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

September 5 through September 11, 2024
[Report Updated: November 22, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Particulate monitoring and air sampling occurred from September 5 through September 11, 2024, at all the community locations listed below and shown on **Figure 1**:

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Skate Park (AM-06)

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

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from September 5 through September 11 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exceptions of periods during instances of equipment faults, equipment failure, and equipment replacement, as described below:

- The air monitoring and sampling station located at Lahaina Skate Park (Location ID AM-06) experienced power interruptions from a tripped electrical circuit on the evening of September 5. As a result, the intended air monitoring period of 24 hours was interrupted as described below:
    - On September 5, air monitoring was conducted for only 11 hours.
- The air monitoring station located at Lahaina Skate Park (Location ID AM-06) experienced equipment failure because of water damage; as a result, air monitoring data were not able to be collected on the following dates:
    - September 6
    - September 7
    - September 8
- Because of equipment replacement, air monitoring periods were interrupted as described below:
    - On September 9, air monitoring was conducted at Lahaina Skate Park (Location ID AM-06) for only 13 hours
- Because of equipment faults, air monitoring periods were interrupted as described below:
    - On September 10, air monitoring was conducted at Lahaina Skate Park (Location ID AM-06) for only 23 hours

The equipment fault codes at Lahaina Skate Park (Location ID AM-06) were the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. This disruption caused a shortened monitoring duration which was addressed in the 24-hour time weighted average (TWA) calculations.

The PM_{10} monitoring results were found to have exceeded the 150 µg/m^3 TWA screening level three days, all at the Lahaina Skate Park monitoring location (i.e., on September 9 through September 11 as shown in **Table 1)**. The exceedances noted were not related to USACE operations as debris removal operations were not being conducted at these times.

The air monitoring and sampling station at Lahaina Skate Park was relocated on September 9 back to its original position approximately 55 feet east of the highway after irrigation systems located at the site cause water damage to the instrument resulting in its replacement and issues with tripped electrical outlets. Active traffic observed from the nearby highway may have attributed to the exceedances. Consistent elevated readings occurred throughout the day in the early morning and late-night hours. The exceedances on September 9 through 11 are described below:

- On September 9, no USACE debris crew or private contractors observed near the monitoring station. No visible dust was observed at the site. The station equipment was replaced September 9 after damage occurred to the previous instrument which resulted in it being non-operational. Elevated particulate readings occurred during the 19:00 through 21:00 time blocks. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. The exceedance could have been attributed to proximity to the nearby highway.
- On September 10, no USACE debris crew or private contractors observed near the monitoring station. No visible dust was observed at the site. Elevated particulate readings occurred during the 02:00 through 06:00 and 20:00 through 22:00 time blocks. These time periods are outside the Tetra Tech field team's observation periods. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. The exceedance could have been attributed to proximity to the nearby highway.
- On September 11, no USACE debris crew or private contractors observed near the monitoring station. No visible dust was observed at the site. Elevated particulate readings occurred during the 02:00 through 05:00 and 19:00 through 21:00 time blocks. These time periods are outside the Tetra Tech field team's observation periods. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. The exceedance could have been attributed to proximity to the nearby highway.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. The sample collected at Lahaina Skate Park on September 5 was voided because of a power interruption and blockage failure which prevented calculating an accurate sample run time. With the exception of this sample, all analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

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

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

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

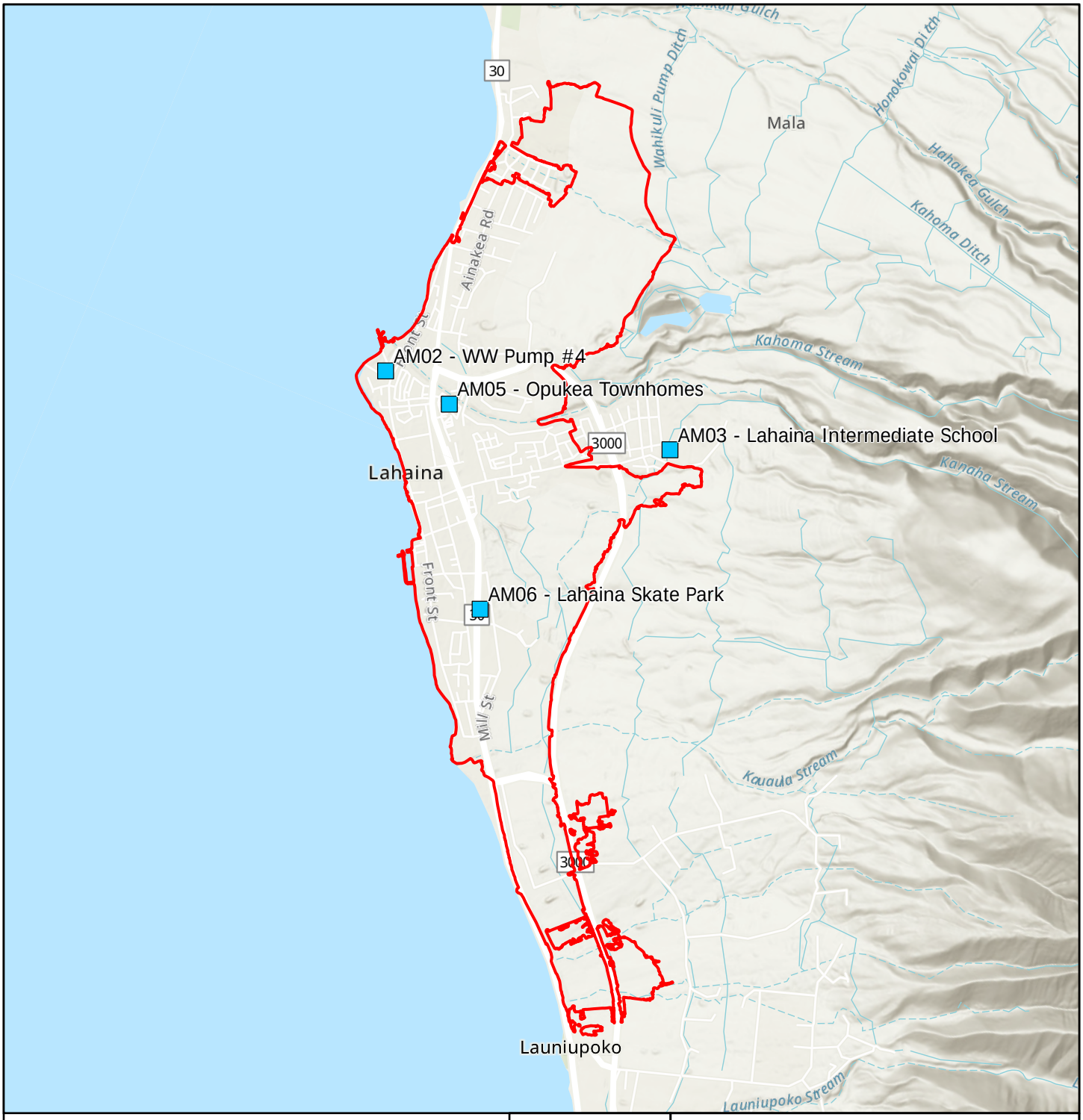
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

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

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

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

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
September 5 through September 11, 2024
[Report Updated: November 22, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
9/5/2024	Opukea Townhomes (AM-05)	8.8
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Skate Park (AM-06)	19*
9/6/2024	Opukea Townhomes (AM-05)	8.4
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	14
	Lahaina Skate Park (AM-06)	
9/7/2024	Opukea Townhomes (AM-05)	8.0
	WW Pump Station #4 (AM-02)	6.5
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Skate Park (AM-06)	
9/8/2024	Opukea Townhomes (AM-05)	5.8
	WW Pump Station #4 (AM-02)	5.5
	Lahaina Intermediate School (AM-03)	5.5
	Lahaina Skate Park (AM-06)	
9/9/2024	Opukea Townhomes (AM-05)	7.1
	WW Pump Station #4 (AM-02)	5.2
	Lahaina Intermediate School (AM-03)	67
	Lahaina Skate Park (AM-06)	**192*** **
9/10/2024	Opukea Townhomes (AM-05)	7.6
	WW Pump Station #4 (AM-02)	4.4
	Lahaina Intermediate School (AM-03)	29
	Lahaina Skate Park (AM-06)	**190****
9/11/2024	Opukea Townhomes (AM-05)	12
	WW Pump Station #4 (AM-02)	8.3
	Lahaina Intermediate School (AM-03)	33
	Lahaina Skate Park (AM-06)	**156**

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

Exceedance
Equipment Failure due to water damage/ Instrument offline

*Data provided were from a reduced TWA calculation as a result of a power failure cause by a tripped electrical circuit.
** Data provided were from a reduced TWA calculation because of an equipment disruption
*** Data provided was from a reduced TWA calculation because of replacement of offline equipment

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
September 5 through September 11, 2024
[Report Updated: November 22, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
9/5/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000912	0.000438	0.00456	0.0000149	ND	0.00315	0.000491	0.0269	0.000862	0.0179	0.00124	0.00136	0.000200	0.00000126	0.00181	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000157	0.000472	0.00803	0.0000240	ND	0.00420	0.000838	0.0288	0.00187	0.0261	0.00108	0.00227	0.000238	0.00000109	0.00280	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000429	0.000157	0.00366	0.0000462	ND	0.00435	0.000601	0.0392	0.000304	0.0137	0.00161	0.00217	0.000169	0.000000568	0.00153	ND
	Lahaina Skate Park (AM-06)		0.000281	0.000307	0.00618	0.0000115	ND	0.00779	0.000501	0.0912	0.000899	0.0135	0.00351	0.00415	0.000240	ND	0.00146	ND
9/6/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000896	0.000473	0.00371	0.00000832	ND	0.00275	0.000327	0.0195	0.00122	0.00904	0.00114	0.00132	0.000184	ND	0.00124	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000904	0.000338	0.00759	0.0000180	ND	0.00352	0.000687	0.0177	0.000743	0.0201	0.000893	0.00193	0.000240	0.000000832	0.00235	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000465	0.000133	0.00254	0.0000180	ND	0.00263	0.000362	0.0328	0.000260	0.00787	0.00177	0.00164	0.000165	0.000000544	0.000894	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000266	0.000635	0.00993	0.0000169	ND	0.00940	0.000661	0.0709	0.00139	0.0199	0.00252	0.00447	0.000208	ND	0.00175	ND
9/7/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000918	0.000222	0.00332	0.00000671	ND	0.00221	0.000240	0.0249	0.000565	0.00688	0.00152	0.000898	0.000160	ND	0.000866	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000125	0.000244	0.00446	0.00000999	ND	0.00260	0.000361	0.0214	0.000578	0.00992	0.00112	0.00129	0.000190	0.000000488	0.00128	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000398	0.000149	0.00305	0.0000344	ND	0.00343	0.000501	0.0319	0.000251	0.0124	0.00187	0.00162	0.000156	0.000000789	0.00138	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000117	0.000146	0.00471	0.00000612	ND	0.00259	0.000202	0.0585	0.000419	0.00568	0.00154	0.000949	0.000125	ND	0.000653	ND
9/8/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000421	0.000163	0.00229	0.00000599	ND	0.00225	0.000240	0.0249	0.000307	0.00603	0.00165	0.00105	0.000113	ND	0.000735	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000129	0.000227	0.00421	0.00000909	ND	0.00244	0.000315	0.0187	0.000648	0.00911	0.00106	0.00112	0.000157	ND	0.00103	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.0000826	0.00287	0.0000106	ND	0.00220	0.000224	0.0440	0.000180	0.00574	0.00241	0.00119	0.000116	ND	0.000578	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000107	0.000134	0.00393	0.00000659	ND	0.00251	0.000242	0.0357	0.000351	0.00642	0.00138	0.00109	0.000128	ND	0.000727	ND
9/9/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000617	0.000183	0.00237	0.00000477	ND	0.00192	0.000192	0.0335	0.000573	0.00452	0.00233	0.000657	0.000136	ND	0.000509	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000172	0.000165	0.00536	0.00000817	ND	0.00257	0.000276	0.0224	0.000580	0.00880	0.00146	0.00111	0.000163	ND	0.000913	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000315	0.000140	0.00268	0.0000284	ND	0.00295	0.000385	0.0348	0.000294	0.00899	0.00204	0.00118	0.000147	ND	0.000949	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000114	0.000226	0.00489	0.00000816	ND	0.00262	0.000268	0.0319	0.000743	0.00788	0.00141	0.00118	0.000150	ND	0.000744	ND
9/10/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000570	0.000155	0.00275	0.00000734	ND	0.00239	0.000251	0.0301	0.000364	0.00730	0.00204	0.00108	0.000138	ND	0.00104	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000157	0.000210	0.00616	0.0000135	ND	0.00299	0.000478	0.0288	0.000750	0.0146	0.00186	0.00145	0.000164	0.000000535	0.00179	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000366	0.000135	0.00262	0.0000161	ND	0.00330	0.000403	0.0382	0.000299	0.00943	0.00238	0.00171	0.000119	ND	0.00117	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.0001180	0.000179	0.00432	0.00000753	ND	0.00346	0.000254	0.0177	0.000812	0.00713	0.000964	0.00132	0.000102	ND	0.000909	ND
9/11/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000776	0.000393	0.00666	0.0000215	0.000150	0.00567	0.00110	0.0407	0.000508	0.0255	0.00256	0.00316	0.000183	0.000000988	0.00354	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000890	0.000300	0.00511	0.0000140	ND	0.00401	0.000610	0.0279	0.000626	0.0156	0.00169	0.00189	0.000163	0.000000637	0.00220	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000384	0.000160	0.00256	0.0000146	ND	0.00279	0.000378	0.0423	0.000319	0.00978	0.00224	0.00135	0.000120	ND	0.00106	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000154	0.000197	0.00682	0.00000967	ND	0.00380	0.000400	0.0276	0.000765	0.0100	0.00151	0.00159	0.000123	ND	0.00108	ND
95% Upper Confidence Limit[2]		NA	0.000130	0.000290	0.00527	0.0000180	NA	0.00389	0.000500	0.0393	0.000780	0.0135	0.00196	0.00191	0.000170	0.00000100	0.00157	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 blockage failure and inability to calculate run time

