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

September 12 through September 18, 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. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from September 12 through September 18, 2024, at the community locations listed below and shown on **Figure 1.** The monitoring and sampling station located at Lahaina Skate Park (AM-06) was in close proximity to an active highway, resulting in repeated exceedances not directly related to the activities performed by the U.S. Army Corps of Engineers (USACE) and private contractors. Following conversations between Tetra Tech and the Hawaii Department of Health (HDOH), that station was relocated, farther from the highway, to the Lahaina Recreational Center (AM-07) on September 13.

Community Location	Location ID	Dates
WW Pump Station #4	AM-02	9/12/2024 - 9/18/2024
Lahaina Intermediate School	AM-03	9/12/2024 - 9/18/2024
Opukea Townhomes	AM-05	9/12/2024 - 9/18/2024
Lahaina Skate Park	AM-06	9/12/2024 - 9/13/2024
Lahaina Recreational Center	AM-07	9/13/2024 - 9/18/2024

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 12 through September 18 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 five monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exception of the relocation of the Lahaina Skate Park sampling location and during instances of equipment faults, as described below:

- The air monitoring and sampling station located at Lahaina Skate Park (Location ID AM-06) was relocated to Lahaina Recreational Center (AM-07) at the guidance of the HDOH on September 13 to increase the distance and decrease disturbance from a nearby active highway. As a result of the time needed for station teardown and set up, only 9 hours of monitoring was conducted at Lahaina Skate Park (AM-06) and 10 hours of monitoring was conducted at Lahaina Recreational Center (AM-07) on September 13.
- Because of equipment faults, air monitoring periods were interrupted as described below:
    - On September 12, air monitoring was conducted at WW Pump Station #4 (AM-02) for only 23 hours
    - On September 12, air monitoring was conducted at Lahaina Intermediate School (AM-03) for only 23 hours
    - On September 12, air monitoring was conducted at Opukea Townhomes (AM-05) for only 22 hours
    - On September 12, air monitoring was conducted at Lahaina Skate Park (AM-06) for only 23 hours
    - On September 13, air monitoring was conducted at WW Pump Station #4 (AM-02) for only 23 hours
    - On September 13, air monitoring was conducted at Opukea Townhomes (AM-05) for only 22 hours
    - On September 15, air monitoring was conducted at Lahaina Recreational Center (AM-07) for only 22 hours

The equipment fault codes were the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. These disruptions resulted in shortened monitoring durations which may have influenced the 24-hour time weighted average (TWA) calculations.

The PM_{10} monitoring results were found to have exceeded the 150 $\mu g/m^3$ TWA screening level on two days, both at the Lahaina Skate Park monitoring location (i.e., on September 12 and September 13, as shown in **Table 1)**.

The air monitoring and sampling station at Lahaina Skate Park (AM-06) exceedances may have been attributable to active traffic from the nearby highway. Consistent elevated readings occurred throughout the day in the early morning and late-night hours. The exceedances on September 12 and 13 are described below:

- On September 12, no USACE debris crew or private contractor activities were observed near that monitoring station. A county crew was observed working at the pool at the aquatic center near the monitoring station. No visible dust was observed at the site. Elevated particulate readings occurred during the 04:00 through 07:00 and the 20:00 through 21:00 time blocks. Field observations are not available because the timeframe of these readings was outside of normal working hours. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. Wind gust speeds were below 3 mph at the times of these readings. Active traffic from the nearby highway may have attributed to the exceedance on this day.
- On September 13, no USACE debris crew or private contractor activities were observed near this monitoring station. No visible dust was observed at the site. Elevated particulate readings occurred during the 04:00 through 07:00 time blocks. Readings were not related to USACE operations because debris removal operations were not being conducted at those times. Following conversations between Tetra Tech and the Hawaii Department of Health (HDOH), the

station was moved farther from the main road on September 13 and relocated to the Lahaina Recreational Center (AM-07) at 09:00. Active traffic observed from the nearby highway may have attributed to the exceedance. Following the relocation of the air sampling station, no exceedances were recorded during this period.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a 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.

