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

June 13 through June 19, 2024
[Report Updated: August 1, 2024]

A Community Air Monitoring and Sampling Plan (CAMSP) was prepared to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling was performed from June 13 through June 19, 2024 at the four community locations across Lahaina listed below and shown on **Figure 1**:

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

The CAMSP addresses ambient community air monitoring and sampling to monitor conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly impact air quality in Lahaina. Data collected is made available to 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 June 13 through June 19 at each of the locations. 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 ($\mu g/m^3$) screening level.

Air quality monitoring for fine particulate matter, with a particle size diameter of 2.5 µm or less ($PM_{2.5}$) is not included in the weekly reports. This monitoring is being performed by the Department of Health or EPA at six locations in Lahaina and can be accessed at: https://fire.airnow.gov/.

Air sampling was conducted daily at all four community locations in accordance with the CAMSP. 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 the Site- Screening Action Levels (SSAL) for asbestos and metals, as presented in the CAMSP.

Air Monitoring Results:

Concentrations of real time PM_{10} results were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 $\mu g/m^3$ screening level. Notably, elevated readings were observed at Lahaina Intermediate School (AM-03) of 130 $\mu g/m^3$ on June 13 and a reading of 80 $\mu g/m^3$ on June 14. Field teams observed on both occasions the sprinkler/irrigation system operating near the sampling station and interfering with the equipment. USACE debris crews were not active at the times of the elevated readings. Results are presented in **Table 1**.

Air Sampling Results

There were 28 samples collected for asbestos fibers at each of the monitoring locations throughout this reporting period. The sample collected at Leialii Hawaiian Homelands on June 17 was voided due to power failure at the site, preventing the team from determining the sample's total volume. Analytical results of all other samples were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and less than the laboratory analytical sensitivity; results are presented in **Table 2**.

Low levels of metals were detected in ambient air samples at all community sampling locations. Although metals were detected, all concentrations were below the SSALs.

The laboratory data sheets for the asbestos and metals samples results are included in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour originating in a generally south, southeast direction. A summary of meteorological data is presented in **Table 3**.

Quality Control Summary:

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

Air monitoring is conducted with Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed prior to monitoring according to the manufacturer's procedures.

Asbestos samples are collected with Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

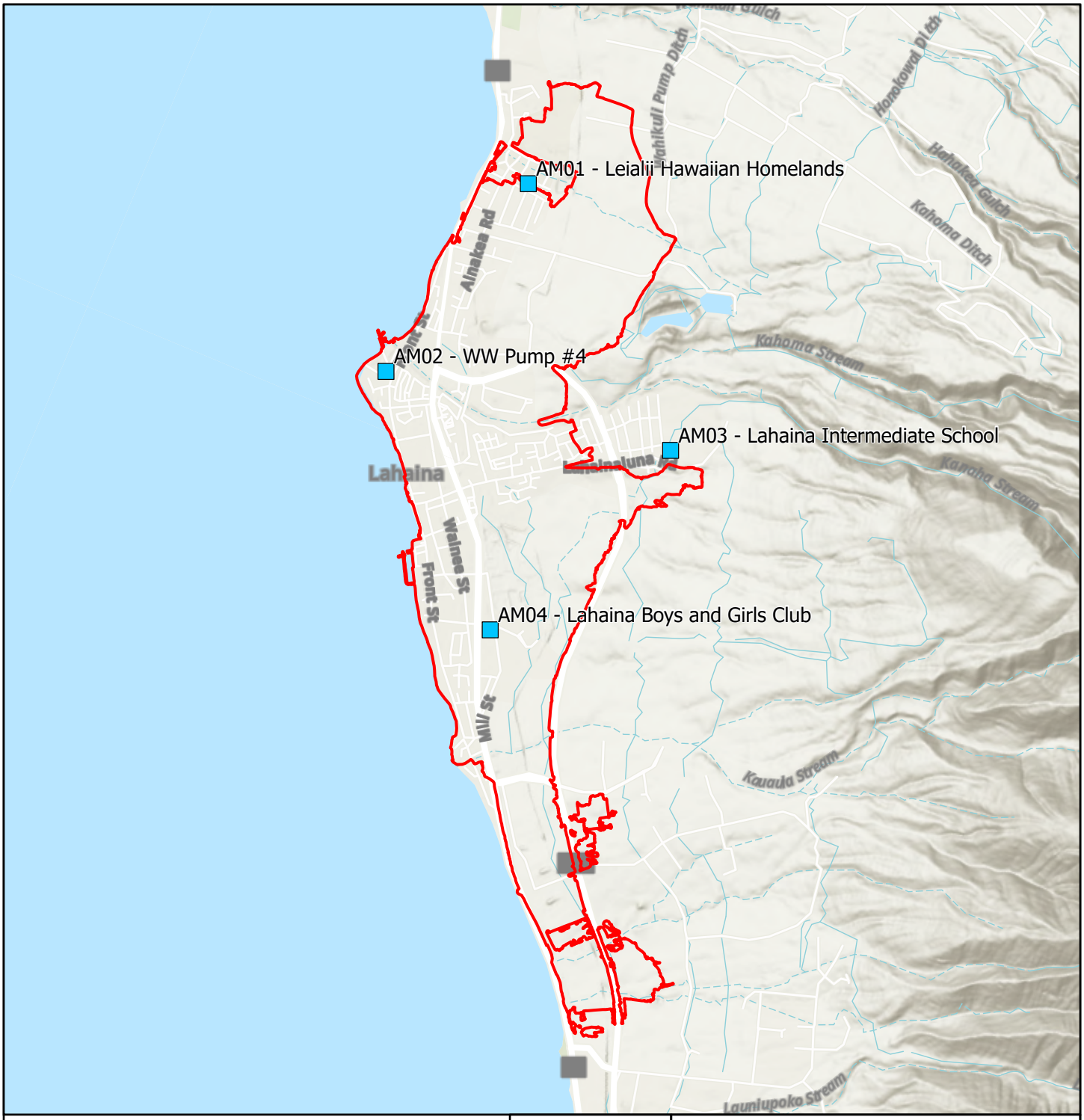
Metals samples are collected with Tisch Environmental High Volume Air Samplers, or equivalent. Air samples for metals are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM_{10} Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a TSP High Volume Sampler

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

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

Attachments



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
June 13 through June 19, 2024
[Report Updated: August 1, 2024]

Screening Level		**150 µg/m^3**
6/13/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	8.6
	Lahaina Intermediate School (AM-03)	130
	Lahaina Boys & Girls Club (AM-04)	6.7
6/14/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	80
	Lahaina Boys & Girls Club (AM-04)	9.3
6/15/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	8.1
6/16/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	5.8
6/17/2024	Leialii Hawaiian Homelands (AM-01)	8.2
	WW Pump Station #4 (AM-02)	4.5
	Lahaina Intermediate School (AM-03)	7.3
	Lahaina Boys & Girls Club (AM-04)	4.7
6/18/2024	Leialii Hawaiian Homelands (AM-01)	8.4
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	8.8
	Lahaina Boys & Girls Club (AM-04)	5.1
6/19/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	5.8

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

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
June 13 through June 19 2024
[Report Updated: August 1, 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
Screening Level*		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
6/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000112	0.00145	0.00608	0.0000188	ND	0.00430	0.000667	0.0811	0.000665	0.0189	0.00518	0.00225	0.000178	0.00000162	0.00227	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000142	0.00102	0.00528	0.0000160	ND	0.00260	0.000502	0.0571	0.00150	0.0152	0.00257	0.00188	0.000183	0.00000194	0.00166	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000644	0.000448	0.00473	0.0000505	ND	0.00381	0.000833	0.0497	0.000655	0.0209	0.00224	0.00209	0.000210	0.00000162	0.00213	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000133	0.00104	0.00506	0.0000196	ND	0.00353	0.000623	0.0278	0.00151	0.0195	0.00148	0.00190	0.000193	0.00000163	0.00182	ND
6/14/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000211	0.00240	0.00701	0.0000185	ND	0.00498	0.000847	0.100	0.00133	0.0215	0.00609	0.00263	0.000229	0.00000154	0.00247	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000103	0.000490	0.00423	0.0000121	ND	0.00212	0.000340	0.0548	0.000806	0.0112	0.00236	0.00120	0.000210	0.00000116	0.00122	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000725	0.000352	0.00344	0.0000294	ND	0.00253	0.000455	0.0410	0.000688	0.0122	0.00243	0.00136	0.000190	0.00000106	0.00126	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000134	0.00257	0.00583	0.0000262	ND	0.00548	0.000791	0.0266	0.00123	0.0289	0.00141	0.00236	0.000260	0.00000156	0.00206	ND
6/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000236	0.00627	0.0114	0.0000355	0.0000634	0.00820	0.00163	0.117	0.000971	0.0411	0.00709	0.00456	0.000301	0.00000213	0.00456	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000167	0.00122	0.00864	0.0000359	ND	0.00538	0.00124	0.0696	0.00205	0.0333	0.00268	0.00359	0.000306	0.00000177	0.00389	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000594	0.000415	0.00373	0.0000291	ND	0.00291	0.000570	0.0516	0.000619	0.0155	0.00267	0.00157	0.000224	0.00000117	0.00159	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000134	0.00200	0.00585	0.0000216	ND	0.00448	0.000732	0.0315	0.00149	0.0253	0.00150	0.00239	0.000249	0.00000158	0.00211	ND
6/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000982	0.00166	0.00479	0.0000137	ND	0.00341	0.000583	0.122	0.000465	0.0164	0.00790	0.00173	0.000197	0.00000145	0.00166	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000104	0.000536	0.00399	0.0000106	ND	0.00196	0.000289	0.0488	0.00201	0.0102	0.00233	0.00106	0.000191	0.00000118	0.000956	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000644	0.000214	0.00286	0.0000126	ND	0.00190	0.000245	0.0444	0.000465	0.00712	0.00200	0.000971	0.000170	0.000000891	0.000707	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000100	0.000726	0.00484	0.0000167	ND	0.00340	0.000580	0.0223	0.00108	0.0193	0.00122	0.00178	0.000207	0.00000131	0.00150	ND
6/17/2024	Leialii Hawaiian Homelands (AM-01)		0.000128	0.00389	0.0120	0.0000463	ND	0.00906	0.00231	0.148	0.000572	0.0543	0.00823	0.00624	0.000302	0.00000208	0.00588	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000994	0.000529	0.00484	0.0000196	ND	0.00281	0.000514	0.0498	0.000981	0.0155	0.00234	0.00187	0.000206	0.00000102	0.00170	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000619	0.000247	0.00309	0.0000206	ND	0.00235	0.000353	0.0520	0.000472	0.00921	0.00234	0.00122	0.000149	0.000000839	0.00101	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000964	0.000520	0.00410	0.0000139	ND	0.00295	0.000454	0.0303	0.00105	0.0146	0.00140	0.00156	0.000175	0.00000103	0.00132	ND
6/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000164	0.00408	0.00751	0.0000199	ND	0.00539	0.000935	0.130	0.000498	0.0238	0.00710	0.00270	0.000214	0.00000125	0.00261	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000924	0.000399	0.00391	0.0000107	ND	0.00211	0.000323	0.0604	0.000915	0.00985	0.00268	0.00117	0.000173	0.000000753	0.00105	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000739	0.000482	0.00384	0.0000236	ND	0.00262	0.000431	0.0716	0.000931	0.0110	0.00277	0.00138	0.000176	0.000000705	0.00112	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000954	0.00104	0.00435	0.0000159	ND	0.00331	0.000529	0.0303	0.00111	0.0168	0.00173	0.00169	0.000176	0.000000967	0.00142	ND
6/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000819	0.000981	0.00543	0.0000182	ND	0.00360	0.000708	0.163	0.000479	0.0192	0.00806	0.00200	0.000219	0.00000192	0.00208	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000133	0.000524	0.00576	0.0000181	ND	0.00270	0.000505	0.0549	0.00141	0.0161	0.00214	0.00179	0.000214	0.00000199	0.00176	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000101	0.000358	0.00516	0.0000224	ND	0.00330	0.000443	0.0703	0.000814	0.0133	0.00297	0.00143	0.000204	0.00000188	0.00135	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000110	0.000778	0.00646	0.0000234	ND	0.00466	0.000736	0.0325	0.00162	0.0259	0.00185	0.00218	0.000261	0.00000260	0.00220	ND
95% Upper Confidence Limit[2]		NA	0.000130	0.00188	0.00620	0.0000260	NA	0.00435	0.000820	0.0808	0.00120	0.0230	0.00420	0.00241	0.000230	0.00000160	0.00233	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