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
September 5 through September 11, 2024
[Report Updated: November 22, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
9/5/2024	AM-02	WW Pump Station #4	1.1	S	81	67	762.1
9/5/2024	AM-03	Lahaina Intermediate School	1.3	SE	80	64	752.6
9/5/2024	AM-05	Opukea Townhomes	1.4	SSE	84	63	761.3
9/5/2024	AM-06	Lahaina Skate Park	1.0	WSW	85	59	761.7
9/6/2024	AM-02	WW Pump Station #4	1.0	SSE	81	66	762.9
9/6/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	64	753.4
9/6/2024	AM-05	Opukea Townhomes	1.4	SE	84	63	762.1
9/6/2024	AM-06	Lahaina Skate Park					
9/7/2024	AM-02	WW Pump Station #4	1.1	SSE	80	68	761.3
9/7/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	68	751.8
9/7/2024	AM-05	Opukea Townhomes	1.2	SE	83	64	760.4
9/7/2024	AM-06	Lahaina Skate Park					
9/8/2024	AM-02	WW Pump Station #4	1.0	SSE	80	65	760.1
9/8/2024	AM-03	Lahaina Intermediate School	1.4	ESE	80	62	750.5
9/8/2024	AM-05	Opukea Townhomes	1.4	SE	83	61	759.2
9/8/2024	AM-06	Lahaina Skate Park					
9/9/2024	AM-02	WW Pump Station #4	1.0	SSE	80	63	759.7
9/9/2024	AM-03	Lahaina Intermediate School	1.0	SE	80	62	750.1
9/9/2024	AM-05	Opukea Townhomes	1.4	SE	83	61	759.2
9/9/2024	AM-06	Lahaina Skate Park	1.5	S	82	62	758.0
9/10/2024	AM-02	WW Pump Station #4	0.9	SSE	80	66	759.8
9/10/2024	AM-03	Lahaina Intermediate School	1.0	ESE	80	64	750.3
9/10/2024	AM-05	Opukea Townhomes	1.0	SE	83	63	759.0
9/10/2024	AM-06	Lahaina Skate Park	1.1	SSE	80	68	758.4
9/11/2024	AM-02	WW Pump Station #4	0.9	S	82	69	759.9
9/11/2024	AM-03	Lahaina Intermediate School	1.5	ESE	82	63	750.4
9/11/2024	AM-05	Opukea Townhomes	1.6	SE	84	66	759.1
9/11/2024	AM-06	Lahaina Skate Park	1.4	SSE	82	67	758.3

Notes:

°F - Fahrenheit

mBar - millibar

mph - miles per hour

Equpimnet offline due to damage

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:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-090524-AB** **Sample Description:** **DL275034**

EMSL Sample Number:	042418860-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7164.5
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

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

EMSL Order ID: 042418860
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: 042418860-0001 **Customer Sample:** MFL-AM05-090524-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	A2	None Detected									
A5	D1	None Detected									
A5	G3	None Detected									
A6	H4	None Detected									
A6	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:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090524-AB**		**Sample Description:**	**DL275016**
EMSL Sample Number:	042418860-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.0
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: 042418860
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: 042418860-0002 **Customer Sample:** MFL-AM02-090524-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	C6	None Detected									
B2	E3	None Detected									
B2	H5	None Detected									
B3	H5	None Detected									
B3	B4	None Detected									

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

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090524-AB**		**Sample Description:**	**DL274919**
EMSL Sample Number:	042418860-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.2
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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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: 042418860-0003 **Customer Sample:** MFL-AM03-090524-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	A5	None Detected									
B5	D8	None Detected									
B5	H8	None Detected									
B6	H3	None Detected									
B6	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:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

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Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090524-AB**		**Sample Description:**	**DL274978**
EMSL Sample Number:	042418860-0004		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: 042418860
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: 042418860-0004 **Customer Sample:** MFL-FB01-090524-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	J2	None Detected									
C1	H5	None Detected									
C1	F3	None Detected									
C1	D1	None Detected									
C1	B4	None Detected									
C2	A10	None Detected									
C2	C7	None Detected									
C2	E9	None Detected									
C2	G10	None Detected									
C2	I7	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:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090624-AB**	**Sample Description:**	**DL275024**
EMSL Sample Number:	042418860-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7272.0
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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EMSL Order ID: 042418860
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: 042418860-0005 **Customer Sample:** MFL-AM05-090624-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	H3	None Detected									
C5	E2	None Detected									
C5	B1	None Detected									
C6	A10	None Detected									
C6	F7	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:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090624-AB**		**Sample Description:**	**DL274901**
EMSL Sample Number:	042418860-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7144.0
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: 042418860
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: 042418860-0006 **Customer Sample:** MFL-AM02-090624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	G9	None Detected									
D1	E7	None Detected									
D1	B3	None Detected									
D2	H2	None Detected									
D2	B1	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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Fax:	N/A
Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090624-AB**	**Sample Description:**	**DL275115**
EMSL Sample Number:	042418860-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7242.6
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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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: 042418860-0007 **Customer Sample:** MFL-AM03-090624-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	A2	None Detected									
D5	E8	None Detected									
D5	J10	None Detected									
D6	D6	None Detected									
D6	H6	None Detected									

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

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Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090624-AB**	**Sample Description:**	**DL275040**
EMSL Sample Number:	042418860-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6402.3
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):	**0.0009**	**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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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: 042418860-0008 **Customer Sample:** MFL-AM06-090624-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	I9	None Detected									
E1	G5	None Detected									
E1	D8	None Detected									
E2	D1	None Detected									
E2	I7	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090624-AB**		**Sample Description:**	**DL275053**
EMSL Sample Number:	042418860-0009		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: 042418860
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: 042418860-0009 **Customer Sample:** MFL-FB01-090624-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	J4	None Detected									
E5	H3	None Detected									
E5	F2	None Detected									
E5	D1	None Detected									
E5	B5	None Detected									
E6	A5	None Detected									
E6	C10	None Detected									
E6	E3	None Detected									
E6	G10	None Detected									
E6	I6	None Detected									

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

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090724-AB**		**Sample Description:**	**DL274976**
EMSL Sample Number:	042418860-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418860
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: 042418860-0010 **Customer Sample:** MFL-AM05-090724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	H1	None Detected									
F1	E4	None Detected									
F1	B5	None Detected									
F2	H6	None Detected									
F2	C5	None Detected									

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

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EMSL Order:	042418860
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090724-AB**		**Sample Description:**	**DL275030**
EMSL Sample Number:	042418860-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

EMSL Analytical, Inc.
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042418860
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: 042418860-0011 **Customer Sample:** MFL-AM02-090724-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	H7	None Detected									
F5	E7	None Detected									
F5	A4	None Detected									
F6	B7	None Detected									
F6	G7	None Detected									

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

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EMSL Order:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090724-AB**	**Sample Description:**	**DL274971**
EMSL Sample Number:	042418860-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7202.0
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: 042418860
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: 042418860-0012 **Customer Sample:** MFL-AM03-090724-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	B10	None Detected									
G2	D8	None Detected									
G2	H9	None Detected									
G3	B6	None Detected									
G3	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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EMSL Order:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090724-AB**	**Sample Description:**	**DL274998**
EMSL Sample Number:	042418860-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7260.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042418860-0013 **Customer Sample:** MFL-AM06-090724-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	I5	None Detected									
G5	E7	None Detected									
G5	C4	None Detected									
G6	H4	None Detected									
G6	E8	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:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090724-AB**		**Sample Description:**	**DL274977**
EMSL Sample Number:	042418860-0014		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

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EMSL Order ID: 042418860
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: 042418860-0014 **Customer Sample:** MFL-FB01-090724-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	A5	None Detected									
H2	C7	None Detected									
H2	E7	None Detected									
H2	G8	None Detected									
H2	I7	None Detected									
H3	A7	None Detected									
H3	C10	None Detected									
H3	E7	None Detected									
H3	G8	None Detected									
H3	I6	None Detected									

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

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EMSL Order:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090824-AB**	**Sample Description:**	**DL275073**
EMSL Sample Number:	042418860-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7115.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	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: 042418860
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: 042418860-0015 **Customer Sample:** MFL-AM05-090824-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	B8	None Detected									
H5	D5	None Detected									
H5	H6	None Detected									
H6	A9	None Detected									
H6	G5	None Detected									

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

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

EMSL Order:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090824-AB**	**Sample Description:**	**DL275010**
EMSL Sample Number:	042418860-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7151.0
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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EMSL Order ID: 042418860
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: 042418860-0016 **Customer Sample:** MFL-AM02-090824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	G8	None Detected									
I1	E10	None Detected									
I1	C9	None Detected									
I2	C3	None Detected									
I2	I1	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:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090824-AB**		**Sample Description:**	**DL275471**
EMSL Sample Number:	042418860-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7213.4
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 %:	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: 042418860
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: 042418860-0017 **Customer Sample:** MFL-AM03-090824-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	H7	None Detected									
I5	E3	None Detected									
I5	C7	None Detected									
I6	A9	None Detected									
I6	G6	None Detected									

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

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EMSL Order:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/17/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090824-AB**		**Sample Description:**	**DL275453**
EMSL Sample Number:	042418860-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7244.0
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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EMSL Order ID: 042418860
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: 042418860-0018 **Customer Sample:** MFL-AM06-090824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J7	None Detected									
J1	D7	None Detected									
J1	I7	None Detected									
J2	I4	None Detected									
J2	F2	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:	042418860
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
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Received Date:	09/11/2024 09:30 AM
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Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090824-AB**		**Sample Description:**	**DL275452**
EMSL Sample Number:	042418860-0019		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: 042418860
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: 042418860-0019 **Customer Sample:** MFL-FB01-090824-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					
J6	A10	None Detected									
J6	C6	None Detected									
J6	E7	None Detected									
J6	G4	None Detected									
J6	I7	None Detected									
J8	J4	None Detected									
J8	H2	None Detected									
J8	F3	None Detected									
J8	D6	None Detected									
J8	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:	042418860
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:	09/11/2024 09:30 AM
Analysis Date:	09/16/2024
Report Date:	09/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042418860-0020		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: 042418860
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: 042418860-0020 **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	J3	None Detected									
A2	H5	None Detected									
A2	F8	None Detected									
A2	D9	None Detected									
A2	B5	None Detected									
A3	A3	None Detected									
A3	C5	None Detected									
A3	E2	None Detected									
A3	G6	None Detected									
A3	I8	None Detected									

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

OrderID: 042418860

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042418860

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

RECEIVED EMSL CINNAMINSON, NJ 24 SEP 11 PM 12:37

Customer Information

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

Billing Information

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

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Karlyn Saldaña
Sampled By Signature:
No. of Samples in Shipment: 19

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-090524-AB	DL275034	7,164.525	09/05/24 1104
MFL-AM02-090524-AB	DL275016	7,164.979	09/05/24 1120
MFL-AM03-090524-AB	DL274919	7,196.242	09/05/24 1303
* (VOID) ~~MFL-AM06-090524-AB~~	~~DL274972~~	~~952.742~~	~~09/05/24 1323~~ VOID
MFL-FB01-090524-AB	DL274978	0	09/05/24 1200
MFL-AM05-090624-AB	DL275024	7,272.048	09/06/24 1103
MFL-AM02-090624-AB	DL274901	7,143.962	09/06/24 1114
MFL-AM03-090624-AB	DL275115	7,242.631	09/06/24 1304

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

* Sample MFL-AM06-090524-AB voided due to low volume collected

All samples received acceptable for analysis.