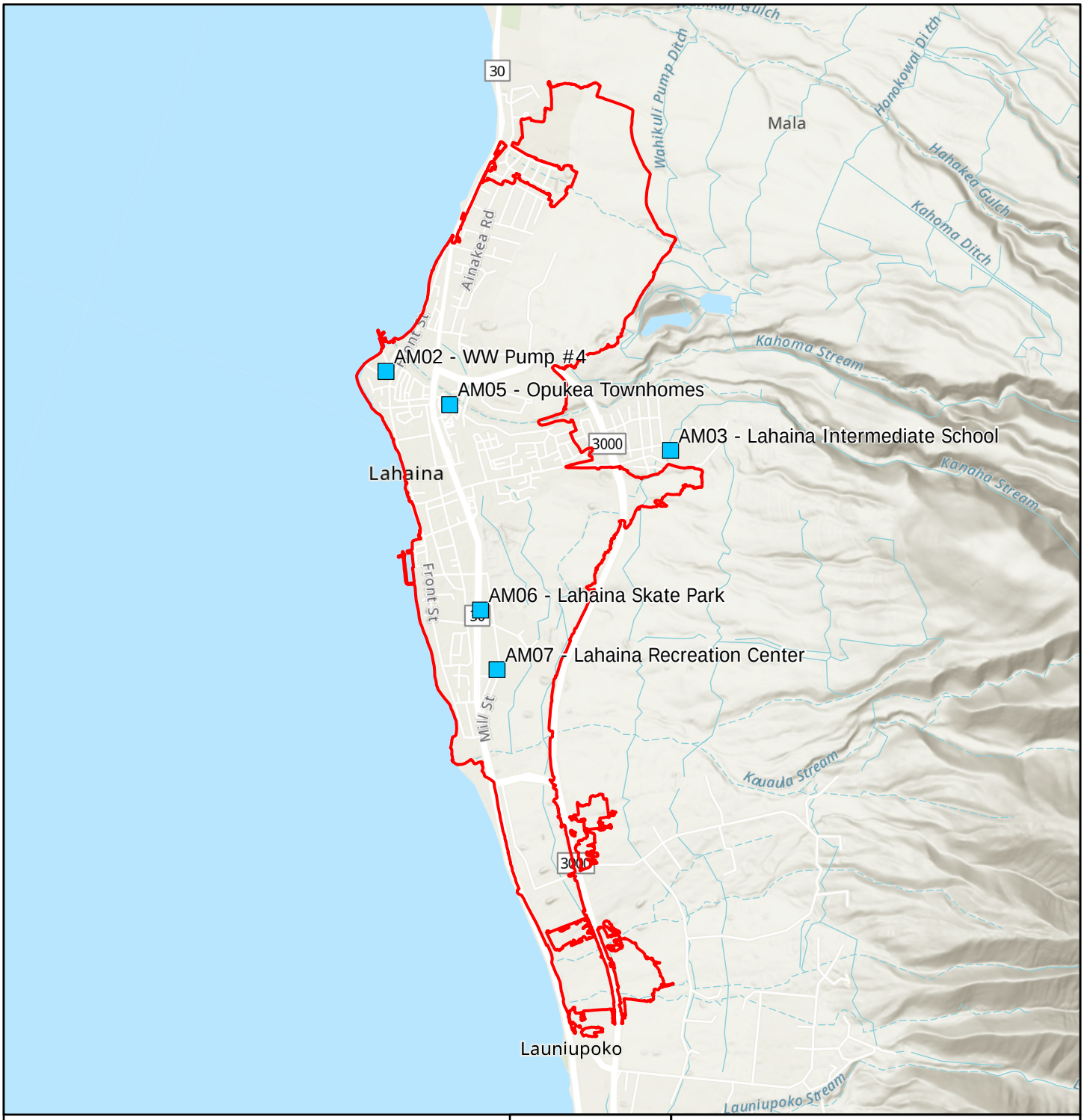
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- 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 12 through September 18, 2024
[Report Updated: November 22, 2024]

Screening Level		TWA Results 150 ($\mu g/m^3$)
9/12/2024	Opukea Townhomes (AM-05)	12*
	WW Pump Station #4 (AM-02)	9.9*
	Lahaina Intermediate School (AM-03)	42*
	Lahaina Skate Park (AM-06)	**153***
9/13/2024	Opukea Townhomes (AM-05)	12*
	WW Pump Station #4 (AM-02)	11*
	Lahaina Intermediate School (AM-03)	29
	Lahaina Skate Park (AM-06)	**193****
	Lahaina Recreation Center (AM-07)	10**
9/14/2024	Opukea Townhomes (AM-05)	9.2
	WW Pump Station #4 (AM-02)	8.2
	Lahaina Intermediate School (AM-03)	27
	Lahaina Recreation Center (AM-07)	5.9
9/15/2024	Opukea Townhomes (AM-05)	6.9
	WW Pump Station #4 (AM-02)	8.3
	Lahaina Intermediate School (AM-03)	31
	Lahaina Recreation Center (AM-07)	4.9*
9/16/2024	Opukea Townhomes (AM-05)	7.3
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	66
	Lahaina Recreation Center (AM-07)	92
9/17/2024	Opukea Townhomes (AM-05)	7.0
	WW Pump Station #4 (AM-02)	7.8
	Lahaina Intermediate School (AM-03)	88
	Lahaina Recreation Center (AM-07)	7.4
9/18/2024	Opukea Townhomes (AM-05)	8.2
	WW Pump Station #4 (AM-02)	9.3
	Lahaina Intermediate School (AM-03)	37
	Lahaina Recreation Center (AM-07)	97