Asbestos sample voided due to power failure

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
June 13, 2024 through June 19, 2024
[Report Updated: August 1, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
6/13/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	82	55	760.8
6/13/2024	AM-02	WW Pump Station #4	1.1	S	80	62	762.9
6/13/2024	AM-03	Lahaina Intermediate School	1.2	SE	79	60	753.6
6/13/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	62	762.4
6/14/2024	AM-01	Leialii Hawaiian Homelands	1.2	ESE	81	57	761.0
6/14/2024	AM-02	WW Pump Station #4	1.0	SSE	80	63	763.1
6/14/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	61	753.8
6/14/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	79	63	762.6
6/15/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	83	55	761.2
6/15/2024	AM-02	WW Pump Station #4	1.1	SSE	80	63	763.3
6/15/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	61	754.0
6/15/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	79	63	762.9
6/16/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	82	53	761.4
6/16/2024	AM-02	WW Pump Station #4	1.1	S	80	61	763.4
6/16/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	58	754.1
6/16/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	61	763.0
6/17/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	80	61	761.8
6/17/2024	AM-02	WW Pump Station #4	1.0	SSE	80	66	763.9
6/17/2024	AM-03	Lahaina Intermediate School	1.0	SE	78	65	754.6
6/17/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSW	78	65	763.4
6/18/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	80	60	761.4
6/18/2024	AM-02	WW Pump Station #4	1.0	SSE	79	66	763.4
6/18/2024	AM-03	Lahaina Intermediate School	0.9	SE	78	65	754.2
6/18/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	66	763.0
6/19/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	82	56	760.9
6/19/2024	AM-02	WW Pump Station #4	1.2	SE	80	62	762.9
6/19/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	60	753.6
6/19/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	79	62	762.5

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:	042412412
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:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061324-AB**		**Sample Description:**	**DL244921**
EMSL Sample Number:	042412412-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7170.0
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 %:	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

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

EMSL Order ID: 042412412
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: 042412412-0001 **Customer Sample:** MFL-AM01-061324-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	J4	None Detected									
A5	G3	None Detected									
A5	D2	None Detected									
A6	C10	None Detected									
A6	H9	None Detected									

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

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EMSL Order:	042412412
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:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061324-AB**	**Sample Description:**	**DL244849**
EMSL Sample Number:	042412412-0002	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7287.6
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

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EMSL Order ID: 042412412
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: 042412412-0002 **Customer Sample:** MFL-AM02-061324-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	C9	None Detected									
B2	F8	None Detected									
B2	I6	None Detected									
B3	H5	None Detected									
B3	E4	None Detected									

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

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

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
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Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-061324-AB**	**Sample Description:**	**DL244861**
EMSL Sample Number:	042412412-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7388.2
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

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EMSL Order ID: 042412412
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: 042412412-0003 **Customer Sample:** MFL-AM03-061324-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	A4	None Detected									
B5	E4	None Detected									
B5	G7	None Detected									
B6	H3	None Detected									
B6	E6	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-061324-AB** **Sample Description: DL244866**

EMSL Sample Number:	042412412-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.3
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

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EMSL Order ID: 042412412
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: 042412412-0004 **Customer Sample:** MFL-AM04-061324-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	B4	None Detected									
C2	D7	None Detected									
C2	H9	None Detected									
C3	H3	None Detected									
C3	C2	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061324-AB** **Sample Description: DL244871**

EMSL Sample Number:	042412412-0005		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

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EMSL Order ID: 042412412
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: 042412412-0005 **Customer Sample:** MFL-FB01-061324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J3	None Detected									
C5	H6	None Detected									
C5	G3	None Detected									
C5	E2	None Detected									
C5	C5	None Detected									
C6	J2	None Detected									
C6	H6	None Detected									
C6	F7	None Detected									
C6	D8	None Detected									
C6	B2	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
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Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061424-AB**	**Sample Description:**	**DL244904**
EMSL Sample Number:	042412412-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7181.6
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
Chi² Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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EMSL Order ID: 042412412
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: 042412412-0006 **Customer Sample:** MFL-AM01-061424-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	B4	None Detected									
D2	E7	None Detected									
D2	J3	None Detected									
D3	B3	None Detected									
D3	E7	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061424-AB**		**Sample Description:**	**DL244870**
EMSL Sample Number:	042412412-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.2
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 %:	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

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EMSL Order ID: 042412412
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: 042412412-0007 **Customer Sample:** MFL-AM02-061424-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	A9	None Detected									
D6	E7	None Detected									
D6	H10	None Detected									
D7	I1	None Detected									
D7	C2	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061424-AB** **Sample Description: DL244860**

EMSL Sample Number:	042412412-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7340.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
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

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EMSL Order ID: 042412412
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: 042412412-0008 **Customer Sample:** MFL-AM03-061424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	J8	None Detected									
E2	H5	None Detected									
E2	B6	None Detected									
E3	C6	None Detected									
E3	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-061424-AB** **Sample Description:** **DL244843**

EMSL Sample Number:	042412412-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7183.5
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 %:	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

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0009 **Customer Sample:** MFL-AM04-061424-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	B4	None Detected									
E5	E3	None Detected									
E5	H2	None Detected									
E6	I8	None Detected									
E6	A6	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061424-AB** **Sample Description: D244859**

EMSL Sample Number:	042412412-0010		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

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EMSL Order ID: 042412412
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: 042412412-0010 **Customer Sample:** MFL-FB01-061424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A8	None Detected									
F2	C7	None Detected									
F2	E9	None Detected									
F2	G10	None Detected									
F2	I8	None Detected									
F3	J5	None Detected									
F3	H6	None Detected									
F3	F7	None Detected									
F3	D8	None Detected									
F3	B3	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-061524-AB** **Sample Description: DL244868**

EMSL Sample Number:	042412412-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7206.1
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
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EMSL Order ID: 042412412
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: 042412412-0011 **Customer Sample:** MFL-AM01-061524-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	A10	None Detected									
F5	E9	None Detected									
F5	H7	None Detected									
F6	H5	None Detected									
F6	C8	None Detected									

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

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EMSL Order:	042412412
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:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061524-AB**	**Sample Description:**	**DL244865**
EMSL Sample Number:	042412412-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7249.0
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 %:	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

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EMSL Order ID: 042412412
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: 042412412-0012 **Customer Sample:** MFL-AM02-061524-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	I7	None Detected									
G2	G3	None Detected									
G2	C2	None Detected									
G3	G3	None Detected									
G3	D5	None Detected									

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

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

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-061524-AB**		**Sample Description:**	**DL244873**
EMSL Sample Number:	042412412-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7385.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
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

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0013 **Customer Sample:** MFL-AM03-061524-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	J4	None Detected									
G6	G5	None Detected									
G6	B7	None Detected									
G7	C3	None Detected									
G7	G4	None Detected									

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

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

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Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061524-AB**	**Sample Description:**	**DL244949**
EMSL Sample Number:	042412412-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7235.0
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

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412412-0014 **Customer Sample:** MFL-AM04-061524-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	C4	None Detected									
H2	E7	None Detected									
H2	I8	None Detected									
H3	C8	None Detected									
H3	I5	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061524-AB** **Sample Description: DL244896**

EMSL Sample Number:	042412412-0015		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

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EMSL Order ID: 042412412
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: 042412412-0015 **Customer Sample:** MFL-FB01-061524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H6	A8	None Detected									
H6	C10	None Detected									
H6	E7	None Detected									
H6	G9	None Detected									
H6	I10	None Detected									
H7	J1	None Detected									
H7	H6	None Detected									
H7	F1	None Detected									
H7	D5	None Detected									
H7	B1	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-061624-AB**	**Sample Description:**	**DL244858**
EMSL Sample Number:	042412412-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7235.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
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
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EMSL Order ID: 042412412
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: 042412412-0016 **Customer Sample:** MFL-AM01-061624-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	A4	None Detected									
I2	D6	None Detected									
I2	H3	None Detected									
I3	B5	None Detected									
I3	G5	None Detected									

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

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EMSL Order:	042412412
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:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061624-AB**	**Sample Description:**	**DL244845**
EMSL Sample Number:	042412412-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7271.4
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

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EMSL Order ID: 042412412
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: 042412412-0017 **Customer Sample:** MFL-AM02-061624-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	J4	None Detected									
I5	G7	None Detected									
I5	B6	None Detected									
I6	B2	None Detected									
I6	I5	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061624-AB** **Sample Description: DL244867**

EMSL Sample Number:	042412412-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7014.1
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 %:	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

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EMSL Order ID: 042412412
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: 042412412-0018 **Customer Sample:** MFL-AM03-061624-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	I7	None Detected									
I2	F8	None Detected									
I2	C10	None Detected									
I3	C1	None Detected									
I3	H4	None Detected									

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

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

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

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Fax:	N/A
Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061624-AB**		**Sample Description:**	**DL244872**
EMSL Sample Number:	042412412-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7152.1
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

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EMSL Order ID: 042412412
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: 042412412-0019 **Customer Sample:** MFL-AM04-061624-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	B8	None Detected									
J5	E7	None Detected									
J5	G4	None Detected									
J6	I6	None Detected									
J6	C3	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061624-AB** **Sample Description: DL244852**

EMSL Sample Number:	042412412-0020		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

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EMSL Order ID: 042412412
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: 042412412-0020 **Customer Sample:** MFL-FB01-061624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	A9	None Detected									
K1	C8	None Detected									
K1	E7	None Detected									
K1	G8	None Detected									
K1	I4	None Detected									
K2	J2	None Detected									
K2	H1	None Detected									
K2	F3	None Detected									
K2	D4	None Detected									
K2	B5	None Detected									

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

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EMSL Order:	042412412
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	06/19/2024 10:00 AM
Analysis Date:	06/27/2024
Report Date:	06/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042412412-0021		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: 042412412
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: 042412412-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J4	None Detected									
A2	H5	None Detected									
A2	F7	None Detected									
A2	D5	None Detected									
A2	B5	None Detected									
A3	A8	None Detected									
A3	C5	None Detected									
A3	E3	None Detected									
A3	G6	None Detected									
A3	I5	None Detected									

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

OrderID: 042412412

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only
#042412412

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

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

Customer Information

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

Billing Information

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

Project Information

Project Name/No:	Maui Fires - Lahaina
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Lena Diaz
Sampled By Signature:	
No. of Samples in Shipment	20

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

RECEIVED EMSL CINNAMINSON NJ 2024 JUN 19 P 2:50

☐ 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-AM01-061324-AB	DL244921	7,170.008	06/13/24 1058
MFL-AM02-061324-AB	DL244849	7,281.566	06/13/24 1118
MFL-AM03-061324-AB	DL244861	7,388.192	06/13/24 1300
MFL-AM04-061324-AB	DL244866	7,196.256	06/13/24 1321
MFL-FB01-061324-AB	DL244871	0	06/13/24 1200
MFL-AM01-061424-AB	DL244904	7,181.568	06/14/24 1100
MFL-AM02-061424-AB	DL244870	7,122.240	06/14/24 1122
MFL-AM03-061424-AB	DL244860	7,340.933	06/14/24 1300

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

All samples received acceptable for analysis.

2058

Method of Shipment:	Fed Ex		Sample Condition Upon Receipt:		
Relinquished by:	Lena Diaz	Date/Time: 06/17/24 1100	Received by:	FEX	Date/Time 06/19/24 WA
Relinquished by:		Date/Time:	Received by:		Date/Time

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

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

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042412412

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.)

MFL-AM04-061424-AB DL244843 7,183.467 06/14/24 1320

Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
~~MFL-AM04-061424-AB~~		~~DL244860~~	~~7,310.933~~	~~06/14/24 1300~~
MFL-FB01-061424-AB		DL244859	0	06/14/24 1200
MFL-AM01-061524-AB		DL244868	7,206.065	06/15/24 1057
MFL-AM02-061524-AB		DL244865	7,249.017	06/15/24 1114
MFL-AM03-061524-AB		DL244873	7,385.904	06/15/24 1303
MFL-AM04-061524-AB		DL244949	7,234.992	06/15/24 1322
MFL-FB01-061524-AB		DL244896	0	06/15/24 1200
MFL-AM01-061624-AB		DL244858	7,235.884	06/16/24 1050
MFL-AM02-061624-AB		DL244845 ~~DL244854~~	7,271.376	06/16/24 1105
MFL-AM03-061624-AB		DL244867	7,014.066	06/16/24 1253
MFL-AM04-061624-AB		DL244872	7,152.075	06/16/24 1312
MFL-FB01-061624-AB		DL244852	0	06/16/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUN 19 P 12:50

Method of Shipment: Fed EX		Sample Condition Upon Receipt:	
Relinquished by: Lena Diaz	Date/Time: 06/17/24 1100	Received by: EFX	Date/Time: 06/19/24 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.