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
[signature]	09/09/24 1100	[signature] FedEx	9/11/24 9:30A
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

OrderID: 042418860

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042418860

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

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM06-090624-AB	DL275040	6,402.329	09/06/24 1323
MFL-FB01-090624-AB	DL275053	0	09/06/24 1200
MFL-AM05-090724-AB	DL274976	7,134.130	09/07/24 1103
MFL-AM02-090724-AB	DL275030	7,194.960	09/07/24 1117
MFL-AM03-090724-AB	DL274971	7,201.578	09/07/24 1303
MFL-AM06-090724-AB	DL274998	7,260.272	09/07/24 1324
MFL-FB01-090724-AB	DL274977	0	09/07/24 1200
MFL-AM05-090824-AB	DL275073	7,115.322	09/08/24 1058
MFL-AM02-090824-AB	DL275010	7,150.993	09/08/24 1111
MFL-AM03-090824-AB	DL275471	7,213.420	09/08/24 1304
MFL-AM06-090824-AB	DL275453	7,244.024	09/08/24 1323
MFL-FB01-090824-AB	DL275452	0	09/08/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 SEP 11 PM12:33

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 09/09/24 1100	Received by: [signature] FedEx	Date/Time 9/11/24 9:30
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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19 BD

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/18/2024 and Shanna Vasser 09/20/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/05/2024 – 09/08/2024
Report No: 42418860

√	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-AM06-090524-AB was listed on the CoC, but crossed off, voided (low volume), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None

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

EMSL Order:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090924-AB**		**Sample Description:**	**DL275467**
EMSL Sample Number:	042419163-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7243.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042419163
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: 042419163-0001 **Customer Sample:** MFL-AM05-090924-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	H5	None Detected									
A5	D2	None Detected									
A5	B6	None Detected									
A6	A5	None Detected									
A6	D7	None Detected									

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

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

EMSL Order:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-090924-AB** **Sample Description:** **DL275455**

EMSL Sample Number:	042419163-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7232.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042419163
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: 042419163-0002 **Customer Sample:** MFL-AM02-090924-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	J2	None Detected									
B1	H5	None Detected									
B1	D6	None Detected									
B2	C7	None Detected									
B2	G8	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:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-090924-AB** **Sample Description:** **DL275457**

EMSL Sample Number:	042419163-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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

EMSL Order ID: 042419163
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: 042419163-0003 **Customer Sample:** MFL-AM03-090924-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	H5	None Detected									
B5	F1	None Detected									
B5	D4	None Detected									
B6	J3	None Detected									
B6	D5	None Detected									

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

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EMSL Order:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM06-090924-AB** **Sample Description:** **DL275469**

EMSL Sample Number:	042419163-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7158.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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: 042419163
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: 042419163-0004 **Customer Sample:** MFL-AM06-090924-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	H3	None Detected									
C1	E4	None Detected									
C1	A1	None Detected									
C2	F1	None Detected									
C2	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:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090924-AB**		**Sample Description:**	**DL275463**
EMSL Sample Number:	042419163-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID:	**042419163**
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: 042419163-0005 **Customer Sample:** MFL-FB01-090924-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	J2	None Detected									
C5	H2	None Detected									
C5	F3	None Detected									
C5	D1	None Detected									
C5	B4	None Detected									
C6	J3	None Detected									
C6	H1	None Detected									
C6	F4	None Detected									
C6	D2	None Detected									
C6	B6	None Detected									

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

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EMSL Order:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091024-AB**	**Sample Description:**	**DL275466**
EMSL Sample Number:	042419163-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7227.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419163
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: 042419163-0006 **Customer Sample:** MFL-AM05-091024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	B2	None Detected									
D1	D5	None Detected									
D1	G8	None Detected									
D2	C5	None Detected									
D2	G8	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:	042419163
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**

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Fax:	N/A
Received Date:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-091024-AB** **Sample Description:** **DL275465**

EMSL Sample Number:	042419163-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7155.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419163
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: 042419163-0007 **Customer Sample:** MFL-AM02-091024-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	B6	None Detected									
D5	E8	None Detected									
D5	J4	None Detected									
D6	H7	None Detected									
D6	D10	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:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-091024-AB** **Sample Description:** **DL275404**

EMSL Sample Number:	042419163-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7192.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419163
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: 042419163-0008 **Customer Sample:** MFL-AM03-091024-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	F10	None Detected									
E1	D7	None Detected									
E1	A7	None Detected									
E2	I8	None Detected									
E2	E2	None Detected									

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

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

EMSL Order:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-091024-AB**	**Sample Description:**	**DL275468**
EMSL Sample Number:	042419163-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7220.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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EMSL Order ID: 042419163
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: 042419163-0009 **Customer Sample:** MFL-AM06-091024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I2	None Detected									
E5	F4	None Detected									
E5	C4	None Detected									
E6	D7	None Detected									
E6	H5	None Detected									

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

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EMSL Order:	042419163
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:	09/16/2024 09:00 AM
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Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-091024-AB**		**Sample Description:**	**DL275432**
EMSL Sample Number:	042419163-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment


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EMSL Order ID: 042419163
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: 042419163-0010 **Customer Sample:** MFL-FB01-091024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J5	None Detected									
F2	H3	None Detected									
F2	F1	None Detected									
F2	D4	None Detected									
F2	B4	None Detected									
F3	J1	None Detected									
F3	H4	None Detected									
F3	G9	None Detected									
F3	D1	None Detected									
F3	A4	None Detected									

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

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Project: **Maui Fires - Lahaina**

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Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-091124-AB** **Sample Description:** **DL275450**

EMSL Sample Number:	042419163-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7140.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419163
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: 042419163-0011 **Customer Sample:** MFL-AM05-091124-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	A5	None Detected									
F5	E3	None Detected									
F5	H6	None Detected									
F6	I4	None Detected									
F6	D4	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:	042419163
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-091124-AB** **Sample Description:** **DL275436**

EMSL Sample Number:	042419163-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	Random	*(4.00)*	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**	**1**	**1**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0038**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**1**	**1**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0038
Total All Structures	**-**	**1**	**1**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

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EMSL Order ID: 042419163
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: 042419163-0012 **Customer Sample:** MFL-AM02-091124-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	A6	None Detected									
G1	D5	MD10	1		10.8	8.7	CD	Chrysotile			
G1	D5	MF		1	2.6	0.1	CD	Chrysotile		MG_159, MG_160	
G1	G7	None Detected									
G2	C9	None Detected									
G2	I6	None Detected									

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

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Project ID:	N/A

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Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-091124-AB** **Sample Description:** **DL275449**

EMSL Sample Number:	042419163-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

EMSL Order ID: 042419163
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: 042419163-0013 **Customer Sample:** MFL-AM03-091124-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	A4	None Detected									
G5	D5	None Detected									
G5	H4	None Detected									
G6	G8	None Detected									
G6	B6	None Detected									

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

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

EMSL Order:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM06-091124-AB** **Sample Description:** **DL275444**

EMSL Sample Number:	042419163-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6698.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.00**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042419163
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: 042419163-0014 **Customer Sample:** MFL-AM06-091124-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	I6	None Detected									
H1	F4	None Detected									
H1	C2	None Detected									
H2	I1	None Detected									
H2	F4	None Detected									

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

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091124-AB** **Sample Description:** **DL275445**

EMSL Sample Number:	042419163-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment


Approved Signatory

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: 042419163
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: 042419163-0015 **Customer Sample:** MFL-FB01-091124-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	A10	None Detected									
H5	C3	None Detected									
H5	E7	None Detected									
H5	G9	None Detected									
H5	I6	None Detected									
H6	J6	None Detected									
H6	H2	None Detected									
H6	F3	None Detected									
H6	D4	None Detected									
H6	B3	None Detected									

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

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

EMSL Order:	042419163
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:	09/16/2024 09:00 AM
Analysis Date:	09/19/2024
Report Date:	09/20/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042419163-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

EMSL Analytical, Inc.
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:	**042419163**
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: 042419163-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A8	None Detected									
A1	C7	None Detected									
A1	E4	None Detected									
A1	G7	None Detected									
A1	I6	None Detected									
A2	J2	None Detected									
A2	H3	None Detected									
A2	F2	None Detected									
A2	D5	None Detected									
A2	B1	None Detected									

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

OrderID: 042419163

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042419163

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 SEP 16 A 10:14

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

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone:
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:
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Georgia Saldana
Sampled By Signature:
No. of Samples in Shipment

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-090924-AB	DL275467	7,243.393	09/09/24 1105
MFL-AM02-090924-AB	DL275455	7,232.106	09/09/24 1120
MFL-AM03-090924-AB	DL275457	7,176.091	09/09/24 1304
MFL-AM06-090924-AB	DL275469	7,158.559	09/09/24 1324
~~MFL-~~FB01-090924-AB	DL275463	0	09/09/24 1200
MFL-AM05-091024-AB	DL275466	7,227.388	09/10/24 1104
MFL-AM02-091024-AB	DL275465	7,155.086	09/10/24 1117
MFL-AM03-091024-AB	DL275404	7,192.651	09/10/24 1302

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

All samples received acceptable for analysis.
Revised 9/23/24 for sample IDs.

150/k

Method of Shipment: FedEx
Relinquished by: [signature] Date/Time: 09/12/24 1100
Relinquished by: Date/Time:

Sample Condition Upon Receipt:
Received by: [signature] FX Date/Time 9/16/24 9
Received by: Date/Time

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

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

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

OrderID: 042419163

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419163

RECEIVED EMSL CINNAMINSON, NJ 2024 SEP 16 A 10:14

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM06-091024-AB	DL275468	7,220.902	09/10/24 1325
MFL-FB01-091024-AB	DL275432	0	09/10/24 1200
MFL-AM05-091124-AB	DL275450	7,140.560	09/11/24 1102
MFL-AM02-091124-AB	(EES) ~~D7~~ DL275436	7,195.796	09/11/24 1117
MFL-AM03-091124-AB	DL275449	7,200.288	09/11/24 1305
MFL-AM06-091124-AB	DL275444	6,698.292	09/11/24 1327
MFL-FB01-091124-AB	DL275445	0	09/11/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/12/24 1100	Received by: Chelsea FX	Date/Time 9/16/24 9
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/23/2024 and Shanna Vasser 9/24/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/09/2024 – 09/11/2024
Report No: 42419163

√	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:

1. The laboratory report and electronic data deliverable (EDD) were revised on September 23, 2024, to correct the sample numbers for MFL-FB01-091124-AB and MFL-AM02-091124-AB.

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

September 24, 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 09/16/24 12:34.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-090524-HM	4091631-01	Air	09/05/24 23:59	09/16/24 12:34
MFL-AM02-090524-HM	4091631-02	Air	09/05/24 23:59	09/16/24 12:34
MFL-AM03-090524-HM	4091631-03	Air	09/05/24 23:59	09/16/24 12:34
MFL-AM06-090524-HM	4091631-04	Air	09/05/24 23:59	09/16/24 12:34
MFL-FB01-090524-HM	4091631-05	Air	09/05/24 00:00	09/16/24 12:34
MFL-AM05-090624-HM	4091631-06	Air	09/06/24 23:59	09/16/24 12:34
MFL-AM02-090624-HM	4091631-07	Air	09/06/24 23:59	09/16/24 12:34
MFL-AM03-090624-HM	4091631-08	Air	09/06/24 23:59	09/16/24 12:34
MFL-AM06-090624-HM	4091631-09	Air	09/06/24 23:59	09/16/24 12:34
MFL-AM05-090724-HM	4091631-10	Air	09/07/24 23:59	09/16/24 12:34
MFL-AM02-090724-HM	4091631-11	Air	09/07/24 23:59	09/16/24 12:34
MFL-AM03-090724-HM	4091631-12	Air	09/07/24 23:59	09/16/24 12:34
MFL-AM06-090724-HM	4091631-13	Air	09/07/24 23:59	09/16/24 12:34
MFL-FB01-090724-HM	4091631-14	Air	09/07/24 00:00	09/16/24 12:34
MFL-AM05-090824-HM	4091631-15	Air	09/08/24 23:59	09/16/24 12:34
MFL-AM02-090824-HM	4091631-16	Air	09/08/24 23:59	09/16/24 12:34
MFL-AM03-090824-HM	4091631-17	Air	09/08/24 23:59	09/16/24 12:34
MFL-AM06-090824-HM	4091631-18	Air	09/08/24 23:59	09/16/24 12:34
MFL-AM05-090924-HM	4091631-19	Air	09/09/24 23:59	09/16/24 12:34
MFL-AM02-090924-HM	4091631-20	Air	09/09/24 23:59	09/16/24 12:34
MFL-AM03-090924-HM	4091631-21	Air	09/09/24 23:59	09/16/24 12:34

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
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MFL-AM06-090924-HM	4091631-22	Air	09/09/24 23:59	09/16/24 12:34
MFL-FB01-090924-HM	4091631-23	Air	09/09/24 00:00	09/16/24 12:34
MFL-AM05-091024-HM	4091631-24	Air	09/10/24 23:59	09/16/24 12:34
MFL-AM02-091024-HM	4091631-25	Air	09/10/24 23:59	09/16/24 12:34
MFL-AM03-091024-HM	4091631-26	Air	09/10/24 23:59	09/16/24 12:34
MFL-AM06-091024-HM	4091631-27	Air	09/10/24 23:59	09/16/24 12:34
MFL-AM05-091124-HM	4091631-28	Air	09/11/24 23:59	09/16/24 12:34
MFL-AM02-091124-HM	4091631-29	Air	09/11/24 23:59	09/16/24 12:34
MFL-AM03-091124-HM	4091631-30	Air	09/11/24 23:59	09/16/24 12:34
MFL-AM06-091124-HM	4091631-31	Air	09/11/24 23:59	09/16/24 12:34
MFL-FB01-091124-HM	4091631-32	Air	09/11/24 00:00	09/16/24 12:34

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090524-HM
Matrix: Air
Lab ID: 4091631-01
Sample Volume: 1968.494 m³
Filter ID:
Sampled: 09/05/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 05:34

Comments: Q9537640 - 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**	**0.0912**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.438**		**0.00774**
Barium	**7440-39-3**	**4.56**		**0.884**
Beryllium	**7440-41-7**	**0.0149**		**0.00264**
Cadmium	7440-43-9	0.0352	U	0.0612
Chromium	**7440-47-3**	**3.15**		**1.83**
Cobalt	**7440-48-4**	**0.491**		**0.0360**
Copper	**7440-50-8**	**26.9**		**2.17**
Lead	**7439-92-1**	**0.862**		**0.177**
Manganese	**7439-96-5**	**17.9**		**1.56**
Molybdenum	**7439-98-7**	**1.24**		**0.297**
Nickel	**7440-02-0**	**1.36**		**0.539**
Selenium	**7782-49-2**	**0.200**		**0.00741**
Thallium	**7440-28-0**	**0.00126**		**4.87E-4**
Vanadium	**7440-62-2**	**1.81**		**0.0437**
Zinc	7440-66-6	13.5	U	63.5