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
* Data provided were from a reduced TWA calculation because of an equipment disruption
** Data provided was from a reduced TWA calculation because equipment relocation
Results from Lahaina Intermediate School on 9/14 have been revised from previously submitted report.
Results from Lahaina Recreation Center on 9/14 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
September 12 through September 18, 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/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
9/12/2024	Opukea Townhomes (AM-05)	<0.0024	0.000127	0.000647	0.00407	0.00000983	ND	0.00289	0.000352	0.0435	0.00150	0.0103	0.00227	0.00129	0.000240	0.00000113	0.00131	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000119	0.000221	0.00428	0.00000895	ND	0.00253	0.000322	0.0256	0.000595	0.00973	0.00155	0.00111	0.000266	0.000000938	0.00120	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000423	0.000141	0.00246	0.0000150	ND	0.00306	0.000386	0.0423	0.000295	0.0105	0.00236	0.00153	0.000204	0.000000890	0.00102	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000193	0.000275	0.00613	0.00000988	ND	0.00328	0.000378	0.0386	0.00105	0.0112	0.00196	0.00205	0.000233	0.00000127	0.00109	ND
9/13/2024	Opukea Townhomes (AM-05)	<0.0024	0.000111	0.000276	0.00374	0.00000795	ND	0.00204	0.000268	0.0394	0.000756	0.00913	0.00210	0.00120	0.000252	0.000000976	0.00123	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000128	0.000267	0.00447	0.0000103	ND	0.00204	0.000333	0.0287	0.000698	0.0110	0.00138	0.00123	0.000296	0.000000898	0.00147	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000750	0.000248	0.00372	0.0000210	ND	0.00348	0.000514	0.0379	0.000427	0.0142	0.00254	0.00346	0.000277	0.00000102	0.00149	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000216	0.000215	0.00585	0.00000841	ND	0.00304	0.000368	0.0476	0.000669	0.0123	0.00235	0.00233	0.000273	0.00000116	0.00117	ND
9/14/2024	Opukea Townhomes (AM-05)	<0.0024	0.000100	0.000227	0.00316	0.00000607	ND	ND	0.000238	0.0336	0.000505	0.00772	0.00204	0.000921	0.000271	0.00000133	0.000888	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000151	0.000369	0.00449	0.00000945	ND	0.00209	0.000314	0.0364	0.000906	0.0106	0.00165	0.00110	0.000336	0.00000163	0.00118	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000104	0.000190	0.00405	0.0000167	ND	0.0126	0.000606	0.0541	0.000491	0.0128	0.00378	0.00864	0.000285	0.00000180	0.00113	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000104	0.000199	0.00292	0.00000628	ND	ND	0.000233	0.0471	0.000424	0.00807	0.00258	0.00100	0.000265	0.00000138	0.000831	ND
9/15/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000665	0.000118	0.00215	0.00000423	ND	ND	0.000153	0.0294	0.000229	0.00441	0.00198	0.000712	0.000102	ND	0.000523	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000121	0.000199	0.00389	0.00000754	ND	ND	0.000264	0.0337	0.000429	0.00815	0.00182	0.000978	0.000157	0.000000607	0.000899	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000447	0.000128	0.00275	0.0000217	ND	0.00247	0.000364	0.0354	0.000243	0.00848	0.00258	0.00135	0.000132	0.000000596	0.000996	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.0000693	0.000104	0.00169	ND	ND	ND	0.0000984	0.0167	ND	0.00293	0.00110	0.000744	0.0000707	ND	0.000329	ND
9/16/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000908	0.000240	0.00392	0.00000814	ND	0.00235	0.000361	0.0512	0.000504	0.00962	0.00261	0.00140	0.000189	0.000000722	0.00122	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000110	0.000284	0.00493	0.0000118	ND	0.00287	0.000511	0.0356	0.000671	0.0142	0.00171	0.00162	0.000203	0.000000913	0.00173	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000514	0.000203	0.00289	0.0000175	ND	0.00262	0.000405	0.0538	0.000366	0.0115	0.00414	0.00216	0.000185	0.00000108	0.000996	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000102	0.000170	0.00253	0.00000540	ND	0.00402	0.000295	0.0373	0.000344	0.00871	0.00222	0.00238	0.000185	0.000000919	0.000709	ND