Page 2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 06/27/2024 and Shanna Vasser 07/02/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 06/13/2024 – 06/16/2024
Report No: 42412412

√	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:	042412810
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:	06/24/2024 10:00 AM
Analysis Date:	06/28/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061724-AB**		**Sample Description:**	**DL244847**
EMSL Sample Number:	042412810-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6970.6
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
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.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042412810
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: 042412810-0001 **Customer Sample:** MFL-AM02-061724-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	B3	None Detected									
B1	E7	None Detected									
B2	C7	None Detected									
B2	F9	None Detected									
B2	I6	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:	042412810
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:	06/24/2024 10:00 AM
Analysis Date:	06/28/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061724-AB** **Sample Description: DL244857**

EMSL Sample Number:	042412810-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7126.5
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:	G.Barry
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: 042412810
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: 042412810-0002 **Customer Sample:** MFL-AM03-061724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B6	B8	None Detected									
B6	D6	None Detected									
B6	J3	None Detected									
B7	H9	None Detected									
B7	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:	042412810
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:	06/24/2024 10:00 AM
Analysis Date:	06/28/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061724-AB**	**Sample Description:**	**DL244918**
EMSL Sample Number:	042412810-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7165.7
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 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
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EMSL Order ID: 042412810
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: 042412810-0003 **Customer Sample:** MFL-AM04-061724-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	I7	None Detected									
C1	F3	None Detected									
C1	C4	None Detected									
C2	J5	None Detected									
C2	D6	None Detected									

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

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061724-AB** **Sample Description: DL244842**

EMSL Sample Number:	042412810-0004		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

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EMSL Order ID: 042412810
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: 042412810-0004 **Customer Sample:** MFL-FB01-061724-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	J9	None Detected									
C5	H6	None Detected									
C5	G10	None Detected									
C5	E8	None Detected									
C5	C7	None Detected									
C6	A3	None Detected									
C6	C1	None Detected									
C6	E1	None Detected									
C6	G3	None Detected									
C6	I3	None Detected									

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

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-061824-AB** **Sample Description:** **DL244850**

EMSL Sample Number:	042412810-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7192.2
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 %:	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

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EMSL Order ID: 042412810
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: 042412810-0005 **Customer Sample:** MFL-AM01-061824-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	A4	None Detected									
D2	C3	None Detected									
D2	F4	None Detected									
D3	H7	None Detected									
D3	C5	None Detected									

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

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

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-061824-AB**		**Sample Description:**	**DL244848**
EMSL Sample Number:	042412810-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7350.6
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

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EMSL Order ID: 042412810
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: 042412810-0006 **Customer Sample:** MFL-AM02-061824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	D5	None Detected									
D5	G8	None Detected									
D6	G7	None Detected									
D6	B8	None Detected									

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

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061824-AB** **Sample Description: DL244841**

EMSL Sample Number:	042412810-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7269.1
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 %:	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

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042412810-0007 **Customer Sample:** MFL-AM03-061824-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	G8	None Detected									
E1	D6	None Detected									
E1	A5	None Detected									
E2	H4	None Detected									
E2	B8	None Detected									

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

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-061824-AB**	**Sample Description:**	**DL244840**
EMSL Sample Number:	042412810-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7231.8
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
Chi² Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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EMSL Order ID: 042412810
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: 042412810-0008 **Customer Sample:** MFL-AM04-061824-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	J9	None Detected									
E5	H6	None Detected									
E5	F3	None Detected									
E6	C8	None Detected									
E6	H6	None Detected									

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

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061824-AB** **Sample Description: DL248398**

EMSL Sample Number:	042412810-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042412810
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: 042412810-0009 **Customer Sample:** MFL-FB01-061824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J4	None Detected									
F2	H1	None Detected									
F2	F3	None Detected									
F2	D6	None Detected									
F2	B1	None Detected									
F3	J4	None Detected									
F3	H3	None Detected									
F3	F1	None Detected									
F3	D2	None Detected									
F3	B1	None Detected									

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

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EMSL Order:	042412810
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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-061924-AB** **Sample Description: DL248523**

EMSL Sample Number:	042412810-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7189.2
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 %:	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

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EMSL Order ID: 042412810
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: 042412810-0010 **Customer Sample:** MFL-AM01-061924-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	J3	None Detected									
F5	H6	None Detected									
F5	C3	None Detected									
F6	C10	None Detected									
F6	H9	None Detected									

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

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-061924-AB** **Sample Description: DL248389**

EMSL Sample Number:	042412810-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.6
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

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EMSL Order ID: 042412810
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: 042412810-0011 **Customer Sample:** MFL-AM02-061924-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	A8	None Detected									
G1	D3	None Detected									
G1	G4	None Detected									
G2	C3	None Detected									
G2	I4	None Detected									

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

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-061924-AB** **Sample Description: DL248404**

EMSL Sample Number:	042412810-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7278.2
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 %:	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

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EMSL Order ID: 042412810
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: 042412810-0012 **Customer Sample:** MFL-AM03-061924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A3	None Detected									
G5	E4	None Detected									
G5	J4	None Detected									
G6	B5	None Detected									
G6	G5	None Detected									

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

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EMSL Order:	042412810
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-061924-AB** **Sample Description: DL248411**

EMSL Sample Number:	042412810-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.3
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: 042412810
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: 042412810-0013 **Customer Sample:** MFL-AM04-061924-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	B4	None Detected									
H1	D6	None Detected									
H1	F9	None Detected									
H2	G1	None Detected									
H2	A4	None Detected									

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

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

EMSL Order:	042412810
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:	06/24/2024 10:00 AM
Analysis Date:	07/02/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-061924-AB** **Sample Description: DL248403**

EMSL Sample Number:	042412810-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042412810
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: 042412810-0014 **Customer Sample:** MFL-FB01-061924-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	J3	None Detected									
H5	H2	None Detected									
H5	F4	None Detected									
H5	D2	None Detected									
H5	B4	None Detected									
H6	J2	None Detected									
H6	H1	None Detected									
H6	F4	None Detected									
H6	D1	None Detected									
H6	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:	042412810
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:	06/24/2024 10:00 AM
Analysis Date:	06/28/2024
Report Date:	07/02/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042412810-0015		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:	G.Barry
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: 042412810
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: 042412810-0015 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A5	None Detected									
A1	D3	None Detected									
A1	F6	None Detected									
A1	I8	None Detected									
A2	J3	None Detected									
A2	G7	None Detected									
A2	B4	None Detected									
A3	A4	None Detected									
A3	E7	None Detected									
A3	H6	None Detected									

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

OrderID: 042412810

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042412810

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

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUN 24 A 10:46

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

Customer Information

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

Billing Information

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

Project Information

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

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

☐ 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-AM01-061724-AB~~	~~DL244855 VOID~~		~~06/17/24 1102~~ (LO)
MFL-AM02-061724-AB	DL244847	6,970.608	06/17/24 1109
MFL-AM03-061724-AB	DL244857	7,126.488	06/17/24 1256
MFL-AM04-061724-AB	DL244918	7,165.728	06/17/24 1315
MFL-FB01-061724-AB	DL244842	0	06/17/24 1200
MFL-AM01-061824-AB	DL244850	7,192.220	06/18/24 1100
MFL-AM02-061824-AB	DL244848	7,350.602	06/18/24 1117
MFL-AM03-061824-AB	DL244841	7,269.109	06/18/24 1303

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

* Sample was voided due to uncertainty of run time of Casella cuoos.

All samples received acceptable for analysis.

Method of Shipment: Fed Ex		Sample Condition Upon Receipt:	
Relinquished by: Lena Diaz	Date/Time: 06/20/24 1100	Received by:	Date/Time: 6.24.24 (140)
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042412810

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

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

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CINNAMINSON, NJ
2024 JUN 24 I A 10:46

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.)

~~*Indicates~~ (LD)
*Indicates start of new Lot # 37502 (LD)

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-061824-AB	DL244840	7,231.840	06/18/24 1322
* MFL-FB01-061824-AB	DL248398	0	06/18/24 1200
MFL-AM01-061924-AB	DL248523	7,189.190	06/19/24 1058
MFL-AM02-061924-AB	DL248389	7,159.626	06/19/24 1113
MFL-AM03-061924-AB	DL248404	7,278.192	06/19/24 1306
MFL-AM04-061924-AB	DL248411	7,199.280	06/19/24 1325
MFL-FB01-061924-AB	DL248403	0	06/19/24 1200

Method of Shipment: Fed Ex		Sample Condition Upon Receipt:	
Relinquished by: Lena Diaz	Date/Time: 06/20/24 1100	Received by:	Date/Time 6-24-24
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 07/02/2024 and Shanna Vasser 07/03/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 06/17/2024 – 06/19/2024
Report No: 42412810

√	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.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

4. MFL-AM01-061724-AB 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.

Notes: None.

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

July 02, 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 06/24/24 15:17.

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-061324-HM	4062433-01	Air	06/13/24 23:59	06/24/24 15:17
MFL-AM02-061324-HM	4062433-02	Air	06/13/24 23:59	06/24/24 15:17
MFL-AM03-061324-HM	4062433-03	Air	06/13/24 23:59	06/24/24 15:17
MFL-AM04-061324-HM	4062433-04	Air	06/13/24 23:59	06/24/24 15:17
MFL-AM01-061424-HM	4062433-05	Air	06/14/24 23:59	06/24/24 15:17
MFL-AM02-061424-HM	4062433-06	Air	06/14/24 23:59	06/24/24 15:17
MFL-AM03-061424-HM	4062433-07	Air	06/14/24 23:59	06/24/24 15:17
MFL-AM04-061424-HM	4062433-08	Air	06/14/24 23:59	06/24/24 15:17
MFL-FB01-061424-HM	4062433-09	Air	06/14/24 00:00	06/24/24 15:17
MFL-AM01-061524-HM	4062433-10	Air	06/15/24 23:59	06/24/24 15:17
MFL-AM02-061524-HM	4062433-11	Air	06/15/24 23:59	06/24/24 15:17
MFL-AM03-061524-HM	4062433-12	Air	06/15/24 23:59	06/24/24 15:17
MFL-AM04-061524-HM	4062433-13	Air	06/15/24 23:59	06/24/24 15:17
MFL-AM01-061624-HM	4062433-14	Air	06/16/24 23:59	06/24/24 15:17
MFL-AM02-061624-HM	4062433-15	Air	06/16/24 23:59	06/24/24 15:17
MFL-AM03-061624-HM	4062433-16	Air	06/16/24 23:59	06/24/24 15:17
MFL-AM04-061624-HM	4062433-17	Air	06/16/24 23:59	06/24/24 15:17
MFL-FB01-061624-HM	4062433-18	Air	06/16/24 00:00	06/24/24 15:17
MFL-AM01-061724-HM	4062433-19	Air	06/17/24 23:59	06/24/24 15:17
MFL-AM02-061724-HM	4062433-20	Air	06/17/24 23:59	06/24/24 15:17
MFL-AM03-061724-HM	4062433-21	Air	06/17/24 23:59	06/24/24 15:17

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
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MFL-AM04-061724-HM	4062433-22	Air	06/17/24 23:59	06/24/24 15:17
MFL-AM01-061824-HM	4062433-23	Air	06/18/24 23:59	06/24/24 15:17
MFL-AM02-061824-HM	4062433-24	Air	06/18/24 23:59	06/24/24 15:17
MFL-AM03-061824-HM	4062433-25	Air	06/18/24 23:59	06/24/24 15:17
MFL-AM04-061824-HM	4062433-26	Air	06/18/24 23:59	06/24/24 15:17
MFL-FB01-061824-HM	4062433-27	Air	06/18/24 00:00	06/24/24 15:17
MFL-AM01-061924-HM	4062433-28	Air	06/19/24 23:59	06/24/24 15:17
MFL-AM02-061924-HM	4062433-29	Air	06/19/24 23:59	06/24/24 15:17
MFL-AM03-061924-HM	4062433-30	Air	06/19/24 23:59	06/24/24 15:17
MFL-AM04-061924-HM	4062433-31	Air	06/19/24 23:59	06/24/24 15:17

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061324-HM
Matrix: Air
Lab ID: 4062433-01
Sample Volume: 1930.179 m³
Filter ID:
Sampled: 06/13/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 00:09

Comments: Q8508861 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0325**
Arsenic	**7440-38-2**	**1.45**		**0.00790**
Barium	**7440-39-3**	**6.08**		**0.902**
Beryllium	**7440-41-7**	**0.0188**		**0.00270**
Cadmium	7440-43-9	0.0231	U	0.0625
Chromium	**7440-47-3**	**4.30**		**1.86**
Cobalt	**7440-48-4**	**0.667**		**0.0368**
Copper	**7440-50-8**	**81.1**		**2.22**
Lead	**7439-92-1**	**0.665**		**0.180**
Manganese	**7439-96-5**	**18.9**		**1.59**
Molybdenum	**7439-98-7**	**5.18**		**0.303**
Nickel	**7440-02-0**	**2.25**		**0.550**
Selenium	**7782-49-2**	**0.178**		**0.00755**
Thallium	**7440-28-0**	**0.00162**		**4.96E-4**
Vanadium	**7440-62-2**	**2.27**		**0.0446**
Zinc	7440-66-6	25.8	U	64.7

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061324-HM
Matrix: Air
Lab ID: 4062433-02
Sample Volume: 2029.232 m³
Filter ID:
Sampled: 06/13/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/25/24 21:26

Comments: Q8508860 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.142**	SL	**0.0309**
Arsenic	**7440-38-2**	**1.02**		**0.00751**
Barium	**7440-39-3**	**5.28**		**0.858**
Beryllium	**7440-41-7**	**0.0160**		**0.00257**
Cadmium	7440-43-9	0.0164	U	0.0594
Chromium	**7440-47-3**	**2.60**		**1.77**
Cobalt	**7440-48-4**	**0.502**		**0.0350**
Copper	**7440-50-8**	**57.1**	QM-07	**2.11**
Lead	**7439-92-1**	**1.50**		**0.172**
Manganese	**7439-96-5**	**15.2**		**1.52**
Molybdenum	**7439-98-7**	**2.57**		**0.288**
Nickel	**7440-02-0**	**1.88**		**0.523**
Selenium	**7782-49-2**	**0.183**	SRD-01	**0.00718**
Thallium	**7440-28-0**	**0.00194**		**4.72E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0424**
Zinc	7440-66-6	27.6	U	61.6