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090524-HM
Matrix: Air
Lab ID: 4091631-02
Sample Volume: 2059.945 m³
Filter ID:
Sampled: 09/05/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 05:49

Comments: Q9537639 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.157**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.472**		**0.00740**
Barium	**7440-39-3**	**8.03**		**0.845**
Beryllium	**7440-41-7**	**0.0240**		**0.00253**
Cadmium	7440-43-9	0.0216	U	0.0585
Chromium	**7440-47-3**	**4.20**		**1.75**
Cobalt	**7440-48-4**	**0.838**		**0.0344**
Copper	**7440-50-8**	**28.8**		**2.08**
Lead	**7439-92-1**	**1.87**		**0.169**
Manganese	**7439-96-5**	**26.1**		**1.49**
Molybdenum	**7439-98-7**	**1.08**		**0.284**
Nickel	**7440-02-0**	**2.27**		**0.515**
Selenium	**7782-49-2**	**0.238**		**0.00708**
Thallium	**7440-28-0**	**0.00109**		**4.65E-4**
Vanadium	**7440-62-2**	**2.80**		**0.0418**
Zinc	7440-66-6	22.3	U	60.7

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090524-HM
Matrix: Air
Lab ID: 4091631-03
Sample Volume: 1916.365 m³
Filter ID:
Sampled: 09/05/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 06:08

Comments: Q9537638 - 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**	**0.0429**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.157**		**0.00796**
Barium	**7440-39-3**	**3.66**		**0.908**
Beryllium	**7440-41-7**	**0.0462**		**0.00272**
Cadmium	7440-43-9	0.0102	U	0.0629
Chromium	**7440-47-3**	**4.35**		**1.88**
Cobalt	**7440-48-4**	**0.601**		**0.0370**
Copper	**7440-50-8**	**39.2**		**2.23**
Lead	**7439-92-1**	**0.304**		**0.182**
Manganese	**7439-96-5**	**13.7**		**1.60**
Molybdenum	**7439-98-7**	**1.61**		**0.305**
Nickel	**7440-02-0**	**2.17**		**0.554**
Selenium	**7782-49-2**	**0.169**		**0.00761**
Thallium	**7440-28-0**	**5.68E-4**		**5.00E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0449**
Zinc	7440-66-6	9.37	U	65.2

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090524-HM
Matrix: Air
Lab ID: 4091631-04
Sample Volume: 621.464 m³
Filter ID:
Sampled: 09/05/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 06:23

Comments: Q9537637 - 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**	**0.281**	SL	**0.101**
Arsenic	**7440-38-2**	**0.307**		**0.0245**
Barium	**7440-39-3**	**6.18**		**2.80**
Beryllium	**7440-41-7**	**0.0115**		**0.00838**
Cadmium	7440-43-9	0.0661	U	0.194
Chromium	**7440-47-3**	**7.79**		**5.79**
Cobalt	**7440-48-4**	**0.501**		**0.114**
Copper	**7440-50-8**	**91.2**		**6.89**
Lead	**7439-92-1**	**0.899**		**0.560**
Manganese	**7439-96-5**	**13.5**		**4.95**
Molybdenum	**7439-98-7**	**3.51**		**0.940**
Nickel	**7440-02-0**	**4.15**		**1.71**
Selenium	**7782-49-2**	**0.240**		**0.0235**
Thallium	7440-28-0	7.78E-4	U	0.00154
Vanadium	**7440-62-2**	**1.46**		**0.138**
Zinc	7440-66-6	38.0	U	201

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-090524-HM
Matrix: Air
Lab ID: 4091631-05
Sample Volume: 1968.494 m³
Filter ID:
Sampled: 09/05/24 00:00
Received: 09/16/24 12:34
Analysis Date: 09/18/24 06:38

Comments: Q9537631 - 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	0.00734	SL, U	0.0319
Arsenic	7440-38-2	0.00302	U	0.00774
Barium	7440-39-3	0.594	U	0.884
Beryllium	7440-41-7	9.13E-4	U	0.00264
Cadmium	7440-43-9	0.00336	U	0.0612
Chromium	7440-47-3	1.42	U	1.83
Cobalt	7440-48-4	0.0251	U	0.0360
Copper	7440-50-8	0.324	U	2.17
Lead	7439-92-1	0.0336	U	0.177
Manganese	7439-96-5	0.140	U	1.56
Molybdenum	7439-98-7	0.209	U	0.297
Nickel	7440-02-0	0.311	U	0.539
Selenium	7782-49-2	ND	U	0.00741
Thallium	7440-28-0	ND	U	4.87E-4
Vanadium	7440-62-2	0.0107	U	0.0437
Zinc	7440-66-6	2.94	U	63.5

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090624-HM
Matrix: Air
Lab ID: 4091631-06
Sample Volume: 2009.815 m³
Filter ID:
Sampled: 09/06/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 06:51

Comments: Q9537636 - 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**	**0.0896**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.473**		**0.00759**
Barium	**7440-39-3**	**3.71**		**0.866**
Beryllium	**7440-41-7**	**0.00832**		**0.00259**
Cadmium	7440-43-9	0.0269	U	0.0600
Chromium	**7440-47-3**	**2.75**		**1.79**
Cobalt	**7440-48-4**	**0.327**		**0.0353**
Copper	**7440-50-8**	**19.5**		**2.13**
Lead	**7439-92-1**	**1.22**		**0.173**
Manganese	**7439-96-5**	**9.04**		**1.53**
Molybdenum	**7439-98-7**	**1.14**		**0.291**
Nickel	**7440-02-0**	**1.32**		**0.528**
Selenium	**7782-49-2**	**0.184**		**0.00725**
Thallium	7440-28-0	4.62E-4	U	4.77E-4
Vanadium	**7440-62-2**	**1.24**		**0.0428**
Zinc	7440-66-6	12.8	U	62.2

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090624-HM
Matrix: Air
Lab ID: 4091631-07
Sample Volume: 2052.191 m³
Filter ID:
Sampled: 09/06/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 07:06

Comments: Q9537635 - 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**	**0.0904**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.338**		**0.00743**
Barium	**7440-39-3**	**7.59**		**0.848**
Beryllium	**7440-41-7**	**0.0180**		**0.00254**
Cadmium	7440-43-9	0.0250	U	0.0587
Chromium	**7440-47-3**	**3.52**		**1.75**
Cobalt	**7440-48-4**	**0.687**		**0.0346**
Copper	**7440-50-8**	**17.7**		**2.09**
Lead	**7439-92-1**	**0.743**		**0.170**
Manganese	**7439-96-5**	**20.1**		**1.50**
Molybdenum	**7439-98-7**	**0.893**		**0.285**
Nickel	**7440-02-0**	**1.93**		**0.517**
Selenium	**7782-49-2**	**0.240**		**0.00710**
Thallium	**7440-28-0**	**8.32E-4**		**4.67E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0419**
Zinc	7440-66-6	12.3	U	60.9

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090624-HM
Matrix: Air
Lab ID: 4091631-08
Sample Volume: 1942.445 m³
Filter ID:
Sampled: 09/06/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 02:53

Comments: Q9537633 - 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**	**0.0465**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.133**		**0.00785**
Barium	**7440-39-3**	**2.54**		**0.896**
Beryllium	**7440-41-7**	**0.0180**		**0.00268**
Cadmium	7440-43-9	0.0165	U	0.0621
Chromium	**7440-47-3**	**2.63**		**1.85**
Cobalt	**7440-48-4**	**0.362**		**0.0365**
Copper	**7440-50-8**	**32.8**	QM-07	**2.20**
Lead	**7439-92-1**	**0.260**		**0.179**
Manganese	**7439-96-5**	**7.87**		**1.58**
Molybdenum	**7439-98-7**	**1.77**	QM-07	**0.301**
Nickel	**7440-02-0**	**1.64**	QM-07	**0.546**
Selenium	**7782-49-2**	**0.165**		**0.00750**
Thallium	**7440-28-0**	**5.44E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**0.894**		**0.0443**
Zinc	7440-66-6	10.7	U	64.3

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090624-HM
Matrix: Air
Lab ID: 4091631-09
Sample Volume: 672.346 m³
Filter ID:
Sampled: 09/06/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 07:21

Comments: Q9537632 - 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**	**0.266**	SL	**0.0934**
Arsenic	**7440-38-2**	**0.635**		**0.0227**
Barium	**7440-39-3**	**9.93**		**2.59**
Beryllium	**7440-41-7**	**0.0169**		**0.00774**
Cadmium	7440-43-9	0.0455	U	0.179
Chromium	**7440-47-3**	**9.40**		**5.35**
Cobalt	**7440-48-4**	**0.661**		**0.106**
Copper	**7440-50-8**	**70.9**		**6.36**
Lead	**7439-92-1**	**1.39**		**0.518**
Manganese	**7439-96-5**	**19.9**		**4.57**
Molybdenum	**7439-98-7**	**2.52**		**0.869**
Nickel	**7440-02-0**	**4.47**		**1.58**
Selenium	**7782-49-2**	**0.208**		**0.0217**
Thallium	7440-28-0	4.80E-4	U	0.00143
Vanadium	**7440-62-2**	**1.75**		**0.128**
Zinc	7440-66-6	35.0	U	186

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090724-HM
Matrix: Air
Lab ID: 4091631-10
Sample Volume: 1950.28 m³
Filter ID:
Sampled: 09/07/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 07:35

Comments: Q9537636 - 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**	**0.0918**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.222**		**0.00782**
Barium	**7440-39-3**	**3.32**		**0.893**
Beryllium	**7440-41-7**	**0.00671**		**0.00267**
Cadmium	7440-43-9	0.0171	U	0.0618
Chromium	**7440-47-3**	**2.21**		**1.84**
Cobalt	**7440-48-4**	**0.240**		**0.0364**
Copper	**7440-50-8**	**24.9**		**2.19**
Lead	**7439-92-1**	**0.565**		**0.179**
Manganese	**7439-96-5**	**6.88**		**1.58**
Molybdenum	**7439-98-7**	**1.52**		**0.299**
Nickel	**7440-02-0**	**0.898**		**0.544**
Selenium	**7782-49-2**	**0.160**		**0.00747**
Thallium	7440-28-0	2.57E-4	U	4.91E-4
Vanadium	**7440-62-2**	**0.866**		**0.0441**
Zinc	7440-66-6	11.0	U	64.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090724-HM
Matrix: Air
Lab ID: 4091631-11
Sample Volume: 2099.453 m³
Filter ID:
Sampled: 09/07/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 07:49

Comments: Q9537629 - 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**	**0.125**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.244**		**0.00726**
Barium	**7440-39-3**	**4.46**		**0.829**
Beryllium	**7440-41-7**	**0.00999**		**0.00248**
Cadmium	7440-43-9	0.0110	U	0.0574
Chromium	**7440-47-3**	**2.60**		**1.71**
Cobalt	**7440-48-4**	**0.361**		**0.0338**
Copper	**7440-50-8**	**21.4**		**2.04**
Lead	**7439-92-1**	**0.578**		**0.166**
Manganese	**7439-96-5**	**9.92**		**1.46**
Molybdenum	**7439-98-7**	**1.12**		**0.278**
Nickel	**7440-02-0**	**1.29**		**0.505**
Selenium	**7782-49-2**	**0.190**		**0.00694**
Thallium	**7440-28-0**	**4.88E-4**		**4.56E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0410**
Zinc	7440-66-6	12.0	U	59.5

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090724-HM
Matrix: Air
Lab ID: 4091631-12
Sample Volume: 1975.982 m³
Filter ID:
Sampled: 09/07/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 08:43

Comments: Q9537625 - 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**	**0.0398**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.149**		**0.00772**
Barium	**7440-39-3**	**3.05**		**0.881**
Beryllium	**7440-41-7**	**0.0344**		**0.00263**
Cadmium	7440-43-9	0.0104	U	0.0610
Chromium	**7440-47-3**	**3.43**		**1.82**
Cobalt	**7440-48-4**	**0.501**		**0.0359**
Copper	**7440-50-8**	**31.9**		**2.17**
Lead	**7439-92-1**	**0.251**		**0.176**
Manganese	**7439-96-5**	**12.4**		**1.56**
Molybdenum	**7439-98-7**	**1.87**		**0.296**
Nickel	**7440-02-0**	**1.62**		**0.537**
Selenium	**7782-49-2**	**0.156**		**0.00738**
Thallium	**7440-28-0**	**7.89E-4**		**4.85E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0436**
Zinc	7440-66-6	7.79	U	63.2

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090724-HM
Matrix: Air
Lab ID: 4091631-13
Sample Volume: 1574.594 m³
Filter ID:
Sampled: 09/07/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 08:57

Comments: Q9537624 - 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**	**0.117**	SL	**0.0399**
Arsenic	**7440-38-2**	**0.146**		**0.00968**
Barium	**7440-39-3**	**4.71**		**1.11**
Beryllium	**7440-41-7**	**0.00612**		**0.00331**
Cadmium	7440-43-9	0.0104	U	0.0766
Chromium	**7440-47-3**	**2.59**		**2.28**
Cobalt	**7440-48-4**	**0.202**		**0.0451**
Copper	**7440-50-8**	**58.5**		**2.72**
Lead	**7439-92-1**	**0.419**		**0.221**
Manganese	**7439-96-5**	**5.68**		**1.95**
Molybdenum	**7439-98-7**	**1.54**		**0.371**
Nickel	**7440-02-0**	**0.949**		**0.674**
Selenium	**7782-49-2**	**0.125**		**0.00926**
Thallium	7440-28-0	1.95E-4	U	6.09E-4
Vanadium	**7440-62-2**	**0.653**		**0.0547**
Zinc	7440-66-6	13.3	U	79.4