9/17/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000658	0.000193	0.00285	0.00000500	ND	ND	0.000239	0.0476	0.000376	0.00759	0.00231	0.000955	0.000209	0.000000676	0.000855	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000999	0.000282	0.00363	0.00000998	ND	ND	0.000317	0.0465	0.000948	0.0103	0.00157	0.00105	0.000248	0.000000844	0.00113	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000668	0.000272	0.00345	0.0000150	ND	0.00412	0.000635	0.0770	0.000435	0.0174	0.00390	0.00635	0.000240	0.00000129	0.00125	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000119	0.000778	0.00545	0.0000339	ND	0.00787	0.00106	0.0244	0.000619	0.0341	0.00138	0.00448	0.000284	0.00000183	0.00285	ND
9/18/2024	Opukea Townhomes (AM-05)	<0.0024	0.000161	0.000608	0.00868	0.0000174	ND	0.00367	0.000728	0.0393	0.00326	0.0214	0.00217	0.00222	0.000253	0.00000133	0.00249	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000907	0.000319	0.00446	0.00000999	ND	0.00214	0.000374	0.0472	0.00122	0.0120	0.00191	0.00127	0.000232	0.000000931	0.00156	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000638	0.000197	0.00345	0.0000229	ND	0.00303	0.000536	0.0565	0.000294	0.0136	0.00300	0.00260	0.000200	0.000000987	0.00135	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000111	0.000238	0.00299	0.00000735	ND	0.00240	0.000307	0.0291	0.000283	0.00960	0.00172	0.00154	0.000173	0.000000976	0.00102	ND
95% Upper Confidence Limit[2]		NA	0.000120	0.000320	0.00439	0.0000150	NA	0.00419	0.000470	0.0452	0.000850	0.0135	0.00250	0.00253	0.000250	0.00000120	0.00141	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
µg/m³ = micrograms per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
September 12 through September 18, 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)
9/12/2024	AM-02	WW Pump Station #4	1.1	S	82	71	760.8
9/12/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	67	751.4
9/12/2024	AM-05	Opukea Townhomes	1.3	SSE	84	67	760.1
9/12/2024	AM-06	Lahaina Skate Park	1.4	SSW	83	69	760.6
9/13/2024	AM-02	WW Pump Station #4	1.1	SSE	82	69	761.2
9/13/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	66	751.8
9/13/2024	AM-05	Opukea Townhomes	1.3	SSE	84	66	760.6
9/13/2024	AM-06	Lahaina Skate Park	0.8	ESE	76	76	760.9
9/13/2024	AM-07	Lahaina Recreational Center	1.4	S	83	66	760.0
9/14/2024	AM-02	WW Pump Station #4	1.1	S	82	62	760.6
9/14/2024	AM-03	Lahaina Intermediate School	1.2	SE	81	60	751.3
9/14/2024	AM-05	Opukea Townhomes	1.2	SSE	85	59	760.1
9/14/2024	AM-07	Lahaina Recreational Center	1.4	S	81	63	759.9
9/15/2024	AM-02	WW Pump Station #4	0.9	S	82	64	761.0
9/15/2024	AM-03	Lahaina Intermediate School	1.1	SE	81	60	751.6
9/15/2024	AM-05	Opukea Townhomes	1.2	SSE	85	60	760.4
9/15/2024	AM-07	Lahaina Recreational Center	1.2	SSE	81	65	760.3
9/16/2024	AM-02	WW Pump Station #4	1.0	S	83	72	762.2
9/16/2024	AM-03	Lahaina Intermediate School	1.1	SE	83	67	752.8
9/16/2024	AM-05	Opukea Townhomes	1.3	SSE	85	68	761.6
9/16/2024	AM-07	Lahaina Recreational Center	1.3	SSE	82	75	761.5
9/17/2024	AM-02	WW Pump Station #4	1.0	SSE	83	68	763.0
9/17/2024	AM-03	Lahaina Intermediate School	1.1	SE	82	65	753.6
9/17/2024	AM-05	Opukea Townhomes	1.2	SSE	85	65	762.4
9/17/2024	AM-07	Lahaina Recreational Center	1.3	SSE	81	69	762.3
9/18/2024	AM-02	WW Pump Station #4	0.9	S	82	68	762.6
9/18/2024	AM-03	Lahaina Intermediate School	1.0	SE	81	66	753.2
9/18/2024	AM-05	Opukea Townhomes	1.1	SSE	84	65	762.1
9/18/2024	AM-07	Lahaina Recreational Center	1.2	SSE	80	72	761.9