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1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061324-HM
Matrix: Air
Lab ID: 4062433-03
Sample Volume: 1978.553 m³
Filter ID:
Sampled: 06/13/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 00:28

Comments: Q8508859 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0644**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.448**		**0.00771**
Barium	**7440-39-3**	**4.73**		**0.880**
Beryllium	**7440-41-7**	**0.0505**		**0.00263**
Cadmium	7440-43-9	0.0139	U	0.0609
Chromium	**7440-47-3**	**3.81**		**1.82**
Cobalt	**7440-48-4**	**0.833**		**0.0359**
Copper	**7440-50-8**	**49.7**		**2.16**
Lead	**7439-92-1**	**0.655**		**0.176**
Manganese	**7439-96-5**	**20.9**		**1.55**
Molybdenum	**7439-98-7**	**2.24**		**0.295**
Nickel	**7440-02-0**	**2.09**		**0.536**
Selenium	**7782-49-2**	**0.210**		**0.00737**
Thallium	**7440-28-0**	**0.00162**		**4.84E-4**
Vanadium	**7440-62-2**	**2.13**		**0.0435**
Zinc	7440-66-6	22.4	U	63.2

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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061324-HM
Matrix: Air
Lab ID: 4062433-04
Sample Volume: 1740.497 m³
Filter ID:
Sampled: 06/13/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 00:44

Comments: Q8508858 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0361**
Arsenic	**7440-38-2**	**1.04**		**0.00876**
Barium	**7440-39-3**	**5.06**		**1.00**
Beryllium	**7440-41-7**	**0.0196**		**0.00299**
Cadmium	7440-43-9	0.0226	U	0.0693
Chromium	**7440-47-3**	**3.53**		**2.07**
Cobalt	**7440-48-4**	**0.623**		**0.0408**
Copper	**7440-50-8**	**27.8**		**2.46**
Lead	**7439-92-1**	**1.51**		**0.200**
Manganese	**7439-96-5**	**19.5**		**1.77**
Molybdenum	**7439-98-7**	**1.48**		**0.336**
Nickel	**7440-02-0**	**1.90**		**0.609**
Selenium	**7782-49-2**	**0.193**		**0.00838**
Thallium	**7440-28-0**	**0.00163**		**5.51E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0495**
Zinc	7440-66-6	24.8	U	71.8

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061424-HM
Matrix: Air
Lab ID: 4062433-05
Sample Volume: 2046.239 m³
Filter ID:
Sampled: 06/14/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 01:00

Comments: Q8504293 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.211**	SL	**0.0307**
Arsenic	**7440-38-2**	**2.40**		**0.00745**
Barium	**7440-39-3**	**7.01**		**0.851**
Beryllium	**7440-41-7**	**0.0185**		**0.00254**
Cadmium	7440-43-9	0.0206	U	0.0589
Chromium	**7440-47-3**	**4.98**		**1.76**
Cobalt	**7440-48-4**	**0.847**		**0.0347**
Copper	**7440-50-8**	**100**		**2.09**
Lead	**7439-92-1**	**1.33**		**0.170**
Manganese	**7439-96-5**	**21.5**		**1.50**
Molybdenum	**7439-98-7**	**6.09**		**0.285**
Nickel	**7440-02-0**	**2.63**		**0.518**
Selenium	**7782-49-2**	**0.229**		**0.00712**
Thallium	**7440-28-0**	**0.00154**		**4.68E-4**
Vanadium	**7440-62-2**	**2.47**		**0.0421**
Zinc	7440-66-6	31.0	U	61.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061424-HM
Matrix: Air
Lab ID: 4062433-06
Sample Volume: 2026.086 m³
Filter ID:
Sampled: 06/14/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 01:17

Comments: Q8504292 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.490**		**0.00752**
Barium	**7440-39-3**	**4.23**		**0.859**
Beryllium	**7440-41-7**	**0.0121**		**0.00257**
Cadmium	7440-43-9	0.0128	U	0.0595
Chromium	**7440-47-3**	**2.12**		**1.77**
Cobalt	**7440-48-4**	**0.340**		**0.0350**
Copper	**7440-50-8**	**54.8**		**2.11**
Lead	**7439-92-1**	**0.806**		**0.172**
Manganese	**7439-96-5**	**11.2**		**1.52**
Molybdenum	**7439-98-7**	**2.36**		**0.288**
Nickel	**7440-02-0**	**1.20**		**0.524**
Selenium	**7782-49-2**	**0.210**		**0.00720**
Thallium	**7440-28-0**	**0.00116**		**4.73E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0425**
Zinc	7440-66-6	17.8	U	61.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061424-HM
Matrix: Air
Lab ID: 4062433-07
Sample Volume: 2072.075 m³
Filter ID:
Sampled: 06/14/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 01:33

Comments: Q8508856 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0725**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.352**		**0.00736**
Barium	**7440-39-3**	**3.44**		**0.840**
Beryllium	**7440-41-7**	**0.0294**		**0.00251**
Cadmium	7440-43-9	0.0122	U	0.0582
Chromium	**7440-47-3**	**2.53**		**1.74**
Cobalt	**7440-48-4**	**0.455**		**0.0342**
Copper	**7440-50-8**	**41.0**		**2.07**
Lead	**7439-92-1**	**0.688**		**0.168**
Manganese	**7439-96-5**	**12.2**		**1.48**
Molybdenum	**7439-98-7**	**2.43**		**0.282**
Nickel	**7440-02-0**	**1.36**		**0.512**
Selenium	**7782-49-2**	**0.190**		**0.00704**
Thallium	**7440-28-0**	**0.00106**		**4.62E-4**
Vanadium	**7440-62-2**	**1.26**		**0.0415**
Zinc	7440-66-6	15.0	U	60.3

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061424-HM
Matrix: Air
Lab ID: 4062433-08
Sample Volume: 1757.469 m³
Filter ID:
Sampled: 06/14/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/25/24 17:42

Comments: Q8508853 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0357**
Arsenic	**7440-38-2**	**2.57**		**0.00867**
Barium	**7440-39-3**	**5.83**		**0.991**
Beryllium	**7440-41-7**	**0.0262**		**0.00296**
Cadmium	7440-43-9	0.0235	U	0.0686
Chromium	**7440-47-3**	**5.48**		**2.05**
Cobalt	**7440-48-4**	**0.791**		**0.0404**
Copper	**7440-50-8**	**26.6**		**2.43**
Lead	**7439-92-1**	**1.23**		**0.198**
Manganese	**7439-96-5**	**28.9**	QM-07	**1.75**
Molybdenum	**7439-98-7**	**1.41**		**0.332**
Nickel	**7440-02-0**	**2.36**		**0.604**
Selenium	**7782-49-2**	**0.260**		**0.00829**
Thallium	**7440-28-0**	**0.00156**		**5.45E-4**
Vanadium	**7440-62-2**	**2.06**		**0.0490**
Zinc	7440-66-6	23.1	U	71.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061424-HM
Matrix: Air
Lab ID: 4062433-09
Sample Volume: 2046.239 m³
Filter ID:
Sampled: 06/14/24 00:00
Received: 06/24/24 15:17
Analysis Date: 06/26/24 01:48

Comments: Q8508850 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0186	SL, U	0.0307
Arsenic	**7440-38-2**	**0.0348**	FB-01	**0.00745**
Barium	7440-39-3	0.715	U	0.851
Beryllium	7440-41-7	2.87E-4	U	0.00254
Cadmium	7440-43-9	7.46E-4	U	0.0589
Chromium	7440-47-3	0.953	U	1.76
Cobalt	7440-48-4	0.0153	U	0.0347
Copper	7440-50-8	1.34	U	2.09
Lead	7439-92-1	0.0373	U	0.170
Manganese	7439-96-5	0.254	U	1.50
Molybdenum	7439-98-7	0.148	U	0.285
Nickel	7440-02-0	0.392	U	0.518
Selenium	7782-49-2	5.36E-4	U	0.00712
Thallium	7440-28-0	5.04E-5	U	4.68E-4
Vanadium	7440-62-2	0.0325	U	0.0421
Zinc	7440-66-6	11.8	U	61.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061524-HM
Matrix: Air
Lab ID: 4062433-10
Sample Volume: 1951.165 m³
Filter ID:
Sampled: 06/15/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 02:02

Comments: Q8508851 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.236**	SL	**0.0322**
Arsenic	**7440-38-2**	**6.27**		**0.00781**
Barium	**7440-39-3**	**11.4**		**0.892**
Beryllium	**7440-41-7**	**0.0355**		**0.00267**
Cadmium	**7440-43-9**	**0.0634**		**0.0618**
Chromium	**7440-47-3**	**8.20**		**1.84**
Cobalt	**7440-48-4**	**1.63**		**0.0364**
Copper	**7440-50-8**	**117**		**2.19**
Lead	**7439-92-1**	**0.971**		**0.178**
Manganese	**7439-96-5**	**41.1**		**1.58**
Molybdenum	**7439-98-7**	**7.09**		**0.299**
Nickel	**7440-02-0**	**4.56**		**0.544**
Selenium	**7782-49-2**	**0.301**		**0.00747**
Thallium	**7440-28-0**	**0.00213**		**4.91E-4**
Vanadium	**7440-62-2**	**4.56**		**0.0441**
Zinc	7440-66-6	31.6	U	64.0

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061524-HM
Matrix: Air
Lab ID: 4062433-11
Sample Volume: 2023.269 m³
Filter ID:
Sampled: 06/15/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 02:20

Comments: Q8508846 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.167**	SL	**0.0310**
Arsenic	**7440-38-2**	**1.22**		**0.00753**
Barium	**7440-39-3**	**8.64**		**0.860**
Beryllium	**7440-41-7**	**0.0359**		**0.00257**
Cadmium	7440-43-9	0.0518	U	0.0596
Chromium	**7440-47-3**	**5.38**		**1.78**
Cobalt	**7440-48-4**	**1.24**		**0.0351**
Copper	**7440-50-8**	**69.6**		**2.11**
Lead	**7439-92-1**	**2.05**		**0.172**
Manganese	**7439-96-5**	**33.3**		**1.52**
Molybdenum	**7439-98-7**	**2.68**		**0.289**
Nickel	**7440-02-0**	**3.59**		**0.524**
Selenium	**7782-49-2**	**0.306**		**0.00721**
Thallium	**7440-28-0**	**0.00177**		**4.74E-4**
Vanadium	**7440-62-2**	**3.89**		**0.0425**
Zinc	7440-66-6	28.0	U	61.8

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061524-HM
Matrix: Air
Lab ID: 4062433-12
Sample Volume: 1981.867 m³
Filter ID:
Sampled: 06/15/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 02:37

Comments: Q8508845 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0594**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.415**		**0.00769**
Barium	**7440-39-3**	**3.73**		**0.878**
Beryllium	**7440-41-7**	**0.0291**		**0.00263**
Cadmium	7440-43-9	0.0125	U	0.0608
Chromium	**7440-47-3**	**2.91**		**1.81**
Cobalt	**7440-48-4**	**0.570**		**0.0358**
Copper	**7440-50-8**	**51.6**		**2.16**
Lead	**7439-92-1**	**0.619**		**0.176**
Manganese	**7439-96-5**	**15.5**		**1.55**
Molybdenum	**7439-98-7**	**2.67**		**0.295**
Nickel	**7440-02-0**	**1.57**		**0.535**
Selenium	**7782-49-2**	**0.224**		**0.00736**
Thallium	**7440-28-0**	**0.00117**		**4.84E-4**
Vanadium	**7440-62-2**	**1.59**		**0.0434**
Zinc	7440-66-6	15.7	U	63.0

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061524-HM
Matrix: Air
Lab ID: 4062433-13
Sample Volume: 1717.635 m³
Filter ID:
Sampled: 06/15/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 03:50

Comments: Q8508844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0366**
Arsenic	**7440-38-2**	**2.00**		**0.00888**
Barium	**7440-39-3**	**5.85**		**1.01**
Beryllium	**7440-41-7**	**0.0216**		**0.00303**
Cadmium	7440-43-9	0.0241	U	0.0702
Chromium	**7440-47-3**	**4.48**		**2.09**
Cobalt	**7440-48-4**	**0.732**		**0.0413**
Copper	**7440-50-8**	**31.5**		**2.49**
Lead	**7439-92-1**	**1.49**		**0.203**
Manganese	**7439-96-5**	**25.3**		**1.79**
Molybdenum	**7439-98-7**	**1.50**		**0.340**
Nickel	**7440-02-0**	**2.39**		**0.618**
Selenium	**7782-49-2**	**0.249**		**0.00849**
Thallium	**7440-28-0**	**0.00158**		**5.58E-4**
Vanadium	**7440-62-2**	**2.11**		**0.0501**
Zinc	7440-66-6	23.2	U	72.7