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-090724-HM
Matrix: Air
Lab ID: 4091631-14
Sample Volume: 1950.28 m³
Filter ID:
Sampled: 09/07/24 00:00
Received: 09/16/24 12:34
Analysis Date: 09/18/24 09:12

Comments: Q9537620 - 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	0.00657	SL, U	0.0322
Arsenic	7440-38-2	0.00345	U	0.00782
Barium	7440-39-3	0.640	U	0.893
Beryllium	7440-41-7	8.92E-4	U	0.00267
Cadmium	7440-43-9	0.00349	U	0.0618
Chromium	7440-47-3	1.50	U	1.84
Cobalt	7440-48-4	0.0235	U	0.0364
Copper	7440-50-8	0.259	U	2.19
Lead	7439-92-1	0.0354	U	0.179
Manganese	7439-96-5	0.387	U	1.58
Molybdenum	7439-98-7	0.221	U	0.299
Nickel	7440-02-0	0.303	U	0.544
Selenium	7782-49-2	6.03E-4	U	0.00747
Thallium	7440-28-0	ND	U	4.91E-4
Vanadium	7440-62-2	0.00406	U	0.0441
Zinc	7440-66-6	2.50	U	64.1

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090824-HM
Matrix: Air
Lab ID: 4091631-15
Sample Volume: 2045.984 m³
Filter ID:
Sampled: 09/08/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 09:26

Comments: Q9537623 - 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**	**0.0421**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.163**		**0.00745**
Barium	**7440-39-3**	**2.29**		**0.851**
Beryllium	**7440-41-7**	**0.00599**		**0.00254**
Cadmium	7440-43-9	0.0237	U	0.0589
Chromium	**7440-47-3**	**2.25**		**1.76**
Cobalt	**7440-48-4**	**0.240**		**0.0347**
Copper	**7440-50-8**	**24.9**		**2.09**
Lead	**7439-92-1**	**0.307**		**0.170**
Manganese	**7439-96-5**	**6.03**		**1.50**
Molybdenum	**7439-98-7**	**1.65**		**0.285**
Nickel	**7440-02-0**	**1.05**		**0.518**
Selenium	**7782-49-2**	**0.113**		**0.00713**
Thallium	7440-28-0	1.37E-4	U	4.68E-4
Vanadium	**7440-62-2**	**0.735**		**0.0421**
Zinc	7440-66-6	6.44	U	61.1

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090824-HM
Matrix: Air
Lab ID: 4091631-16
Sample Volume: 2067.515 m³
Filter ID:
Sampled: 09/08/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/17/24 22:28

Comments: Q9537621 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**	**0.129**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.227**		**0.00737**
Barium	**7440-39-3**	**4.21**		**0.842**
Beryllium	**7440-41-7**	**0.00909**		**0.00252**
Cadmium	7440-43-9	0.0123	U	0.0583
Chromium	**7440-47-3**	**2.44**		**1.74**
Cobalt	**7440-48-4**	**0.315**		**0.0343**
Copper	**7440-50-8**	**18.7**		**2.07**
Lead	**7439-92-1**	**0.648**		**0.168**
Manganese	**7439-96-5**	**9.11**		**1.49**
Molybdenum	**7439-98-7**	**1.06**		**0.283**
Nickel	**7440-02-0**	**1.12**		**0.513**
Selenium	**7782-49-2**	**0.157**		**0.00705**
Thallium	7440-28-0	4.47E-4	U	4.64E-4
Vanadium	**7440-62-2**	**1.03**		**0.0416**
Zinc	7440-66-6	14.1	U	60.4

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090824-HM
Matrix: Air
Lab ID: 4091631-17
Sample Volume: 1998.927 m³
Filter ID:
Sampled: 09/08/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 09:40

Comments: Q9537618 - 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	0.0207	SL, U	0.0314
Arsenic	**7440-38-2**	**0.0826**		**0.00763**
Barium	**7440-39-3**	**2.87**		**0.871**
Beryllium	**7440-41-7**	**0.0106**		**0.00260**
Cadmium	7440-43-9	0.00983	U	0.0603
Chromium	**7440-47-3**	**2.20**		**1.80**
Cobalt	**7440-48-4**	**0.224**		**0.0355**
Copper	**7440-50-8**	**44.0**		**2.14**
Lead	**7439-92-1**	**0.180**		**0.174**
Manganese	**7439-96-5**	**5.74**		**1.54**
Molybdenum	**7439-98-7**	**2.41**		**0.292**
Nickel	**7440-02-0**	**1.19**		**0.531**
Selenium	**7782-49-2**	**0.116**		**0.00729**
Thallium	7440-28-0	2.07E-4	U	4.79E-4
Vanadium	**7440-62-2**	**0.578**		**0.0431**
Zinc	7440-66-6	6.80	U	62.5

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090824-HM
Matrix: Air
Lab ID: 4091631-18
Sample Volume: 1669.952 m³
Filter ID:
Sampled: 09/08/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 09:55

Comments: Q9537617 - 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**	**0.107**	SL	**0.0376**
Arsenic	**7440-38-2**	**0.134**		**0.00913**
Barium	**7440-39-3**	**3.93**		**1.04**
Beryllium	**7440-41-7**	**0.00659**		**0.00312**
Cadmium	7440-43-9	0.0135	U	0.0722
Chromium	**7440-47-3**	**2.51**		**2.15**
Cobalt	**7440-48-4**	**0.242**		**0.0425**
Copper	**7440-50-8**	**35.7**		**2.56**
Lead	**7439-92-1**	**0.351**		**0.208**
Manganese	**7439-96-5**	**6.42**		**1.84**
Molybdenum	**7439-98-7**	**1.38**		**0.350**
Nickel	**7440-02-0**	**1.09**		**0.635**
Selenium	**7782-49-2**	**0.128**		**0.00873**
Thallium	7440-28-0	2.05E-4	U	5.74E-4
Vanadium	**7440-62-2**	**0.727**		**0.0515**
Zinc	7440-66-6	10.1	U	74.8

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090924-HM
Matrix: Air
Lab ID: 4091631-19
Sample Volume: 1981.678 m³
Filter ID:
Sampled: 09/09/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 10:09

Comments: Q9537616 - 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**	**0.0617**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.183**		**0.00769**
Barium	**7440-39-3**	**2.37**		**0.878**
Beryllium	**7440-41-7**	**0.00477**		**0.00263**
Cadmium	7440-43-9	0.0146	U	0.0608
Chromium	**7440-47-3**	**1.92**		**1.81**
Cobalt	**7440-48-4**	**0.192**		**0.0358**
Copper	**7440-50-8**	**33.5**		**2.16**
Lead	**7439-92-1**	**0.573**		**0.176**
Manganese	**7439-96-5**	**4.52**		**1.55**
Molybdenum	**7439-98-7**	**2.33**		**0.295**
Nickel	**7440-02-0**	**0.657**		**0.535**
Selenium	**7782-49-2**	**0.136**		**0.00736**
Thallium	7440-28-0	1.96E-4	U	4.84E-4
Vanadium	**7440-62-2**	**0.509**		**0.0434**
Zinc	7440-66-6	9.28	U	63.1

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090924-HM
Matrix: Air
Lab ID: 4091631-20
Sample Volume: 2059.077 m³
Filter ID:
Sampled: 09/09/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 10:24

Comments: Q9537614 - 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**	**0.172**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.165**		**0.00740**
Barium	**7440-39-3**	**5.36**		**0.845**
Beryllium	**7440-41-7**	**0.00817**		**0.00253**
Cadmium	7440-43-9	0.0107	U	0.0586
Chromium	**7440-47-3**	**2.57**		**1.75**
Cobalt	**7440-48-4**	**0.276**		**0.0345**
Copper	**7440-50-8**	**22.4**		**2.08**
Lead	**7439-92-1**	**0.580**		**0.169**
Manganese	**7439-96-5**	**8.80**		**1.49**
Molybdenum	**7439-98-7**	**1.46**		**0.284**
Nickel	**7440-02-0**	**1.11**		**0.515**
Selenium	**7782-49-2**	**0.163**		**0.00708**
Thallium	7440-28-0	3.36E-4	U	4.65E-4
Vanadium	**7440-62-2**	**0.913**		**0.0418**
Zinc	7440-66-6	15.5	U	60.7

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090924-HM
Matrix: Air
Lab ID: 4091631-21
Sample Volume: 1997.257 m³
Filter ID:
Sampled: 09/09/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 10:38

Comments: Q9537611 - 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**	**0.0315**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.140**		**0.00763**
Barium	**7440-39-3**	**2.68**		**0.872**
Beryllium	**7440-41-7**	**0.0284**		**0.00261**
Cadmium	7440-43-9	0.00826	U	0.0604
Chromium	**7440-47-3**	**2.95**		**1.80**
Cobalt	**7440-48-4**	**0.385**		**0.0355**
Copper	**7440-50-8**	**34.8**		**2.14**
Lead	**7439-92-1**	**0.294**		**0.174**
Manganese	**7439-96-5**	**8.99**		**1.54**
Molybdenum	**7439-98-7**	**2.04**		**0.292**
Nickel	**7440-02-0**	**1.18**		**0.531**
Selenium	**7782-49-2**	**0.147**		**0.00730**
Thallium	7440-28-0	3.10E-4	U	4.80E-4
Vanadium	**7440-62-2**	**0.949**		**0.0431**
Zinc	7440-66-6	7.67	U	62.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090924-HM
Matrix: Air
Lab ID: 4091631-22
Sample Volume: 1768.761 m³
Filter ID:
Sampled: 09/09/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 10:53

Comments: Q9537611 - 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**	**0.114**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.226**		**0.00862**
Barium	**7440-39-3**	**4.89**		**0.984**
Beryllium	**7440-41-7**	**0.00816**		**0.00294**
Cadmium	7440-43-9	0.0186	U	0.0682
Chromium	**7440-47-3**	**2.62**		**2.03**
Cobalt	**7440-48-4**	**0.268**		**0.0401**
Copper	**7440-50-8**	**31.9**		**2.42**
Lead	**7439-92-1**	**0.743**		**0.197**
Manganese	**7439-96-5**	**7.88**		**1.74**
Molybdenum	**7439-98-7**	**1.41**		**0.330**
Nickel	**7440-02-0**	**1.18**		**0.600**
Selenium	**7782-49-2**	**0.150**		**0.00824**
Thallium	7440-28-0	1.90E-4	U	5.42E-4
Vanadium	**7440-62-2**	**0.744**		**0.0487**
Zinc	7440-66-6	13.5	U	70.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-090924-HM
Matrix: Air
Lab ID: 4091631-23
Sample Volume: 1981.678 m³
Filter ID:
Sampled: 09/09/24 00:00
Received: 09/16/24 12:34
Analysis Date: 09/18/24 12:02

Comments: Q9537603 - 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	0.00722	SL, U	0.0317
Arsenic	7440-38-2	0.00388	U	0.00769
Barium	7440-39-3	0.597	U	0.878
Beryllium	7440-41-7	7.46E-4	U	0.00263
Cadmium	7440-43-9	0.00354	U	0.0608
Chromium	7440-47-3	1.52	U	1.81
Cobalt	**7440-48-4**	**0.0470**	FB-01	**0.0358**
Copper	7440-50-8	0.346	U	2.16
Lead	7439-92-1	0.0335	U	0.176
Manganese	7439-96-5	0.154	U	1.55
Molybdenum	7439-98-7	0.240	U	0.295
Nickel	7440-02-0	0.378	U	0.535
Selenium	7782-49-2	0.00383	U	0.00736
Thallium	7440-28-0	ND	U	4.84E-4
Vanadium	7440-62-2	0.00433	U	0.0434
Zinc	7440-66-6	2.42	U	63.1

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091024-HM
Matrix: Air
Lab ID: 4091631-24
Sample Volume: 1965.198 m³
Filter ID:
Sampled: 09/10/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 12:16

Comments: Q9537608 - 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**	**0.0570**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.155**		**0.00776**
Barium	**7440-39-3**	**2.75**		**0.886**
Beryllium	**7440-41-7**	**0.00734**		**0.00265**
Cadmium	7440-43-9	0.0447	U	0.0613
Chromium	**7440-47-3**	**2.39**		**1.83**
Cobalt	**7440-48-4**	**0.251**		**0.0361**
Copper	**7440-50-8**	**30.1**		**2.18**
Lead	**7439-92-1**	**0.364**		**0.177**
Manganese	**7439-96-5**	**7.30**		**1.56**
Molybdenum	**7439-98-7**	**2.04**		**0.297**
Nickel	**7440-02-0**	**1.08**		**0.540**
Selenium	**7782-49-2**	**0.138**		**0.00742**
Thallium	7440-28-0	2.85E-4	U	4.88E-4
Vanadium	**7440-62-2**	**1.04**		**0.0438**
Zinc	7440-66-6	9.48	U	63.6

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091024-HM
Matrix: Air
Lab ID: 4091631-25
Sample Volume: 2070.988 m³
Filter ID:
Sampled: 09/10/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 12:45

