70	94.0	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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 B4H2812 - ICP-MS Extraction										
Post Spike (B4H2812-PS2) Continued			**Source: 4H28001-29**		Prepared: 08/27/24		Analyzed: 08/28/24			
Cobalt	0.706	0.0363	ng/m³ Air	0.23023	0.479	98.4	75-125			QB-01
Copper	148	2.19	ng/m³ Air	11.512	136	105	75-125			
Lead	24.2	0.178	ng/m³ Air	23.023	0.781	102	75-125			
Manganese	16.9	1.57	ng/m³ Air	2.3023	14.8	90.7	75-125			
Molybdenum	4.73	0.299	ng/m³ Air	1.1512	3.61	97.4	75-125			
Nickel	3.72	0.543	ng/m³ Air	2.3023	1.43	99.5	75-125			
Selenium	1.39	0.00746	ng/m³ Air	1.1512	0.254	98.4	75-125			
Thallium	0.0553	4.90E-4	ng/m³ Air	5.7558E-2	0.00161	93.3	75-125			QB-04
Vanadium	3.03	0.0440	ng/m³ Air	1.1512	1.97	92.0	75-125			
Zinc	ND	63.9	ng/m³ Air	23.023	ND		75-125			U
Dilution Check (B4H2812-SRL1)			**Source: 4H28001-09**		Prepared & Analyzed: 08/27/24					
Antimony	0.135	0.0406	ng/m³ Air		0.134			0.559	10	SL
Arsenic	0.179	0.00984	ng/m³ Air		0.186			3.81	10	
Barium	2.89	1.12	ng/m³ Air		2.91			0.743	10	
Beryllium	0.00855	0.00336	ng/m³ Air		0.00966			12.2	10	
Cadmium	ND	0.0779	ng/m³ Air		ND				10	U
Chromium	2.97	2.32	ng/m³ Air		2.98			0.192	10	
Cobalt	0.359	0.0458	ng/m³ Air		0.363			1.02	10	QB-01
Copper	57.1	2.76	ng/m³ Air		56.3			1.38	10	
Lead	0.431	0.225	ng/m³ Air		0.445			3.23	10	
Manganese	11.6	1.99	ng/m³ Air		11.4			1.59	10	
Molybdenum	2.91	0.377	ng/m³ Air		2.98			2.36	10	
Nickel	1.70	0.685	ng/m³ Air		1.71			0.577	10	
Selenium	0.206	0.00941	ng/m³ Air		0.196			4.79	10	
Thallium	0.00379	6.19E-4	ng/m³ Air		0.00158			82.0	10	QB-04
Vanadium	0.992	0.0556	ng/m³ Air		1.02			2.84	10	
Zinc	ND	80.7	ng/m³ Air		ND				10	U
Dilution Check (B4H2812-SRL2)			**Source: 4H28001-29**		Prepared: 08/27/24		Analyzed: 08/28/24			
Antimony	0.125	0.0321	ng/m³ Air		0.127			1.62	10	SL
Arsenic	0.378	0.00780	ng/m³ Air		0.383			1.30	10	
Barium	5.13	0.891	ng/m³ Air		5.11			0.490	10	
Beryllium	0.0144	0.00266	ng/m³ Air		0.0157			8.07	10	
Cadmium	ND	0.0617	ng/m³ Air		ND				10	U
Chromium	2.72	1.84	ng/m³ Air		2.70			0.544	10	
Cobalt	0.482	0.0363	ng/m³ Air		0.479			0.662	10	QB-01
Copper	137	2.19	ng/m³ Air		136			0.701	10	
Lead	0.763	0.178	ng/m³ Air		0.781			2.38	10	
Manganese	15.1	1.57	ng/m³ Air		14.8			2.29	10	

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: 09/04/24 13:09
SUBMITTED: 08/26/24
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 B4H2812 - ICP-MS Extraction										
Dilution Check (B4H2812-SRL2) ContinueSource: 4H28001-29 Prepared: 08/27/24 Analyzed: 08/28/24										
Molybdenum	3.64	0.299	ng/m³ Air		3.61			0.803	10	
Nickel	1.44	0.543	ng/m³ Air		1.43			0.564	10	
Selenium	0.267	0.00746	ng/m³ Air		0.254			4.99	10	
Thallium	0.00557	4.90E-4	ng/m³ Air		0.00161			110	10	QB-04
Vanadium	1.94	0.0440	ng/m³ Air		1.97			1.42	10	
Zinc	ND	63.9	ng/m³ Air		ND				10	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: 09/04/24 13:09
SUBMITTED: 08/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/04/2024 and Shanna Vasser 09/04/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 08/15/2024 – 08/21/2024
Report No: 4H28001

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

Discrepancies:

4. MFL-AM02-081524-HM was listed on the CoC, but crossed off, voided (due to run time uncertainty) and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.
13. Field blank detections above the method detection limit were reported for copper and molybdenum in MFL-FB01-082124-HM.

Notes: None.