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061624-HM
Matrix: Air
Lab ID: 4062433-14
Sample Volume: 1981.266 m³
Filter ID:
Sampled: 06/16/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 04:07

Comments: Q8508843 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0982**	SL	**0.0317**
Arsenic	**7440-38-2**	**1.66**		**0.00769**
Barium	**7440-39-3**	**4.79**		**0.879**
Beryllium	**7440-41-7**	**0.0137**		**0.00263**
Cadmium	7440-43-9	0.0156	U	0.0609
Chromium	**7440-47-3**	**3.41**		**1.81**
Cobalt	**7440-48-4**	**0.583**		**0.0358**
Copper	**7440-50-8**	**122**		**2.16**
Lead	**7439-92-1**	**0.465**		**0.176**
Manganese	**7439-96-5**	**16.4**		**1.55**
Molybdenum	**7439-98-7**	**7.90**		**0.295**
Nickel	**7440-02-0**	**1.73**		**0.535**
Selenium	**7782-49-2**	**0.197**		**0.00736**
Thallium	**7440-28-0**	**0.00145**		**4.84E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0434**
Zinc	7440-66-6	17.3	U	63.1

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061624-HM
Matrix: Air
Lab ID: 4062433-15
Sample Volume: 2071.372 m³
Filter ID:
Sampled: 06/16/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 04:39

Comments: Q8504308 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.536**		**0.00736**
Barium	**7440-39-3**	**3.99**		**0.840**
Beryllium	**7440-41-7**	**0.0106**		**0.00251**
Cadmium	7440-43-9	0.0159	U	0.0582
Chromium	**7440-47-3**	**1.96**		**1.74**
Cobalt	**7440-48-4**	**0.289**		**0.0342**
Copper	**7440-50-8**	**48.8**		**2.07**
Lead	**7439-92-1**	**2.01**		**0.168**
Manganese	**7439-96-5**	**10.2**		**1.48**
Molybdenum	**7439-98-7**	**2.33**		**0.282**
Nickel	**7440-02-0**	**1.06**		**0.512**
Selenium	**7782-49-2**	**0.191**		**0.00704**
Thallium	**7440-28-0**	**0.00118**		**4.63E-4**
Vanadium	**7440-62-2**	**0.956**		**0.0416**
Zinc	7440-66-6	15.9	U	60.3

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061624-HM
Matrix: Air
Lab ID: 4062433-16
Sample Volume: 1967.781 m³
Filter ID:
Sampled: 06/16/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 04:59

Comments: Q8504307 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0644**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.214**		**0.00775**
Barium	**7440-39-3**	**2.86**		**0.885**
Beryllium	**7440-41-7**	**0.0126**		**0.00265**
Cadmium	7440-43-9	0.0174	U	0.0613
Chromium	**7440-47-3**	**1.90**		**1.83**
Cobalt	**7440-48-4**	**0.245**		**0.0360**
Copper	**7440-50-8**	**44.4**		**2.17**
Lead	**7439-92-1**	**0.465**		**0.177**
Manganese	**7439-96-5**	**7.12**		**1.56**
Molybdenum	**7439-98-7**	**2.00**		**0.297**
Nickel	**7440-02-0**	**0.971**		**0.539**
Selenium	**7782-49-2**	**0.170**		**0.00741**
Thallium	**7440-28-0**	**8.91E-4**		**4.87E-4**
Vanadium	**7440-62-2**	**0.707**		**0.0437**
Zinc	7440-66-6	12.9	U	63.5

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061624-HM
Matrix: Air
Lab ID: 4062433-17
Sample Volume: 1772.05 m³
Filter ID:
Sampled: 06/16/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 05:13

Comments: Q8504306 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.726**		**0.00860**
Barium	**7440-39-3**	**4.84**		**0.982**
Beryllium	**7440-41-7**	**0.0167**		**0.00294**
Cadmium	7440-43-9	0.0177	U	0.0680
Chromium	**7440-47-3**	**3.40**		**2.03**
Cobalt	**7440-48-4**	**0.580**		**0.0400**
Copper	**7440-50-8**	**22.3**		**2.41**
Lead	**7439-92-1**	**1.08**		**0.196**
Manganese	**7439-96-5**	**19.3**		**1.74**
Molybdenum	**7439-98-7**	**1.22**		**0.330**
Nickel	**7440-02-0**	**1.78**		**0.599**
Selenium	**7782-49-2**	**0.207**		**0.00823**
Thallium	**7440-28-0**	**0.00131**		**5.41E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0486**
Zinc	7440-66-6	16.7	U	70.5

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061624-HM
Matrix: Air
Lab ID: 4062433-18
Sample Volume: 1981.266 m³
Filter ID:
Sampled: 06/16/24 00:00
Received: 06/24/24 15:17
Analysis Date: 06/26/24 05:29

Comments: Q8504301 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0173	SL, U	0.0317
Arsenic	7440-38-2	0.00686	U	0.00769
Barium	**7440-39-3**	**0.961**	FB-01	**0.879**
Beryllium	7440-41-7	2.35E-4	U	0.00263
Cadmium	7440-43-9	0.00149	U	0.0609
Chromium	7440-47-3	1.06	U	1.81
Cobalt	7440-48-4	0.0109	U	0.0358
Copper	7440-50-8	0.470	U	2.16
Lead	7439-92-1	0.0291	U	0.176
Manganese	7439-96-5	0.154	U	1.55
Molybdenum	7439-98-7	0.165	U	0.295
Nickel	7440-02-0	0.443	U	0.535
Selenium	7782-49-2	0.00186	U	0.00736
Thallium	7440-28-0	5.19E-5	U	4.84E-4
Vanadium	7440-62-2	0.0268	U	0.0434
Zinc	7440-66-6	5.64	U	63.1

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061724-HM
Matrix: Air
Lab ID: 4062433-19
Sample Volume: 2030.055 m³
Filter ID:
Sampled: 06/17/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 05:43

Comments: Q8504304 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0309**
Arsenic	**7440-38-2**	**3.89**		**0.00751**
Barium	**7440-39-3**	**12.0**		**0.858**
Beryllium	**7440-41-7**	**0.0463**		**0.00256**
Cadmium	7440-43-9	0.0266	U	0.0594
Chromium	**7440-47-3**	**9.06**		**1.77**
Cobalt	**7440-48-4**	**2.31**		**0.0349**
Copper	**7440-50-8**	**148**		**2.11**
Lead	**7439-92-1**	**0.572**		**0.172**
Manganese	**7439-96-5**	**54.3**		**1.51**
Molybdenum	**7439-98-7**	**8.23**		**0.288**
Nickel	**7440-02-0**	**6.24**		**0.523**
Selenium	**7782-49-2**	**0.302**		**0.00718**
Thallium	**7440-28-0**	**0.00208**		**4.72E-4**
Vanadium	**7440-62-2**	**5.88**		**0.0424**
Zinc	7440-66-6	18.9	U	61.6

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061724-HM
Matrix: Air
Lab ID: 4062433-20
Sample Volume: 2062.457 m³
Filter ID:
Sampled: 06/17/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 06:00

Comments: Q8504303 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0994**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.529**		**0.00739**
Barium	**7440-39-3**	**4.84**		**0.844**
Beryllium	**7440-41-7**	**0.0196**		**0.00252**
Cadmium	7440-43-9	0.0119	U	0.0585
Chromium	**7440-47-3**	**2.81**		**1.74**
Cobalt	**7440-48-4**	**0.514**		**0.0344**
Copper	**7440-50-8**	**49.8**		**2.07**
Lead	**7439-92-1**	**0.981**		**0.169**
Manganese	**7439-96-5**	**15.5**		**1.49**
Molybdenum	**7439-98-7**	**2.34**		**0.283**
Nickel	**7440-02-0**	**1.87**		**0.514**
Selenium	**7782-49-2**	**0.206**		**0.00707**
Thallium	**7440-28-0**	**0.00102**		**4.65E-4**
Vanadium	**7440-62-2**	**1.70**		**0.0417**
Zinc	7440-66-6	14.8	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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061724-HM
Matrix: Air
Lab ID: 4062433-21
Sample Volume: 1944.798 m³
Filter ID:
Sampled: 06/17/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 06:16

Comments: Q8504300 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0619**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.247**		**0.00784**
Barium	**7440-39-3**	**3.09**		**0.895**
Beryllium	**7440-41-7**	**0.0206**		**0.00268**
Cadmium	7440-43-9	0.00822	U	0.0620
Chromium	**7440-47-3**	**2.35**		**1.85**
Cobalt	**7440-48-4**	**0.353**		**0.0365**
Copper	**7440-50-8**	**52.0**		**2.20**
Lead	**7439-92-1**	**0.472**		**0.179**
Manganese	**7439-96-5**	**9.21**		**1.58**
Molybdenum	**7439-98-7**	**2.34**		**0.300**
Nickel	**7440-02-0**	**1.22**		**0.545**
Selenium	**7782-49-2**	**0.149**		**0.00750**
Thallium	**7440-28-0**	**8.39E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0443**
Zinc	7440-66-6	11.5	U	64.3

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061724-HM
Matrix: Air
Lab ID: 4062433-22
Sample Volume: 1799.646 m³
Filter ID:
Sampled: 06/17/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 07:24

Comments: Q8504298 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0964**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.520**		**0.00847**
Barium	**7440-39-3**	**4.10**		**0.967**
Beryllium	**7440-41-7**	**0.0139**		**0.00289**
Cadmium	7440-43-9	0.0112	U	0.0670
Chromium	**7440-47-3**	**2.95**		**2.00**
Cobalt	**7440-48-4**	**0.454**		**0.0394**
Copper	**7440-50-8**	**30.3**		**2.38**
Lead	**7439-92-1**	**1.05**		**0.193**
Manganese	**7439-96-5**	**14.6**		**1.71**
Molybdenum	**7439-98-7**	**1.40**		**0.325**
Nickel	**7440-02-0**	**1.56**		**0.589**
Selenium	**7782-49-2**	**0.175**		**0.00810**
Thallium	**7440-28-0**	**0.00103**		**5.32E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0478**
Zinc	7440-66-6	15.3	U	69.4

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061824-HM
Matrix: Air
Lab ID: 4062433-23
Sample Volume: 2009.014 m³
Filter ID:
Sampled: 06/18/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 07:44

Comments: Q8504296 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.164**	SL	**0.0313**
Arsenic	**7440-38-2**	**4.08**		**0.00759**
Barium	**7440-39-3**	**7.51**		**0.867**
Beryllium	**7440-41-7**	**0.0199**		**0.00259**
Cadmium	7440-43-9	0.0247	U	0.0600
Chromium	**7440-47-3**	**5.39**		**1.79**
Cobalt	**7440-48-4**	**0.935**		**0.0353**
Copper	**7440-50-8**	**130**		**2.13**
Lead	**7439-92-1**	**0.498**		**0.173**
Manganese	**7439-96-5**	**23.8**		**1.53**
Molybdenum	**7439-98-7**	**7.10**		**0.291**
Nickel	**7440-02-0**	**2.70**		**0.528**
Selenium	**7782-49-2**	**0.214**		**0.00726**
Thallium	**7440-28-0**	**0.00125**		**4.77E-4**
Vanadium	**7440-62-2**	**2.61**		**0.0428**
Zinc	7440-66-6	17.5	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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061824-HM
Matrix: Air
Lab ID: 4062433-24
Sample Volume: 2076.609 m³
Filter ID:
Sampled: 06/18/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 08:01

Comments: Q8504295 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0924**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.399**		**0.00734**
Barium	**7440-39-3**	**3.91**		**0.838**
Beryllium	**7440-41-7**	**0.0107**		**0.00251**
Cadmium	7440-43-9	0.00917	U	0.0581
Chromium	**7440-47-3**	**2.11**		**1.73**
Cobalt	**7440-48-4**	**0.323**		**0.0342**
Copper	**7440-50-8**	**60.4**		**2.06**
Lead	**7439-92-1**	**0.915**		**0.168**
Manganese	**7439-96-5**	**9.85**		**1.48**
Molybdenum	**7439-98-7**	**2.68**		**0.281**
Nickel	**7440-02-0**	**1.17**		**0.511**
Selenium	**7782-49-2**	**0.173**		**0.00702**
Thallium	**7440-28-0**	**7.53E-4**		**4.61E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0414**
Zinc	7440-66-6	12.2	U	60.2

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061824-HM
Matrix: Air
Lab ID: 4062433-25
Sample Volume: 1935.086 m³
Filter ID:
Sampled: 06/18/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 08:20

Comments: Q8504328 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0739**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.482**		**0.00788**
Barium	**7440-39-3**	**3.84**		**0.900**
Beryllium	**7440-41-7**	**0.0236**		**0.00269**
Cadmium	7440-43-9	0.00957	U	0.0623
Chromium	**7440-47-3**	**2.62**		**1.86**
Cobalt	**7440-48-4**	**0.431**		**0.0367**
Copper	**7440-50-8**	**71.6**		**2.21**
Lead	**7439-92-1**	**0.931**		**0.180**
Manganese	**7439-96-5**	**11.0**		**1.59**
Molybdenum	**7439-98-7**	**2.77**		**0.302**
Nickel	**7440-02-0**	**1.38**		**0.548**
Selenium	**7782-49-2**	**0.176**		**0.00753**
Thallium	**7440-28-0**	**7.05E-4**		**4.95E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0445**
Zinc	7440-66-6	17.3	U	64.6