Comments: Q9537607 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.157**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.210**		**0.00736**
Barium	**7440-39-3**	**6.16**		**0.841**
Beryllium	**7440-41-7**	**0.0135**		**0.00251**
Cadmium	7440-43-9	0.0117	U	0.0582
Chromium	**7440-47-3**	**2.99**		**1.74**
Cobalt	**7440-48-4**	**0.478**		**0.0343**
Copper	**7440-50-8**	**28.8**		**2.07**
Lead	**7439-92-1**	**0.750**		**0.168**
Manganese	**7439-96-5**	**14.6**		**1.48**
Molybdenum	**7439-98-7**	**1.86**		**0.282**
Nickel	**7440-02-0**	**1.45**		**0.512**
Selenium	**7782-49-2**	**0.164**		**0.00704**
Thallium	**7440-28-0**	**5.35E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**1.79**		**0.0416**
Zinc	7440-66-6	15.4	U	60.3

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091024-HM
Matrix: Air
Lab ID: 4091631-26
Sample Volume: 1993.082 m³
Filter ID:
Sampled: 09/10/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 13:01

Comments: Q9537605 - 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**	**0.0366**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.135**		**0.00765**
Barium	**7440-39-3**	**2.62**		**0.873**
Beryllium	**7440-41-7**	**0.0161**		**0.00261**
Cadmium	7440-43-9	0.0111	U	0.0605
Chromium	**7440-47-3**	**3.30**		**1.80**
Cobalt	**7440-48-4**	**0.403**		**0.0356**
Copper	**7440-50-8**	**38.2**		**2.15**
Lead	**7439-92-1**	**0.299**		**0.175**
Manganese	**7439-96-5**	**9.43**		**1.54**
Molybdenum	**7439-98-7**	**2.38**		**0.293**
Nickel	**7440-02-0**	**1.71**		**0.532**
Selenium	**7782-49-2**	**0.119**		**0.00731**
Thallium	7440-28-0	2.60E-4	U	4.81E-4
Vanadium	**7440-62-2**	**1.17**		**0.0432**
Zinc	7440-66-6	7.41	U	62.7

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-091024-HM
Matrix: Air
Lab ID: 4091631-27
Sample Volume: 1730.549 m³
Filter ID:
Sampled: 09/10/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 13:15

Comments: Q9537604 - 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**	**0.118**	SL	**0.0363**
Arsenic	**7440-38-2**	**0.179**		**0.00881**
Barium	**7440-39-3**	**4.32**		**1.01**
Beryllium	**7440-41-7**	**0.00753**		**0.00301**
Cadmium	7440-43-9	0.0151	U	0.0697
Chromium	**7440-47-3**	**3.46**		**2.08**
Cobalt	**7440-48-4**	**0.254**		**0.0410**
Copper	**7440-50-8**	**17.7**		**2.47**
Lead	**7439-92-1**	**0.812**		**0.201**
Manganese	**7439-96-5**	**7.13**		**1.78**
Molybdenum	**7439-98-7**	**0.964**		**0.338**
Nickel	**7440-02-0**	**1.32**		**0.613**
Selenium	**7782-49-2**	**0.102**		**0.00842**
Thallium	7440-28-0	1.66E-4	U	5.54E-4
Vanadium	**7440-62-2**	**0.909**		**0.0497**
Zinc	7440-66-6	12.0	U	72.2

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091124-HM
Matrix: Air
Lab ID: 4091631-28
Sample Volume: 2012.339 m³
Filter ID:
Sampled: 09/11/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 13:29

Comments: Q9537602 - 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**	**0.0776**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.393**		**0.00758**
Barium	**7440-39-3**	**6.66**		**0.865**
Beryllium	**7440-41-7**	**0.0215**		**0.00259**
Cadmium	**7440-43-9**	**0.150**		**0.0599**
Chromium	**7440-47-3**	**5.67**		**1.79**
Cobalt	**7440-48-4**	**1.10**		**0.0353**
Copper	**7440-50-8**	**40.7**		**2.13**
Lead	**7439-92-1**	**0.508**		**0.173**
Manganese	**7439-96-5**	**25.5**		**1.53**
Molybdenum	**7439-98-7**	**2.56**		**0.290**
Nickel	**7440-02-0**	**3.16**		**0.527**
Selenium	**7782-49-2**	**0.183**		**0.00724**
Thallium	**7440-28-0**	**9.88E-4**		**4.76E-4**
Vanadium	**7440-62-2**	**3.54**		**0.0428**
Zinc	7440-66-6	12.0	U	62.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091124-HM
Matrix: Air
Lab ID: 4091631-29
Sample Volume: 2055.596 m³
Filter ID:
Sampled: 09/11/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 13:44

Comments: Q9537598 - 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**	**0.0890**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.300**		**0.00742**
Barium	**7440-39-3**	**5.11**		**0.847**
Beryllium	**7440-41-7**	**0.0140**		**0.00253**
Cadmium	7440-43-9	0.0181	U	0.0586
Chromium	**7440-47-3**	**4.01**		**1.75**
Cobalt	**7440-48-4**	**0.610**		**0.0345**
Copper	**7440-50-8**	**27.9**		**2.08**
Lead	**7439-92-1**	**0.626**		**0.169**
Manganese	**7439-96-5**	**15.6**		**1.50**
Molybdenum	**7439-98-7**	**1.69**		**0.284**
Nickel	**7440-02-0**	**1.89**		**0.516**
Selenium	**7782-49-2**	**0.163**		**0.00709**
Thallium	**7440-28-0**	**6.37E-4**		**4.66E-4**
Vanadium	**7440-62-2**	**2.20**		**0.0419**
Zinc	7440-66-6	10.8	U	60.8

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091124-HM
Matrix: Air
Lab ID: 4091631-30
Sample Volume: 1983.423 m³
Filter ID:
Sampled: 09/11/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 14:00

Comments: Q9537596 - 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**	**0.0384**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.160**		**0.00769**
Barium	**7440-39-3**	**2.56**		**0.878**
Beryllium	**7440-41-7**	**0.0146**		**0.00262**
Cadmium	7440-43-9	0.0120	U	0.0608
Chromium	**7440-47-3**	**2.79**		**1.81**
Cobalt	**7440-48-4**	**0.378**		**0.0358**
Copper	**7440-50-8**	**42.3**		**2.16**
Lead	**7439-92-1**	**0.319**		**0.176**
Manganese	**7439-96-5**	**9.78**		**1.55**
Molybdenum	**7439-98-7**	**2.24**		**0.294**
Nickel	**7440-02-0**	**1.35**		**0.535**
Selenium	**7782-49-2**	**0.120**		**0.00735**
Thallium	7440-28-0	3.13E-4	U	4.83E-4
Vanadium	**7440-62-2**	**1.06**		**0.0434**
Zinc	7440-66-6	9.11	U	63.0

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-091124-HM
Matrix: Air
Lab ID: 4091631-31
Sample Volume: 1600.438 m³
Filter ID:
Sampled: 09/11/24 23:59
Received: 09/16/24 12:34
Analysis Date: 09/18/24 15:10

Comments: Q9537594 - 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**	**0.154**	SL	**0.0392**
Arsenic	**7440-38-2**	**0.197**		**0.00953**
Barium	**7440-39-3**	**6.82**		**1.09**
Beryllium	**7440-41-7**	**0.00967**		**0.00325**
Cadmium	7440-43-9	0.0175	U	0.0753
Chromium	**7440-47-3**	**3.80**		**2.25**
Cobalt	**7440-48-4**	**0.400**		**0.0443**
Copper	**7440-50-8**	**27.6**		**2.67**
Lead	**7439-92-1**	**0.765**		**0.218**
Manganese	**7439-96-5**	**10.0**		**1.92**
Molybdenum	**7439-98-7**	**1.51**		**0.365**
Nickel	**7440-02-0**	**1.59**		**0.663**
Selenium	**7782-49-2**	**0.123**		**0.00911**
Thallium	7440-28-0	3.87E-4	U	5.99E-4
Vanadium	**7440-62-2**	**1.08**		**0.0538**
Zinc	7440-66-6	15.5	U	78.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091124-HM
Matrix: Air
Lab ID: 4091631-32
Sample Volume: 2012.339 m³
Filter ID:
Sampled: 09/11/24 00:00
Received: 09/16/24 12:34
Analysis Date: 09/18/24 15:41

Comments: Q9537590 - 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	0.00734	SL, U	0.0312
Arsenic	7440-38-2	0.00702	U	0.00758
Barium	7440-39-3	0.662	U	0.865
Beryllium	7440-41-7	8.38E-4	U	0.00259
Cadmium	7440-43-9	0.00403	U	0.0599
Chromium	7440-47-3	1.48	U	1.79
Cobalt	7440-48-4	0.0248	U	0.0353
Copper	7440-50-8	1.20	U	2.13
Lead	7439-92-1	0.0728	U	0.173
Manganese	7439-96-5	0.248	U	1.53
Molybdenum	7439-98-7	0.245	U	0.290
Nickel	7440-02-0	0.313	U	0.527
Selenium	7782-49-2	9.01E-4	U	0.00724
Thallium	7440-28-0	ND	U	4.76E-4
Vanadium	7440-62-2	0.0140	U	0.0428
Zinc	7440-66-6	3.05	U	62.1

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
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 2409078 - B4I1708										
Calibration Blank (2409078-CCB1)				Prepared & Analyzed: 09/17/24						
Antimony	0.222		ng/l							
Arsenic	-3.38		ng/l							U
Barium	2.48		ng/l							
Beryllium	0.118		ng/l							
Cadmium	0.168		ng/l							
Chromium	1.75		ng/l							
Cobalt	0.239		ng/l							
Copper	11.9		ng/l							
Lead	-0.331		ng/l							U
Manganese	5.32		ng/l							
Molybdenum	15.8		ng/l							
Nickel	3.71		ng/l							
Selenium	-9.68		ng/l							U
Thallium	0.476		ng/l							
Vanadium	-56.6		ng/l							U
Zinc	87.0		ng/l							
Calibration Blank (2409078-CCB2)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	-0.147		ng/l							U
Arsenic	2.19		ng/l							
Barium	4.55		ng/l							
Beryllium	0.107		ng/l							
Cadmium	0.346		ng/l							
Chromium	2.16		ng/l							
Cobalt	0.511		ng/l							
Copper	34.6		ng/l							
Lead	-7.12		ng/l							U
Manganese	7.82		ng/l							
Molybdenum	0.152		ng/l							
Nickel	5.11		ng/l							
Selenium	-4.26		ng/l							U
Thallium	0.204		ng/l							
Vanadium	-75.2		ng/l							U
Zinc	-15.8		ng/l							U
Calibration Blank (2409078-CCB3)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	-0.0588		ng/l							U
Arsenic	0.610		ng/l							
Barium	2.47		ng/l							
Beryllium	0.190		ng/l							