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061824-HM
Matrix: Air
Lab ID: 4062433-26
Sample Volume: 1779.509 m³
Filter ID:
Sampled: 06/18/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 08:54

Comments: Q8504327 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0954**	SL	**0.0353**
Arsenic	**7440-38-2**	**1.04**		**0.00857**
Barium	**7440-39-3**	**4.35**		**0.978**
Beryllium	**7440-41-7**	**0.0159**		**0.00293**
Cadmium	7440-43-9	0.0130	U	0.0677
Chromium	**7440-47-3**	**3.31**		**2.02**
Cobalt	**7440-48-4**	**0.529**		**0.0399**
Copper	**7440-50-8**	**30.3**		**2.40**
Lead	**7439-92-1**	**1.11**		**0.196**
Manganese	**7439-96-5**	**16.8**		**1.73**
Molybdenum	**7439-98-7**	**1.73**		**0.328**
Nickel	**7440-02-0**	**1.69**		**0.596**
Selenium	**7782-49-2**	**0.176**		**0.00819**
Thallium	**7440-28-0**	**9.67E-4**		**5.39E-4**
Vanadium	**7440-62-2**	**1.42**		**0.0484**
Zinc	7440-66-6	18.1	U	70.2

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

FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-061824-HM
Matrix: Air
Lab ID: 4062433-27
Sample Volume: 2009.014 m³
Filter ID:
Sampled: 06/18/24 00:00
Received: 06/24/24 15:17
Analysis Date: 06/26/24 09:11

Comments: Q8504319 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0165	SL, U	0.0313
Arsenic	**7440-38-2**	**0.00945**	FB-01	**0.00759**
Barium	**7440-39-3**	**1.03**	FB-01	**0.867**
Beryllium	7440-41-7	2.70E-4	U	0.00259
Cadmium	7440-43-9	8.81E-4	U	0.0600
Chromium	7440-47-3	1.09	U	1.79
Cobalt	7440-48-4	0.0117	U	0.0353
Copper	7440-50-8	0.519	U	2.13
Lead	7439-92-1	0.0477	U	0.173
Manganese	7439-96-5	0.162	U	1.53
Molybdenum	7439-98-7	0.160	U	0.291
Nickel	7440-02-0	0.433	U	0.528
Selenium	7782-49-2	0.00113	U	0.00726
Thallium	7440-28-0	4.91E-5	U	4.77E-4
Vanadium	7440-62-2	0.0284	U	0.0428
Zinc	7440-66-6	5.58	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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-061924-HM
Matrix: Air
Lab ID: 4062433-28
Sample Volume: 1986.259 m³
Filter ID:
Sampled: 06/19/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 09:25

Comments: Q8504321 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.981**		**0.00768**
Barium	**7440-39-3**	**5.43**		**0.876**
Beryllium	**7440-41-7**	**0.0182**		**0.00262**
Cadmium	7440-43-9	0.0274	U	0.0607
Chromium	**7440-47-3**	**3.60**		**1.81**
Cobalt	**7440-48-4**	**0.708**		**0.0357**
Copper	**7440-50-8**	**163**		**2.15**
Lead	**7439-92-1**	**0.479**		**0.175**
Manganese	**7439-96-5**	**19.2**		**1.55**
Molybdenum	**7439-98-7**	**8.06**		**0.294**
Nickel	**7440-02-0**	**2.00**		**0.534**
Selenium	**7782-49-2**	**0.219**		**0.00734**
Thallium	**7440-28-0**	**0.00192**		**4.82E-4**
Vanadium	**7440-62-2**	**2.08**		**0.0433**
Zinc	7440-66-6	13.6	U	62.9

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-061924-HM
Matrix: Air
Lab ID: 4062433-29
Sample Volume: 2085.338 m³
Filter ID:
Sampled: 06/19/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 09:41

Comments: Q8504320 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.524**		**0.00731**
Barium	**7440-39-3**	**5.76**		**0.835**
Beryllium	**7440-41-7**	**0.0181**		**0.00250**
Cadmium	7440-43-9	0.0157	U	0.0578
Chromium	**7440-47-3**	**2.70**		**1.72**
Cobalt	**7440-48-4**	**0.505**		**0.0340**
Copper	**7440-50-8**	**54.9**		**2.05**
Lead	**7439-92-1**	**1.41**		**0.167**
Manganese	**7439-96-5**	**16.1**		**1.47**
Molybdenum	**7439-98-7**	**2.14**		**0.280**
Nickel	**7440-02-0**	**1.79**		**0.509**
Selenium	**7782-49-2**	**0.214**		**0.00699**
Thallium	**7440-28-0**	**0.00199**		**4.60E-4**
Vanadium	**7440-62-2**	**1.76**		**0.0413**
Zinc	7440-66-6	17.6	U	59.9

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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-061924-HM
Matrix: Air
Lab ID: 4062433-30
Sample Volume: 1968.708 m³
Filter ID:
Sampled: 06/19/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 10:00

Comments: Q8504318 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.358**		**0.00774**
Barium	**7440-39-3**	**5.16**		**0.884**
Beryllium	**7440-41-7**	**0.0224**		**0.00264**
Cadmium	7440-43-9	0.0218	U	0.0612
Chromium	**7440-47-3**	**3.30**		**1.83**
Cobalt	**7440-48-4**	**0.443**		**0.0360**
Copper	**7440-50-8**	**70.3**		**2.17**
Lead	**7439-92-1**	**0.814**		**0.177**
Manganese	**7439-96-5**	**13.3**		**1.56**
Molybdenum	**7439-98-7**	**2.97**		**0.297**
Nickel	**7440-02-0**	**1.43**		**0.539**
Selenium	**7782-49-2**	**0.204**		**0.00740**
Thallium	**7440-28-0**	**0.00188**		**4.87E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0437**
Zinc	7440-66-6	15.7	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: 07/02/24 13:57
SUBMITTED: 06/24/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-061924-HM
Matrix: Air
Lab ID: 4062433-31
Sample Volume: 1789.959 m³
Filter ID:
Sampled: 06/19/24 23:59
Received: 06/24/24 15:17
Analysis Date: 06/26/24 11:10

Comments: Q8504317 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.778**		**0.00852**
Barium	**7440-39-3**	**6.46**		**0.973**
Beryllium	**7440-41-7**	**0.0234**		**0.00291**
Cadmium	7440-43-9	0.0306	U	0.0674
Chromium	**7440-47-3**	**4.66**		**2.01**
Cobalt	**7440-48-4**	**0.736**		**0.0396**
Copper	**7440-50-8**	**32.5**		**2.39**
Lead	**7439-92-1**	**1.62**		**0.195**
Manganese	**7439-96-5**	**25.9**		**1.72**
Molybdenum	**7439-98-7**	**1.85**		**0.326**
Nickel	**7440-02-0**	**2.18**		**0.593**
Selenium	**7782-49-2**	**0.261**		**0.00814**
Thallium	**7440-28-0**	**0.00260**		**5.35E-4**
Vanadium	**7440-62-2**	**2.20**		**0.0481**
Zinc	7440-66-6	22.5	U	69.8

CERTIFICATE OF ANALYSIS

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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
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 2406089 - B4F1103										
Calibration Blank (2406089-CCB1)				Prepared & Analyzed: 06/25/24						
Antimony	3.62		ng/l							
Arsenic	4.89		ng/l							
Barium	3.38		ng/l							
Beryllium	-0.186		ng/l							U
Cadmium	0.590		ng/l							
Chromium	6.24		ng/l							
Cobalt	1.24		ng/l							
Copper	146		ng/l							
Lead	8.68		ng/l							
Manganese	16.8		ng/l							
Molybdenum	56.5		ng/l							
Nickel	5.22		ng/l							
Selenium	-6.96		ng/l							U
Thallium	0.567		ng/l							
Vanadium	-28.2		ng/l							U
Zinc	-45.1		ng/l							U
Calibration Blank (2406089-CCB2)				Prepared & Analyzed: 06/25/24						
Antimony	2.33		ng/l							
Arsenic	0.978		ng/l							
Barium	4.57		ng/l							
Beryllium	-0.463		ng/l							U
Cadmium	0.619		ng/l							
Chromium	7.95		ng/l							
Cobalt	1.53		ng/l							
Copper	133		ng/l							
Lead	8.03		ng/l							
Manganese	15.8		ng/l							
Molybdenum	20.7		ng/l							
Nickel	6.15		ng/l							
Selenium	-15.3		ng/l							U
Thallium	0.830		ng/l							
Vanadium	-25.9		ng/l							U
Zinc	-53.4		ng/l							U
Calibration Blank (2406089-CCB3)				Prepared & Analyzed: 06/25/24						
Antimony	0.520		ng/l							
Arsenic	4.09		ng/l							
Barium	1.57		ng/l							
Beryllium	-1.33		ng/l							U

Tetra Tech, Inc.
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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
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 2406089 - B4F1103										
Calibration Blank (2406089-CCB3) Contin				Prepared & Analyzed: 06/25/24						
Cadmium	0.144		ng/l							
Chromium	2.50		ng/l							
Cobalt	0.0990		ng/l							
Copper	68.2		ng/l							
Lead	2.40		ng/l							
Manganese	5.62		ng/l							
Molybdenum	7.66		ng/l							
Nickel	1.52		ng/l							
Selenium	13.2		ng/l							
Thallium	0.532		ng/l							
Vanadium	-21.9		ng/l							U
Zinc	-66.3		ng/l							U
Calibration Blank (2406089-CCB4)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.514		ng/l							
Arsenic	5.34		ng/l							
Barium	-0.578		ng/l							U
Beryllium	-1.96		ng/l							U
Cadmium	0.0710		ng/l							
Chromium	1.02		ng/l							
Cobalt	0.218		ng/l							
Copper	69.4		ng/l							
Lead	1.47		ng/l							
Manganese	5.23		ng/l							
Molybdenum	6.10		ng/l							
Nickel	2.36		ng/l							
Selenium	-0.839		ng/l							U
Thallium	0.782		ng/l							
Vanadium	-28.6		ng/l							U
Zinc	-64.5		ng/l							U
Calibration Blank (2406089-CCB5)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.764		ng/l							
Arsenic	4.42		ng/l							
Barium	0.335		ng/l							
Beryllium	-1.99		ng/l							U
Cadmium	0.0744		ng/l							
Chromium	0.0866		ng/l							
Cobalt	0.0156		ng/l							
Copper	47.3		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: 07/02/24 13:57
SUBMITTED: 06/24/24
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 2406089 - B4F1103										
Calibration Blank (2406089-CCB5) Contin				Prepared: 06/25/24 Analyzed: 06/26/24						
Lead	1.18		ng/l							
Manganese	3.64		ng/l							
Molybdenum	6.40		ng/l							
Nickel	4.38		ng/l							
Selenium	-4.01		ng/l							U
Thallium	0.754		ng/l							
Vanadium	-29.3		ng/l							U
Zinc	-78.9		ng/l							U
Calibration Blank (2406089-CCB6)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.344		ng/l							
Arsenic	6.62		ng/l							
Barium	-0.0552		ng/l							U
Beryllium	-2.15		ng/l							U
Cadmium	0.00203		ng/l							
Chromium	1.57		ng/l							
Cobalt	0.166		ng/l							
Copper	40.3		ng/l							
Lead	1.50		ng/l							
Manganese	3.29		ng/l							
Molybdenum	6.31		ng/l							
Nickel	2.65		ng/l							
Selenium	-1.83		ng/l							U
Thallium	0.933		ng/l							
Vanadium	-30.1		ng/l							U
Zinc	-56.0		ng/l							U
Calibration Blank (2406089-CCB7)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.278		ng/l							
Arsenic	9.03		ng/l							
Barium	1.98		ng/l							
Beryllium	-2.38		ng/l							U
Cadmium	0.0444		ng/l							
Chromium	0.592		ng/l							
Cobalt	0.121		ng/l							
Copper	44.6		ng/l							
Lead	1.64		ng/l							
Manganese	4.32		ng/l							
Molybdenum	5.61		ng/l							
Nickel	3.09		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: 07/02/24 13:57
SUBMITTED: 06/24/24
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 2406089 - B4F1103										
Calibration Blank (2406089-CCB7) Contin				Prepared: 06/25/24 Analyzed: 06/26/24						
Selenium	-5.93		ng/l							U
Thallium	0.941		ng/l							
Vanadium	-33.4		ng/l							U
Zinc	-23.8		ng/l							U
Calibration Check (2406089-CCV1)				Prepared & Analyzed: 06/25/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	239000		ng/l	240000		99.8	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	49400		ng/l	50000		98.9	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2406089-CCV2)				Prepared & Analyzed: 06/25/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	485		ng/l	500.00		97.1	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	506000		ng/l	500000		101	90-110			