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
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 2409078 - B4I1708										
Calibration Blank (2409078-CCB3) Contin				Prepared: 09/17/24 Analyzed: 09/18/24						
Cadmium	0.158		ng/l							
Chromium	1.39		ng/l							
Cobalt	0.222		ng/l							
Copper	10.6		ng/l							
Lead	-10.7		ng/l							U
Manganese	2.89		ng/l							
Molybdenum	-1.59		ng/l							U
Nickel	4.19		ng/l							
Selenium	-2.77		ng/l							U
Thallium	-0.273		ng/l							U
Vanadium	-78.4		ng/l							U
Zinc	-40.0		ng/l							U
Calibration Blank (2409078-CCB4)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.478		ng/l							
Arsenic	5.61		ng/l							
Barium	1.80		ng/l							
Beryllium	0.0129		ng/l							
Cadmium	0.125		ng/l							
Chromium	2.43		ng/l							
Cobalt	0.367		ng/l							
Copper	73.9		ng/l							
Lead	-7.86		ng/l							U
Manganese	4.46		ng/l							
Molybdenum	14.2		ng/l							
Nickel	6.07		ng/l							
Selenium	-4.88		ng/l							U
Thallium	1.23		ng/l							
Vanadium	-82.3		ng/l							U
Zinc	-4.65		ng/l							U
Calibration Blank (2409078-CCB5)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.159		ng/l							
Arsenic	3.52		ng/l							
Barium	2.45		ng/l							
Beryllium	-0.660		ng/l							U
Cadmium	0.0622		ng/l							
Chromium	2.68		ng/l							
Cobalt	0.271		ng/l							
Copper	18.8		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
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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 2409078 - B4I1708										
Calibration Blank (2409078-CCB5) Contin				Prepared: 09/17/24 Analyzed: 09/18/24						
Lead	-12.0		ng/l							U
Manganese	3.64		ng/l							
Molybdenum	-2.53		ng/l							U
Nickel	5.57		ng/l							
Selenium	7.51		ng/l							
Thallium	-0.484		ng/l							U
Vanadium	-81.0		ng/l							U
Zinc	-27.3		ng/l							U
Calibration Blank (2409078-CCB6)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.238		ng/l							
Arsenic	6.80		ng/l							
Barium	2.34		ng/l							
Beryllium	-0.943		ng/l							U
Cadmium	0.0273		ng/l							
Chromium	2.44		ng/l							
Cobalt	0.303		ng/l							
Copper	12.2		ng/l							
Lead	-12.0		ng/l							U
Manganese	4.21		ng/l							
Molybdenum	-1.52		ng/l							U
Nickel	6.76		ng/l							
Selenium	7.37		ng/l							
Thallium	-0.364		ng/l							U
Vanadium	-82.7		ng/l							U
Zinc	-7.58		ng/l							U
Calibration Blank (2409078-CCB7)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.232		ng/l							
Arsenic	6.17		ng/l							
Barium	3.76		ng/l							
Beryllium	-0.632		ng/l							U
Cadmium	0.267		ng/l							
Chromium	2.98		ng/l							
Cobalt	0.324		ng/l							
Copper	23.0		ng/l							
Lead	-11.1		ng/l							U
Manganese	5.96		ng/l							
Molybdenum	0.895		ng/l							
Nickel	6.15		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Blank (2409078-CCB7) Contin				Prepared: 09/17/24 Analyzed: 09/18/24						
Selenium	-6.94		ng/l							U
Thallium	0.0469		ng/l							
Vanadium	-85.1		ng/l							U
Zinc	-1.08		ng/l							U
Calibration Check (2409078-CCV1)				Prepared & Analyzed: 09/17/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5190		ng/l	5000.0		104	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	499		ng/l	500.00		99.7	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2409078-CCV2)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	4810		ng/l	5000.0		96.2	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	505		ng/l	500.00		101	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	527000		ng/l	500000		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 2409078 - B4I1708										
Calibration Check (2409078-CCV3)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	216000		ng/l	200000		108	90-110			
Beryllium	4890		ng/l	5000.0		97.9	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	500		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2409078-CCV4)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5190		ng/l	5000.0		104	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2409078-CCV5)				Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5280		ng/l	5000.0		106	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Calibration Check (2409078-CCV5) Contin					Prepared: 09/17/24 Analyzed: 09/18/24					
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	498		ng/l	500.00		99.7	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2409078-CCV6)					Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	499		ng/l	500.00		99.9	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2409078-CCV7)					Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	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 2409078 - B4I1708										
Calibration Check (2409078-CCV7) Contin					Prepared: 09/17/24 Analyzed: 09/18/24					
Lead	207000		ng/l	200000		103	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	498		ng/l	500.00		99.6	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	531000		ng/l	500000		106	90-110			
High Cal Check (2409078-HCV1)					Prepared & Analyzed: 09/17/24					
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	40000		ng/l	40000		100	95-105			
Barium	402000		ng/l	400000		101	95-105			
Beryllium	9990		ng/l	10000		99.9	95-105			
Cadmium	40000		ng/l	40000		100	95-105			
Chromium	474000		ng/l	480000		98.8	95-105			
Cobalt	99200		ng/l	100000		99.2	95-105			
Copper	3.94E6		ng/l	4.0000E6		98.6	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	992000		ng/l	1.0000E6		99.2	95-105			
Molybdenum	99400		ng/l	100000		99.4	95-105			
Nickel	237000		ng/l	240000		98.8	95-105			
Selenium	40400		ng/l	40000		101	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39800		ng/l	40000		99.4	95-105			
Zinc	996000		ng/l	1.0000E6		99.6	95-105			
Initial Cal Blank (2409078-ICB1)					Prepared & Analyzed: 09/17/24					
Antimony	0.0763		ng/l							
Arsenic	-2.64		ng/l							U
Barium	2.64		ng/l							
Beryllium	0.0544		ng/l							
Cadmium	-0.0114		ng/l							U
Chromium	1.91		ng/l							
Cobalt	0.219		ng/l							
Copper	15.6		ng/l							
Lead	-3.20		ng/l							U
Manganese	4.50		ng/l							
Molybdenum	1.77		ng/l							
Nickel	-0.379		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Initial Cal Blank (2409078-ICB1) Continu				Prepared & Analyzed: 09/17/24						
Selenium	-7.22		ng/l							U
Thallium	0.151		ng/l							
Vanadium	-14.4		ng/l							U
Zinc	-22.8		ng/l							U
Initial Cal Check (2409078-ICV1)				Prepared & Analyzed: 09/17/24						
Antimony	19800		ng/l	20000		99.0	90-110			
Arsenic	19700		ng/l	20000		98.4	90-110			
Barium	197000		ng/l	200000		98.3	90-110			
Beryllium	4910		ng/l	5000.0		98.1	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		99.8	90-110			
Cobalt	48600		ng/l	50000		97.1	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	491		ng/l	500.00		98.3	90-110			
Vanadium	19600		ng/l	20000		97.8	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Interference Check A (2409078-IFA1)				Prepared & Analyzed: 09/17/24						
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	320000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409078 - B4I1708										
Interference Check B (2409078-IFB1)					Prepared & Analyzed: 09/17/24					
Antimony	20900		ng/l	20000		104	80-120			
Arsenic	20700		ng/l	20000		104	80-120			
Barium	205000		ng/l	200000		102	80-120			
Beryllium	4850		ng/l	5000.0		97.0	80-120			
Cadmium	20200		ng/l	20000		101	80-120			
Chromium	233000		ng/l	240000		97.0	80-120			
Cobalt	49800		ng/l	50000		99.6	80-120			
Copper	1.93E6		ng/l	2.0000E6		96.7	80-120			
Lead	210000		ng/l	200000		105	80-120			
Manganese	516000		ng/l	500000		103	80-120			
Molybdenum	375000		ng/l	350000		107	80-120			
Nickel	117000		ng/l	120000		97.6	80-120			
Selenium	19600		ng/l	20000		98.2	80-120			
Thallium	530		ng/l	500.00		106	80-120			
Vanadium	19800		ng/l	20000		98.8	80-120			
Zinc	481000		ng/l	500000		96.2	80-120			
Batch B4I1708 - ICP-MS Extraction										
Blank (B4I1708-BLK1)					Prepared & Analyzed: 09/17/24					
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 (B4I1708-BS1)					Prepared & Analyzed: 09/17/24					
Antimony	0.733	0.0386	ng/m³ Air	1.3829		53.0	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	28.9	1.07	ng/m³ Air	27.658		105	80-120			