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2406089 - B4F1103

Calibration Check (2406089-CCV3)				Prepared & Analyzed: 06/25/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	49800		ng/l	50000		99.5	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2406089-CCV4)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	51000		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	470		ng/l	500.00		94.1	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2406089-CCV5)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20700		ng/l	20000		103	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5240		ng/l	5000.0		105	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Calibration Check (2406089-CCV5) Contin				Prepared: 06/25/24 Analyzed: 06/26/24						
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.11E6		ng/l	2.0000E6		106	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	468		ng/l	500.00		93.6	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2406089-CCV6)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51600		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	52800		ng/l	50000		106	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	466		ng/l	500.00		93.1	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2406089-CCV7)				Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5170		ng/l	5000.0		103	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Calibration Check (2406089-CCV7) Contin				Prepared: 06/25/24 Analyzed: 06/26/24						
Lead	207000		ng/l	200000		104	90-110			
Manganese	532000		ng/l	500000		106	90-110			
Molybdenum	53400		ng/l	50000		107	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	465		ng/l	500.00		93.0	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
High Cal Check (2406089-HCV1)				Prepared & Analyzed: 06/25/24						
Antimony	39900		ng/l	40000		99.7	95-105			
Arsenic	40000		ng/l	40000		100	95-105			
Barium	398000		ng/l	400000		99.6	95-105			
Beryllium	9940		ng/l	10000		99.4	95-105			
Cadmium	39800		ng/l	40000		99.6	95-105			
Chromium	477000		ng/l	480000		99.3	95-105			
Cobalt	98900		ng/l	100000		98.9	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	995000		ng/l	1.0000E6		99.5	95-105			
Molybdenum	98700		ng/l	100000		98.7	95-105			
Nickel	237000		ng/l	240000		98.7	95-105			
Selenium	40000		ng/l	40000		100	95-105			
Thallium	998		ng/l	1000.0		99.8	95-105			
Vanadium	40000		ng/l	40000		100	95-105			
Zinc	990000		ng/l	1.0000E6		99.0	95-105			
Initial Cal Blank (2406089-ICB1)				Prepared & Analyzed: 06/25/24						
Antimony	3.93		ng/l							
Arsenic	1.53		ng/l							
Barium	3.01		ng/l							
Beryllium	0.111		ng/l							
Cadmium	0.536		ng/l							
Chromium	6.79		ng/l							
Cobalt	1.20		ng/l							
Copper	208		ng/l							
Lead	9.29		ng/l							
Manganese	18.1		ng/l							
Molybdenum	29.3		ng/l							
Nickel	2.95		ng/l							

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Initial Cal Blank (2406089-ICB1) Continu				Prepared & Analyzed: 06/25/24						
Selenium	-12.8		ng/l							U
Thallium	0.249		ng/l							
Vanadium	-22.7		ng/l							U
Zinc	-25.4		ng/l							U
Initial Cal Check (2406089-ICV1)				Prepared & Analyzed: 06/25/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19400		ng/l	20000		97.0	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	48700		ng/l	50000		97.4	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	49400		ng/l	50000		98.9	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	500		ng/l	500.00		100	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Interference Check A (2406089-IFA1)				Prepared & Analyzed: 06/25/24						
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	315000		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

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406089 - B4F1103										
Interference Check B (2406089-IFB1)				Prepared & Analyzed: 06/25/24						
Antimony	20000		ng/l	20000		100	80-120			
Arsenic	20100		ng/l	20000		101	80-120			
Barium	198000		ng/l	200000		99.2	80-120			
Beryllium	4840		ng/l	5000.0		96.9	80-120			
Cadmium	19300		ng/l	20000		96.7	80-120			
Chromium	229000		ng/l	240000		95.3	80-120			
Cobalt	48400		ng/l	50000		96.8	80-120			
Copper	1.86E6		ng/l	2.0000E6		93.0	80-120			
Lead	204000		ng/l	200000		102	80-120			
Manganese	507000		ng/l	500000		101	80-120			
Molybdenum	360000		ng/l	350000		103	80-120			
Nickel	113000		ng/l	120000		94.2	80-120			
Selenium	18700		ng/l	20000		93.7	80-120			
Thallium	505		ng/l	500.00		101	80-120			
Vanadium	19100		ng/l	20000		95.4	80-120			
Zinc	456000		ng/l	500000		91.1	80-120			
Batch B4F2507 - ICP-MS Extraction										
Blank (B4F2507-BLK1)				Prepared & Analyzed: 06/25/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4F2507-BS1)				Prepared & Analyzed: 06/25/24						
Antimony	0.686	0.0386	ng/m³ Air	1.3829		49.6	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.4	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
LCS (B4F2507-BS1) Continued					Prepared & Analyzed: 06/25/24					
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.6	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.3	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	28.6	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.9	80-120			
Manganese	8.35	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	3.16	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.7	80-120			
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.5	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.8	80-120			
Zinc	122	76.8	ng/m³ Air	82.975		147	80-120			
LCS (B4F2507-BS2)					Prepared & Analyzed: 06/25/24					
Antimony	0.699	0.0386	ng/m³ Air	1.3829		50.6	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.1	80-120			
Barium	28.0	1.07	ng/m³ Air	27.658		101	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.5	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	16.1	2.21	ng/m³ Air	13.829		116	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.5	80-120			
Manganese	8.35	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	3.12	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.3	80-120			
Thallium	0.130	5.89E-4	ng/m³ Air	0.13829		94.3	80-120			
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.9	80-120			
Zinc	119	76.8	ng/m³ Air	82.975		143	80-120			
Duplicate (B4F2507-DUP1)		**Source: 4062433-08**			Prepared & Analyzed: 06/25/24					
Antimony	0.135	0.0357	ng/m³ Air		0.134			0.662	10	SL
Arsenic	2.71	0.00867	ng/m³ Air		2.57			5.39	10	
Barium	5.78	0.991	ng/m³ Air		5.83			0.870	10	
Beryllium	0.0265	0.00296	ng/m³ Air		0.0262			1.23	10	
Cadmium	ND	0.0686	ng/m³ Air		ND				10	U
Chromium	5.88	2.05	ng/m³ Air		5.48			7.11	10	
Cobalt	0.809	0.0404	ng/m³ Air		0.791			2.30	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: 07/02/24 13:57
SUBMITTED: 06/24/24
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 B4F2507 - ICP-MS Extraction										
Duplicate (B4F2507-DUP1) Continued			**Source: 4062433-08**		Prepared & Analyzed: 06/25/24					
Copper	27.8	2.43	ng/m³ Air		26.6			4.38	10	
Lead	1.23	0.198	ng/m³ Air		1.23			0.517	10	
Manganese	29.6	1.75	ng/m³ Air		28.9			2.29	10	
Molybdenum	1.54	0.332	ng/m³ Air		1.41			8.79	10	
Nickel	2.59	0.604	ng/m³ Air		2.36			9.00	10	
Selenium	0.260	0.00829	ng/m³ Air		0.260			0.0226	10	
Thallium	0.00164	5.45E-4	ng/m³ Air		0.00156			4.60	10	
Vanadium	2.08	0.0490	ng/m³ Air		2.06			0.747	10	
Zinc	ND	71.1	ng/m³ Air		ND				10	U
Duplicate (B4F2507-DUP2)			**Source: 4062433-02**		Prepared & Analyzed: 06/25/24					
Antimony	0.150	0.0309	ng/m³ Air		0.142			5.15	10	SL
Arsenic	1.15	0.00751	ng/m³ Air		1.02			11.5	10	
Barium	5.51	0.858	ng/m³ Air		5.28			4.16	10	
Beryllium	0.0161	0.00257	ng/m³ Air		0.0160			0.560	10	
Cadmium	ND	0.0594	ng/m³ Air		ND				10	U
Chromium	3.06	1.77	ng/m³ Air		2.60			16.2	10	
Cobalt	0.522	0.0350	ng/m³ Air		0.502			3.88	10	
Copper	58.8	2.11	ng/m³ Air		57.1			2.90	10	
Lead	1.58	0.172	ng/m³ Air		1.50			5.13	10	
Manganese	16.0	1.52	ng/m³ Air		15.2			5.63	10	
Molybdenum	2.58	0.288	ng/m³ Air		2.57			0.516	10	
Nickel	2.00	0.523	ng/m³ Air		1.88			5.88	10	
Selenium	0.186	0.00718	ng/m³ Air		0.183			1.63	10	
Thallium	0.00169	4.72E-4	ng/m³ Air		0.00194			14.1	10	
Vanadium	1.72	0.0424	ng/m³ Air		1.66			3.60	10	
Zinc	ND	61.6	ng/m³ Air		ND				10	U
Duplicate (B4F2507-DUP3)			**Source: 4062433-14**		Prepared: 06/25/24 Analyzed: 06/26/24					
Antimony	0.0985	0.0317	ng/m³ Air		0.0982			0.383	10	SL
Arsenic	1.65	0.00769	ng/m³ Air		1.66			0.852	10	
Barium	4.73	0.879	ng/m³ Air		4.79			1.42	10	
Beryllium	0.0136	0.00263	ng/m³ Air		0.0137			0.857	10	
Cadmium	ND	0.0609	ng/m³ Air		ND				10	U
Chromium	3.38	1.81	ng/m³ Air		3.41			0.671	10	
Cobalt	0.581	0.0358	ng/m³ Air		0.583			0.331	10	
Copper	122	2.16	ng/m³ Air		122			0.0419	10	
Lead	0.463	0.176	ng/m³ Air		0.465			0.461	10	
Manganese	16.4	1.55	ng/m³ Air		16.4			0.367	10	
Molybdenum	7.89	0.295	ng/m³ Air		7.90			0.125	10	

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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
SUBMITTED: 06/24/24
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 B4F2507 - ICP-MS Extraction										
Duplicate (B4F2507-DUP3) Continued		**Source: 4062433-14**		Prepared: 06/25/24 Analyzed: 06/26/24						
Nickel	1.73	0.535	ng/m³ Air		1.73			0.333	10	
Selenium	0.191	0.00736	ng/m³ Air		0.197			3.30	10	
Thallium	0.00144	4.84E-4	ng/m³ Air		0.00145			0.181	10	
Vanadium	1.67	0.0434	ng/m³ Air		1.66			0.0847	10	
Zinc	ND	63.1	ng/m³ Air		ND				10	U
Duplicate (B4F2507-DUP4)		**Source: 4062433-25**		Prepared: 06/25/24 Analyzed: 06/26/24						
Antimony	0.0738	0.0325	ng/m³ Air		0.0739			0.163	10	SL
Arsenic	0.491	0.00788	ng/m³ Air		0.482			1.75	10	
Barium	3.85	0.900	ng/m³ Air		3.84			0.238	10	
Beryllium	0.0242	0.00269	ng/m³ Air		0.0236			2.60	10	
Cadmium	ND	0.0623	ng/m³ Air		ND				10	U
Chromium	2.62	1.86	ng/m³ Air		2.62			0.172	10	
Cobalt	0.431	0.0367	ng/m³ Air		0.431			0.129	10	
Copper	71.7	2.21	ng/m³ Air		71.6			0.0827	10	
Lead	0.928	0.180	ng/m³ Air		0.931			0.265	10	
Manganese	11.1	1.59	ng/m³ Air		11.0			0.586	10	
Molybdenum	2.79	0.302	ng/m³ Air		2.77			0.663	10	
Nickel	1.38	0.548	ng/m³ Air		1.38			0.0279	10	
Selenium	0.178	0.00753	ng/m³ Air		0.176			1.01	10	
Thallium	8.02E-4	4.95E-4	ng/m³ Air		7.05E-4			12.9	10	
Vanadium	1.13	0.0445	ng/m³ Air		1.12			0.461	10	
Zinc	ND	64.6	ng/m³ Air		ND				10	U
Matrix Spike (B4F2507-MS1)		**Source: 4062433-08**		Prepared & Analyzed: 06/25/24						
Antimony	0.852	0.0357	ng/m³ Air	1.2802	0.134	56.1	80-120			SL
Arsenic	5.05	0.00867	ng/m³ Air	2.5605	2.57	97.0	80-120			
Barium	31.2	0.991	ng/m³ Air	25.605	5.83	98.9	80-120			
Beryllium	1.38	0.00296	ng/m³ Air	1.2802	0.0262	106	80-120			
Cadmium	1.28	0.0686	ng/m³ Air	1.2802	ND	99.7	80-120			
Chromium	18.2	2.05	ng/m³ Air	12.802	5.48	99.2	80-120			
Cobalt	2.08	0.0404	ng/m³ Air	1.2802	0.791	100	80-120			
Copper	53.2	2.43	ng/m³ Air	25.605	26.6	104	80-120			
Lead	13.9	0.198	ng/m³ Air	12.802	1.23	99.3	80-120			
Manganese	37.8	1.75	ng/m³ Air	7.6815	28.9	115	80-120			
Molybdenum	2.68	0.332	ng/m³ Air	1.2802	1.41	99.2	80-120			
Nickel	5.17	0.604	ng/m³ Air	2.5605	2.36	110	80-120			
Selenium	2.68	0.00829	ng/m³ Air	2.5605	0.260	94.4	80-120			
Thallium	0.122	5.45E-4	ng/m³ Air	0.12802	0.00156	94.1	80-120			
Vanadium	4.61	0.0490	ng/m³ Air	2.5605	2.06	99.4	80-120			