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
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 B4I1708 - ICP-MS Extraction										
LCS (B4I1708-BS1) Continued					Prepared & Analyzed: 09/17/24					
Beryllium	1.42	0.00320	ng/m³ Air	1.3829		103	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.8	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		97.2	80-120			
Manganese	8.67	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	3.08	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		99.1	80-120			
Thallium	0.139	5.89E-4	ng/m³ Air	0.13829		100	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	90.8	76.8	ng/m³ Air	82.975		109	80-120			
LCS (B4I1708-BS2)					Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	0.701	0.0386	ng/m³ Air	1.3829		50.7	80-120			SL
Arsenic	2.79	0.00937	ng/m³ Air	2.7658		101	80-120			
Barium	30.3	1.07	ng/m³ Air	27.658		109	80-120			
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		95.0	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.7	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.7	80-120			
Manganese	8.63	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.58	0.359	ng/m³ Air	1.3829		115	80-120			
Nickel	3.01	0.652	ng/m³ Air	2.7658		109	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.141	5.89E-4	ng/m³ Air	0.13829		102	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.1	80-120			
Zinc	90.9	76.8	ng/m³ Air	82.975		110	80-120			
Duplicate (B4I1708-DUP1)		**Source: 4091631-16**			Prepared & Analyzed: 09/17/24					
Antimony	0.121	0.0304	ng/m³ Air		0.129			6.03	10	SL
Arsenic	0.240	0.00737	ng/m³ Air		0.227			5.60	10	
Barium	4.11	0.842	ng/m³ Air		4.21			2.55	10	
Beryllium	0.00952	0.00252	ng/m³ Air		0.00909			4.68	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	2.64	1.74	ng/m³ Air		2.44			7.75	10	
Cobalt	0.315	0.0343	ng/m³ Air		0.315			0.187	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Duplicate (B4I1708-DUP1) Continued			**Source: 4091631-16**		Prepared & Analyzed: 09/17/24					
Copper	18.2	2.07	ng/m³ Air		18.7			2.48	10	
Lead	0.618	0.168	ng/m³ Air		0.648			4.70	10	
Manganese	9.27	1.49	ng/m³ Air		9.11			1.76	10	
Molybdenum	1.08	0.283	ng/m³ Air		1.06			1.34	10	
Nickel	1.07	0.513	ng/m³ Air		1.12			3.89	10	
Selenium	0.151	0.00705	ng/m³ Air		0.157			3.32	10	
Thallium	ND	4.64E-4	ng/m³ Air		ND				10	U
Vanadium	1.06	0.0416	ng/m³ Air		1.03			2.72	10	
Zinc	ND	60.4	ng/m³ Air		ND				10	U
Duplicate (B4I1708-DUP2)			**Source: 4091631-08**		Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	0.0475	0.0323	ng/m³ Air		0.0465			2.25	10	SL
Arsenic	0.144	0.00785	ng/m³ Air		0.133			7.80	10	
Barium	2.61	0.896	ng/m³ Air		2.54			2.53	10	
Beryllium	0.0184	0.00268	ng/m³ Air		0.0180			2.29	10	
Cadmium	ND	0.0621	ng/m³ Air		ND				10	U
Chromium	2.81	1.85	ng/m³ Air		2.63			6.63	10	
Cobalt	0.359	0.0365	ng/m³ Air		0.362			0.692	10	
Copper	36.8	2.20	ng/m³ Air		32.8			11.3	10	
Lead	0.236	0.179	ng/m³ Air		0.260			9.57	10	
Manganese	8.51	1.58	ng/m³ Air		7.87			7.90	10	
Molybdenum	1.73	0.301	ng/m³ Air		1.77			2.08	10	
Nickel	1.89	0.546	ng/m³ Air		1.64			13.7	10	
Selenium	0.181	0.00750	ng/m³ Air		0.165			9.51	10	
Thallium	5.42E-4	4.93E-4	ng/m³ Air		5.44E-4			0.303	10	
Vanadium	0.970	0.0443	ng/m³ Air		0.894			8.24	10	
Zinc	ND	64.3	ng/m³ Air		ND				10	U
Duplicate (B4I1708-DUP3)			**Source: 4091631-24**		Prepared: 09/17/24 Analyzed: 09/18/24					
Antimony	0.0576	0.0320	ng/m³ Air		0.0570			1.01	10	SL
Arsenic	0.158	0.00776	ng/m³ Air		0.155			1.86	10	
Barium	2.79	0.886	ng/m³ Air		2.75			1.47	10	
Beryllium	0.00732	0.00265	ng/m³ Air		0.00734			0.383	10	
Cadmium	ND	0.0613	ng/m³ Air		ND				10	U
Chromium	2.43	1.83	ng/m³ Air		2.39			1.65	10	
Cobalt	0.253	0.0361	ng/m³ Air		0.251			0.893	10	
Copper	30.5	2.18	ng/m³ Air		30.1			1.19	10	
Lead	0.367	0.177	ng/m³ Air		0.364			0.913	10	
Manganese	7.38	1.56	ng/m³ Air		7.30			1.12	10	
Molybdenum	2.05	0.297	ng/m³ Air		2.04			0.482	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Duplicate (B4I1708-DUP3) Continued		**Source: 4091631-24**		Prepared: 09/17/24 Analyzed: 09/18/24						
Nickel	1.09	0.540	ng/m³ Air		1.08			1.30	10	
Selenium	0.132	0.00742	ng/m³ Air		0.138			4.54	10	
Thallium	ND	4.88E-4	ng/m³ Air		ND				10	U
Vanadium	1.05	0.0438	ng/m³ Air		1.04			0.571	10	
Zinc	ND	63.6	ng/m³ Air		ND				10	U
Duplicate (B4I1708-DUP4)		**Source: 4091631-31**		Prepared: 09/17/24 Analyzed: 09/18/24						
Antimony	0.152	0.0392	ng/m³ Air		0.154			1.62	10	SL
Arsenic	0.195	0.00953	ng/m³ Air		0.197			0.846	10	
Barium	6.82	1.09	ng/m³ Air		6.82			0.0541	10	
Beryllium	0.00939	0.00325	ng/m³ Air		0.00967			2.93	10	
Cadmium	ND	0.0753	ng/m³ Air		ND				10	U
Chromium	3.71	2.25	ng/m³ Air		3.80			2.35	10	
Cobalt	0.394	0.0443	ng/m³ Air		0.400			1.47	10	
Copper	27.2	2.67	ng/m³ Air		27.6			1.55	10	
Lead	0.760	0.218	ng/m³ Air		0.765			0.735	10	
Manganese	9.90	1.92	ng/m³ Air		10.0			1.54	10	
Molybdenum	1.50	0.365	ng/m³ Air		1.51			0.628	10	
Nickel	1.57	0.663	ng/m³ Air		1.59			1.18	10	
Selenium	0.118	0.00911	ng/m³ Air		0.123			3.77	10	
Thallium	ND	5.99E-4	ng/m³ Air		ND				10	U
Vanadium	1.06	0.0538	ng/m³ Air		1.08			1.64	10	
Zinc	ND	78.1	ng/m³ Air		ND				10	U
Matrix Spike (B4I1708-MS1)		**Source: 4091631-16**		Prepared & Analyzed: 09/17/24						
Antimony	0.660	0.0304	ng/m³ Air	1.0883	0.129	48.8	80-120			SL
Arsenic	2.38	0.00737	ng/m³ Air	2.1765	0.227	98.9	80-120			
Barium	26.5	0.842	ng/m³ Air	21.765	4.21	103	80-120			
Beryllium	1.05	0.00252	ng/m³ Air	1.0883	0.00909	95.8	80-120			
Cadmium	1.10	0.0583	ng/m³ Air	1.0883	ND	101	80-120			
Chromium	13.4	1.74	ng/m³ Air	10.883	2.44	101	80-120			
Cobalt	1.34	0.0343	ng/m³ Air	1.0883	0.315	94.4	80-120			
Copper	40.4	2.07	ng/m³ Air	21.765	18.7	99.7	80-120			
Lead	11.3	0.168	ng/m³ Air	10.883	0.648	97.4	80-120			
Manganese	15.8	1.49	ng/m³ Air	6.5296	9.11	102	80-120			
Molybdenum	2.20	0.283	ng/m³ Air	1.0883	1.06	105	80-120			
Nickel	3.21	0.513	ng/m³ Air	2.1765	1.12	96.3	80-120			
Selenium	2.27	0.00705	ng/m³ Air	2.1765	0.157	97.3	80-120			
Thallium	0.110	4.64E-4	ng/m³ Air	0.10883	ND	101	80-120			
Vanadium	3.16	0.0416	ng/m³ Air	2.1765	1.03	98.0	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Matrix Spike (B4I1708-MS1) Continued Source: 4091631-16 Prepared & Analyzed: 09/17/24										
Zinc	82.2	60.4	ng/m³ Air	65.296	ND	126	80-120			
Matrix Spike (B4I1708-MS2) Source: 4091631-08 Prepared: 09/17/24 Analyzed: 09/18/24										
Antimony	0.614	0.0323	ng/m³ Air	1.1583	0.0465	49.0	80-120			SL
Arsenic	2.44	0.00785	ng/m³ Air	2.3167	0.133	99.5	80-120			
Barium	27.5	0.896	ng/m³ Air	23.167	2.54	108	80-120			
Beryllium	1.16	0.00268	ng/m³ Air	1.1583	0.0180	98.6	80-120			
Cadmium	1.19	0.0621	ng/m³ Air	1.1583	ND	103	80-120			
Chromium	14.3	1.85	ng/m³ Air	11.583	2.63	101	80-120			
Cobalt	1.43	0.0365	ng/m³ Air	1.1583	0.362	92.0	80-120			
Copper	55.8	2.20	ng/m³ Air	23.167	32.8	99.0	80-120			
Lead	11.6	0.179	ng/m³ Air	11.583	0.260	98.1	80-120			
Manganese	15.1	1.58	ng/m³ Air	6.9500	7.87	105	80-120			
Molybdenum	2.78	0.301	ng/m³ Air	1.1583	1.77	87.5	80-120			
Nickel	3.65	0.546	ng/m³ Air	2.3167	1.64	86.8	80-120			
Selenium	2.51	0.00750	ng/m³ Air	2.3167	0.165	101	80-120			
Thallium	0.117	4.93E-4	ng/m³ Air	0.11583	5.44E-4	100	80-120			
Vanadium	3.21	0.0443	ng/m³ Air	2.3167	0.894	99.8	80-120			
Zinc	82.1	64.3	ng/m³ Air	69.500	ND	118	80-120			
Matrix Spike Dup (B4I1708-MSD1) Source: 4091631-16 Prepared & Analyzed: 09/17/24										
Antimony	0.663	0.0304	ng/m³ Air	1.0883	0.129	49.1	80-120	0.568	20	SL
Arsenic	2.45	0.00737	ng/m³ Air	2.1765	0.227	102	80-120	2.76	20	
Barium	27.1	0.842	ng/m³ Air	21.765	4.21	105	80-120	2.33	20	
Beryllium	1.08	0.00252	ng/m³ Air	1.0883	0.00909	98.5	80-120	2.77	20	
Cadmium	1.11	0.0583	ng/m³ Air	1.0883	ND	102	80-120	0.220	20	
Chromium	13.3	1.74	ng/m³ Air	10.883	2.44	99.4	80-120	1.01	20	
Cobalt	1.35	0.0343	ng/m³ Air	1.0883	0.315	95.2	80-120	0.695	20	
Copper	40.5	2.07	ng/m³ Air	21.765	18.7	100	80-120	0.388	20	
Lead	11.4	0.168	ng/m³ Air	10.883	0.648	98.8	80-120	1.35	20	
Manganese	15.7	1.49	ng/m³ Air	6.5296	9.11	101	80-120	0.666	20	
Molybdenum	2.18	0.283	ng/m³ Air	1.0883	1.06	103	80-120	1.04	20	
Nickel	3.18	0.513	ng/m³ Air	2.1765	1.12	94.6	80-120	1.18	20	
Selenium	2.29	0.00705	ng/m³ Air	2.1765	0.157	98.2	80-120	0.851	20	
Thallium	0.111	4.64E-4	ng/m³ Air	0.10883	ND	102	80-120	0.870	20	
Vanadium	3.12	0.0416	ng/m³ Air	2.1765	1.03	96.0	80-120	1.37	20	
Zinc	82.0	60.4	ng/m³ Air	65.296	ND	126	80-120	0.276	20	
Matrix Spike Dup (B4I1708-MSD2) Source: 4091631-08 Prepared: 09/17/24 Analyzed: 09/18/24										
Antimony	0.643	0.0323	ng/m³ Air	1.1583	0.0465	51.5	80-120	4.59	20	SL
Arsenic	2.40	0.00785	ng/m³ Air	2.3167	0.133	98.0	80-120	1.45	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 B4I1708 - ICP-MS Extraction										
Matrix Spike Dup (B4I1708-MSD2) Contir		**Source: 4091631-08**			Prepared: 09/17/24		Analyzed: 09/18/24			
Barium	26.9	0.896	ng/m³ Air	23.167	2.54	105	80-120	2.12	20	
Beryllium	1.11	0.00268	ng/m³ Air	1.1583	0.0180	94.7	80-120	3.99	20	
Cadmium	1.17	0.0621	ng/m³ Air	1.1583	ND	101	80-120	2.11	20	
Chromium	14.0	1.85	ng/m³ Air	11.583	2.63	97.9	80-120	2.38	20	
Cobalt	1.37	0.0365	ng/m³ Air	1.1583	0.362	87.5	80-120	3.72	20	
Copper	47.8	2.20	ng/m³ Air	23.167	32.8	64.5	80-120	15.4	20	QM-07
Lead	11.4	0.179	ng/m³ Air	11.583	0.260	96.1	80-120	1.97	20	
Manganese	14.0	1.58	ng/m³ Air	6.9500	7.87	88.6	80-120	7.58	20	
Molybdenum	2.47	0.301	ng/m³ Air	1.1583	1.77	60.4	80-120	12.0	20	QM-07
Nickel	3.27	0.546	ng/m³ Air	2.3167	1.64	70.2	80-120	11.1	20	QM-07
Selenium	2.40	0.00750	ng/m³ Air	2.3167	0.165	96.3	80-120	4.43	20	
Thallium	0.115	4.93E-4	ng/m³ Air	0.11583	5.44E-4	99.1	80-120	1.28	20	
Vanadium	3.13	0.0443	ng/m³ Air	2.3167	0.894	96.5	80-120	2.44	20	
Zinc	78.9	64.3	ng/m³ Air	69.500	ND	114	80-120	3.97	20	
Post Spike (B4I1708-PS1)		**Source: 4091631-16**			Prepared: 09/17/24		Analyzed: 09/18/24			
Antimony	0.342	0.0304	ng/m³ Air	0.21765	0.129	97.8	75-125			SL
Arsenic	1.26	0.00737	ng/m³ Air	1.0883	0.227	94.7	75-125			
Barium	6.52	0.842	ng/m³ Air	2.1765	4.21	106	75-125			
Beryllium	0.217	0.00252	ng/m³ Air	0.21765	0.00909	95.5	75-125			
Cadmium	0.119	0.0583	ng/m³ Air	0.10883	ND	109	75-125			
Chromium	3.48	1.74	ng/m³ Air	1.0883	2.44	95.1	75-125			
Cobalt	0.518	0.0343	ng/m³ Air	0.21765	0.315	93.6	75-125			
Copper	29.9	2.07	ng/m³ Air	10.883	18.7	103	75-125			
Lead	22.4	0.168	ng/m³ Air	21.765	0.648	99.9	75-125			
Manganese	11.3	1.49	ng/m³ Air	2.1765	9.11	101	75-125			
Molybdenum	2.15	0.283	ng/m³ Air	1.0883	1.06	100	75-125			
Nickel	3.26	0.513	ng/m³ Air	2.1765	1.12	98.3	75-125			
Selenium	1.20	0.00705	ng/m³ Air	1.0883	0.157	96.1	75-125			
Thallium	0.0545	4.64E-4	ng/m³ Air	5.4413E-2	ND	100	75-125			
Vanadium	2.06	0.0416	ng/m³ Air	1.0883	1.03	94.6	75-125			
Zinc	ND	60.4	ng/m³ Air	21.765	ND		75-125			U
Post Spike (B4I1708-PS2)		**Source: 4091631-08**			Prepared: 09/17/24		Analyzed: 09/18/24			
Antimony	0.278	0.0323	ng/m³ Air	0.23167	0.0465	100	75-125			SL
Arsenic	1.25	0.00785	ng/m³ Air	1.1583	0.133	96.0	75-125			
Barium	4.98	0.896	ng/m³ Air	2.3167	2.54	105	75-125			
Beryllium	0.243	0.00268	ng/m³ Air	0.23167	0.0180	97.1	75-125			
Cadmium	0.135	0.0621	ng/m³ Air	0.11583	ND	117	75-125			
Chromium	3.80	1.85	ng/m³ Air	1.1583	2.63	101	75-125			

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SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1708 - ICP-MS Extraction										
Post Spike (B4I1708-PS2) Continued			**Source: 4091631-08**		Prepared: 09/17/24		Analyzed: 09/18/24			
Cobalt	0.589	0.0365	ng/m³ Air	0.23167	0.362	98.4	75-125			
Copper	45.7	2.20	ng/m³ Air	11.583	32.8	111	75-125			
Lead	23.9	0.179	ng/m³ Air	23.167	0.260	102	75-125			
Manganese	10.4	1.58	ng/m³ Air	2.3167	7.87	108	75-125			
Molybdenum	2.95	0.301	ng/m³ Air	1.1583	1.77	102	75-125			
Nickel	3.97	0.546	ng/m³ Air	2.3167	1.64	101	75-125			
Selenium	1.30	0.00750	ng/m³ Air	1.1583	0.165	98.2	75-125			
Thallium	0.0595	4.93E-4	ng/m³ Air	5.7917E-2	5.44E-4	102	75-125			
Vanadium	2.04	0.0443	ng/m³ Air	1.1583	0.894	99.1	75-125			
Zinc	ND	64.3	ng/m³ Air	23.167	ND		75-125			U
Dilution Check (B4I1708-SRL1)			**Source: 4091631-16**		Prepared & Analyzed: 09/17/24					
Antimony	ND	0.152	ng/m³ Air		ND				10	SL, U
Arsenic	0.243	0.0369	ng/m³ Air		0.227			6.87	10	
Barium	4.55	4.21	ng/m³ Air		4.21			7.63	10	
Beryllium	ND	0.0126	ng/m³ Air		ND				10	U
Cadmium	ND	0.292	ng/m³ Air		ND				10	U
Chromium	ND	8.70	ng/m³ Air		ND				10	U
Cobalt	0.347	0.172	ng/m³ Air		0.315			9.66	10	
Copper	22.8	10.3	ng/m³ Air		18.7			19.9	10	
Lead	ND	0.842	ng/m³ Air		ND				10	U
Manganese	9.62	7.44	ng/m³ Air		9.11			5.46	10	
Molybdenum	ND	1.41	ng/m³ Air		ND				10	U
Nickel	ND	2.57	ng/m³ Air		ND				10	U
Selenium	0.163	0.0353	ng/m³ Air		0.157			3.95	10	
Thallium	ND	0.00232	ng/m³ Air		ND				10	U
Vanadium	1.02	0.208	ng/m³ Air		1.03			0.608	10	
Zinc	ND	302	ng/m³ Air		ND				10	U
Dilution Check (B4I1708-SRL2)			**Source: 4091631-08**		Prepared: 09/17/24		Analyzed: 09/18/24			
Antimony	ND	0.162	ng/m³ Air		ND				10	SL, U
Arsenic	0.134	0.0392	ng/m³ Air		0.133			0.388	10	
Barium	ND	4.48	ng/m³ Air		ND				10	U
Beryllium	0.0175	0.0134	ng/m³ Air		0.0180			2.98	10	
Cadmium	ND	0.310	ng/m³ Air		ND				10	U
Chromium	ND	9.26	ng/m³ Air		ND				10	U
Cobalt	0.366	0.183	ng/m³ Air		0.362			1.12	10	
Copper	33.2	11.0	ng/m³ Air		32.8			1.17	10	
Lead	ND	0.896	ng/m³ Air		ND				10	U
Manganese	ND	7.92	ng/m³ Air		ND				10	U

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/24/24 13:55
SUBMITTED: 09/16/24
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 B4I1708 - ICP-MS Extraction										
Dilution Check (B4I1708-SRL2) Continued			**Source: 4091631-08**		Prepared: 09/17/24 Analyzed: 09/18/24					
Molybdenum	1.76	1.50	ng/m³ Air		1.77			0.626	10	
Nickel	ND	2.73	ng/m³ Air		ND				10	U
Selenium	0.156	0.0375	ng/m³ Air		0.165			5.28	10	
Thallium	ND	0.00247	ng/m³ Air		ND				10	U
Vanadium	0.871	0.222	ng/m³ Air		0.894			2.57	10	
Zinc	ND	322	ng/m³ Air		ND				10	U

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Notes and Definitions

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

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

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/27/2024 and Shanna Vasser 09/27/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 09/05/2024 – 09/11/2024
Report No: 4091631

√	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 cobalt in MFL-FB01-090924-HM.

Notes: None.