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FILE #: 4205.00.003.001
REPORTED: 07/02/24 13:57
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Matrix Spike (B4F2507-MS1) Continued **Source: 4062433-08** Prepared & Analyzed: 06/25/24										
Zinc	101	71.1	ng/m³ Air	76.815	ND	131	80-120			
Matrix Spike (B4F2507-MS2) **Source: 4062433-02** Prepared & Analyzed: 06/25/24										
Antimony	0.781	0.0309	ng/m³ Air	1.1088	0.142	57.6	80-120			SL
Arsenic	3.09	0.00751	ng/m³ Air	2.2176	1.02	93.2	80-120			
Barium	27.6	0.858	ng/m³ Air	22.176	5.28	100	80-120			
Beryllium	1.11	0.00257	ng/m³ Air	1.1088	0.0160	98.4	80-120			
Cadmium	1.12	0.0594	ng/m³ Air	1.1088	ND	101	80-120			
Chromium	13.5	1.77	ng/m³ Air	11.088	2.60	98.7	80-120			
Cobalt	1.56	0.0350	ng/m³ Air	1.1088	0.502	95.5	80-120			
Copper	81.6	2.11	ng/m³ Air	22.176	57.1	111	80-120			
Lead	12.4	0.172	ng/m³ Air	11.088	1.50	98.5	80-120			
Manganese	21.4	1.52	ng/m³ Air	6.6528	15.2	94.0	80-120			
Molybdenum	3.71	0.288	ng/m³ Air	1.1088	2.57	103	80-120			
Nickel	4.04	0.523	ng/m³ Air	2.2176	1.88	97.2	80-120			
Selenium	2.31	0.00718	ng/m³ Air	2.2176	0.183	96.0	80-120			
Thallium	0.104	4.72E-4	ng/m³ Air	0.11088	0.00194	92.2	80-120			
Vanadium	3.78	0.0424	ng/m³ Air	2.2176	1.66	95.5	80-120			
Zinc	94.5	61.6	ng/m³ Air	66.528	ND	142	80-120			
Matrix Spike Dup (B4F2507-MSD1) **Source: 4062433-08** Prepared & Analyzed: 06/25/24										
Antimony	0.845	0.0357	ng/m³ Air	1.2802	0.134	55.5	80-120	0.799	20	SL
Arsenic	5.14	0.00867	ng/m³ Air	2.5605	2.57	100	80-120	1.62	20	
Barium	31.7	0.991	ng/m³ Air	25.605	5.83	101	80-120	1.65	20	
Beryllium	1.28	0.00296	ng/m³ Air	1.2802	0.0262	97.6	80-120	7.79	20	
Cadmium	1.28	0.0686	ng/m³ Air	1.2802	ND	100	80-120	0.538	20	
Chromium	18.3	2.05	ng/m³ Air	12.802	5.48	99.9	80-120	0.492	20	
Cobalt	2.12	0.0404	ng/m³ Air	1.2802	0.791	104	80-120	2.10	20	
Copper	54.5	2.43	ng/m³ Air	25.605	26.6	109	80-120	2.37	20	
Lead	14.1	0.198	ng/m³ Air	12.802	1.23	100	80-120	0.940	20	
Manganese	39.1	1.75	ng/m³ Air	7.6815	28.9	133	80-120	3.42	20	QM-07
Molybdenum	2.74	0.332	ng/m³ Air	1.2802	1.41	103	80-120	1.96	20	
Nickel	5.20	0.604	ng/m³ Air	2.5605	2.36	111	80-120	0.595	20	
Selenium	2.70	0.00829	ng/m³ Air	2.5605	0.260	95.1	80-120	0.672	20	
Thallium	0.122	5.45E-4	ng/m³ Air	0.12802	0.00156	94.2	80-120	0.0955	20	
Vanadium	4.76	0.0490	ng/m³ Air	2.5605	2.06	105	80-120	3.25	20	
Zinc	100	71.1	ng/m³ Air	76.815	ND	130	80-120	0.533	20	
Matrix Spike Dup (B4F2507-MSD2) **Source: 4062433-02** Prepared & Analyzed: 06/25/24										
Antimony	0.779	0.0309	ng/m³ Air	1.1088	0.142	57.4	80-120	0.244	20	SL
Arsenic	3.13	0.00751	ng/m³ Air	2.2176	1.02	94.8	80-120	1.11	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Matrix Spike Dup (B4F2507-MSD2) Contir				**Source: 4062433-02**		Prepared & Analyzed: 06/25/24				
Barium	27.4	0.858	ng/m³ Air	22.176	5.28	99.9	80-120	0.405	20	
Beryllium	1.12	0.00257	ng/m³ Air	1.1088	0.0160	99.5	80-120	1.08	20	
Cadmium	1.11	0.0594	ng/m³ Air	1.1088	ND	100	80-120	1.02	20	
Chromium	13.3	1.77	ng/m³ Air	11.088	2.60	96.7	80-120	1.65	20	
Cobalt	1.56	0.0350	ng/m³ Air	1.1088	0.502	95.5	80-120	0.0337	20	
Copper	84.7	2.11	ng/m³ Air	22.176	57.1	124	80-120	3.66	20	QM-07
Lead	12.4	0.172	ng/m³ Air	11.088	1.50	98.5	80-120	0.00781	20	
Manganese	21.1	1.52	ng/m³ Air	6.6528	15.2	89.7	80-120	1.33	20	
Molybdenum	3.79	0.288	ng/m³ Air	1.1088	2.57	110	80-120	2.23	20	
Nickel	3.95	0.523	ng/m³ Air	2.2176	1.88	93.4	80-120	2.13	20	
Selenium	2.30	0.00718	ng/m³ Air	2.2176	0.183	95.4	80-120	0.602	20	
Thallium	0.104	4.72E-4	ng/m³ Air	0.11088	0.00194	91.7	80-120	0.456	20	
Vanadium	3.80	0.0424	ng/m³ Air	2.2176	1.66	96.3	80-120	0.452	20	
Zinc	90.8	61.6	ng/m³ Air	66.528	ND	137	80-120	3.94	20	
Post Spike (B4F2507-PS1)				**Source: 4062433-08**		Prepared & Analyzed: 06/25/24				
Antimony	0.390	0.0357	ng/m³ Air	0.25605	0.134	99.9	75-125			SL
Arsenic	3.84	0.00867	ng/m³ Air	1.2802	2.57	99.2	75-125			
Barium	8.51	0.991	ng/m³ Air	2.5605	5.83	105	75-125			
Beryllium	0.272	0.00296	ng/m³ Air	0.25605	0.0262	96.1	75-125			
Cadmium	0.150	0.0686	ng/m³ Air	0.12802	ND	117	75-125			
Chromium	6.80	2.05	ng/m³ Air	1.2802	5.48	103	75-125			
Cobalt	1.05	0.0404	ng/m³ Air	0.25605	0.791	99.5	75-125			
Copper	40.0	2.43	ng/m³ Air	12.802	26.6	104	75-125			
Lead	27.2	0.198	ng/m³ Air	25.605	1.23	101	75-125			
Manganese	32.0	1.75	ng/m³ Air	2.5605	28.9	121	75-125			
Molybdenum	2.62	0.332	ng/m³ Air	1.2802	1.41	94.0	75-125			
Nickel	4.93	0.604	ng/m³ Air	2.5605	2.36	100	75-125			
Selenium	1.47	0.00829	ng/m³ Air	1.2802	0.260	94.8	75-125			
Thallium	0.0633	5.45E-4	ng/m³ Air	6.4013E-2	0.00156	96.5	75-125			
Vanadium	3.34	0.0490	ng/m³ Air	1.2802	2.06	100	75-125			
Zinc	ND	71.1	ng/m³ Air	25.605	ND		75-125			U
Post Spike (B4F2507-PS2)				**Source: 4062433-02**		Prepared & Analyzed: 06/25/24				
Antimony	0.368	0.0309	ng/m³ Air	0.22176	0.142	102	75-125			SL
Arsenic	2.10	0.00751	ng/m³ Air	1.1088	1.02	96.7	75-125			
Barium	7.55	0.858	ng/m³ Air	2.2176	5.28	102	75-125			
Beryllium	0.235	0.00257	ng/m³ Air	0.22176	0.0160	98.7	75-125			
Cadmium	0.126	0.0594	ng/m³ Air	0.11088	ND	114	75-125			
Chromium	3.69	1.77	ng/m³ Air	1.1088	2.60	98.5	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F2507 - ICP-MS Extraction										
Post Spike (B4F2507-PS2) Continued			**Source: 4062433-02**		Prepared & Analyzed: 06/25/24					
Cobalt	0.717	0.0350	ng/m³ Air	0.22176	0.502	96.8	75-125			
Copper	70.4	2.11	ng/m³ Air	11.088	57.1	120	75-125			
Lead	23.8	0.172	ng/m³ Air	22.176	1.50	101	75-125			
Manganese	17.5	1.52	ng/m³ Air	2.2176	15.2	106	75-125			
Molybdenum	3.64	0.288	ng/m³ Air	1.1088	2.57	96.1	75-125			
Nickel	4.08	0.523	ng/m³ Air	2.2176	1.88	99.0	75-125			
Selenium	1.24	0.00718	ng/m³ Air	1.1088	0.183	95.6	75-125			
Thallium	0.0538	4.72E-4	ng/m³ Air	5.5440E-2	0.00194	93.6	75-125			
Vanadium	2.77	0.0424	ng/m³ Air	1.1088	1.66	99.4	75-125			
Zinc	ND	61.6	ng/m³ Air	22.176	ND		75-125			U
Dilution Check (B4F2507-SRL1)			**Source: 4062433-08**		Prepared & Analyzed: 06/25/24					
Antimony	ND	0.179	ng/m³ Air		ND				10	SL, U
Arsenic	2.55	0.0434	ng/m³ Air		2.57			0.951	10	
Barium	5.82	4.95	ng/m³ Air		5.83			0.208	10	
Beryllium	0.0246	0.0148	ng/m³ Air		0.0262			6.21	10	
Cadmium	ND	0.343	ng/m³ Air		ND				10	U
Chromium	ND	10.2	ng/m³ Air		ND				10	U
Cobalt	0.802	0.202	ng/m³ Air		0.791			1.44	10	
Copper	27.2	12.2	ng/m³ Air		26.6			2.27	10	
Lead	1.19	0.991	ng/m³ Air		1.23			2.62	10	
Manganese	29.2	8.75	ng/m³ Air		28.9			0.993	10	
Molybdenum	ND	1.66	ng/m³ Air		ND				10	U
Nickel	ND	3.02	ng/m³ Air		ND				10	U
Selenium	0.245	0.0415	ng/m³ Air		0.260			6.10	10	
Thallium	0.00296	0.00273	ng/m³ Air		ND			62.0	10	
Vanadium	2.09	0.245	ng/m³ Air		2.06			1.53	10	
Zinc	ND	355	ng/m³ Air		ND				10	U
Dilution Check (B4F2507-SRL2)			**Source: 4062433-02**		Prepared & Analyzed: 06/25/24					
Antimony	ND	0.155	ng/m³ Air		ND				10	SL, U
Arsenic	1.04	0.0376	ng/m³ Air		1.02			1.32	10	
Barium	5.28	4.29	ng/m³ Air		5.28			0.00811	10	
Beryllium	0.0153	0.0128	ng/m³ Air		0.0160			4.09	10	
Cadmium	ND	0.297	ng/m³ Air		ND				10	U
Chromium	ND	8.86	ng/m³ Air		ND				10	U
Cobalt	0.504	0.175	ng/m³ Air		0.502			0.383	10	
Copper	58.8	10.5	ng/m³ Air		57.1			2.86	10	
Lead	1.47	0.858	ng/m³ Air		1.50			2.07	10	
Manganese	15.3	7.58	ng/m³ Air		15.2			1.10	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: 07/02/24 13:57
SUBMITTED: 06/24/24
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 B4F2507 - ICP-MS Extraction										
Dilution Check (B4F2507-SRL2) Continue				**Source: 4062433-02**	Prepared & Analyzed: 06/25/24					
Molybdenum	2.61	1.44	ng/m³ Air		2.57			1.65	10	
Nickel	ND	2.61	ng/m³ Air		ND				10	U
Selenium	0.202	0.0359	ng/m³ Air		0.183			9.98	10	SRD-01
Thallium	0.00343	0.00236	ng/m³ Air		ND			55.4	10	
Vanadium	1.68	0.212	ng/m³ Air		1.66			0.883	10	
Zinc	ND	308	ng/m³ Air		ND				10	U

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Notes and Definitions

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

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

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/03/2024 and Shanna Vasser 07/03/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 06/13/2024 – 06/19/2024
Report No: 4062433

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-061424-HM, for barium in MFL-FB01-061624-HM, and for arsenic and barium in MFL-FB01-061824-HM.

Notes: None.