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

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

EMSL Order:	042419341
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:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091224-AB**		**Sample Description:**	**DL275443**
EMSL Sample Number:	042419341-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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

EMSL Order ID: 042419341
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: 042419341-0001 **Customer Sample:** MFL-AM05-091224-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	H7	None Detected									
B1	E3	None Detected									
B1	C7	None Detected									
B2	I4	None Detected									
B2	B3	None Detected									

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

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EMSL Order:	042419341
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:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091224-AB**		**Sample Description:**	**DL275442**
EMSL Sample Number:	042419341-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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: 042419341
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: 042419341-0002 **Customer Sample:** MFL-AM02-091224-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	I5	None Detected									
B5	E8	None Detected									
B5	C5	None Detected									
B6	B6	None Detected									
B6	I4	None Detected									

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

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091224-AB**		**Sample Description:**	**DL275435**
EMSL Sample Number:	042419341-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419341
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: 042419341-0003 **Customer Sample:** MFL-AM03-091224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	C9	None Detected									
C2	G5	None Detected									
C2	I3	None Detected									
C3	H7	None Detected									
C3	C6	None Detected									

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

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-091224-AB**		**Sample Description:**	**DL275439**
EMSL Sample Number:	042419341-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7138.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419341
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: 042419341-0004 **Customer Sample:** MFL-AM06-091224-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	I1	None Detected									
C5	F3	None Detected									
C5	B4	None Detected									
C6	I3	None Detected									
C6	E1	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:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-091224-AB**		**Sample Description:**	**DL275431**
EMSL Sample Number:	042419341-0005		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:	**042419341**
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: 042419341-0005 **Customer Sample:** MFL-FB01-091224-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	J3	None Detected									
D1	H5	None Detected									
D1	F2	None Detected									
D1	D4	None Detected									
D1	B5	None Detected									
D2	J1	None Detected									
D2	H4	None Detected									
D2	F8	None Detected									
D2	D10	None Detected									
D2	B9	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:	042419341
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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091324-AB**		**Sample Description:**	**DL275440**
EMSL Sample Number:	042419341-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042419341
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: 042419341-0006 **Customer Sample:** MFL-AM05-091324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	H5	None Detected									
D6	E3	None Detected									
D6	C7	None Detected									
D7	A5	None Detected									
D7	F8	None Detected									

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

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EMSL Order:	042419341
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:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091324-AB**		**Sample Description:**	**DL275399**
EMSL Sample Number:	042419341-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.3
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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EMSL Order ID: 042419341
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: 042419341-0007 **Customer Sample:** MFL-AM02-091324-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					
E3	C5	None Detected									
E3	E4	None Detected									
E3	H6	None Detected									
E4	J4	None Detected									
E4	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:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091324-AB**		**Sample Description:**	**DL275437**
EMSL Sample Number:	042419341-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.7
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 %:	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: 042419341
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: 042419341-0008 **Customer Sample:** MFL-AM03-091324-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	I4	None Detected									
E5	G6	None Detected									
E5	D6	None Detected									
E6	D7	None Detected									
E6	J7	None Detected									

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

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

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Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-091324-AB**		**Sample Description:**	**DL275430**
EMSL Sample Number:	042419341-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	5487.0
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:	6
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 38.33**	**< 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**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.33	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.33**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042419341
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: 042419341-0009 **Customer Sample:** MFL-AM06-091324-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	J2	None Detected									
F2	G5	None Detected									
F2	C4	None Detected									
F3	B4	None Detected									
F3	F7	None Detected									
F3	H8	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:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091324-AB** **Sample Description:** **DL275441**

EMSL Sample Number:	042419341-0010		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: 042419341
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: 042419341-0010 **Customer Sample:** MFL-FB01-091324-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	J4	None Detected									
F5	H4	None Detected									
F5	F7	None Detected									
F5	D4	None Detected									
F5	A2	None Detected									
F6	A1	None Detected									
F6	B5	None Detected									
F6	E4	None Detected									
F6	J3	None Detected									
F6	J8	None Detected									

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

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

EMSL Order:	042419341
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:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091424-AB**		**Sample Description:**	**DL275438**
EMSL Sample Number:	042419341-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
Client: Tetra Tech
Project ID:

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419341-0011 **Customer Sample:** MFL-AM05-091424-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	C7	None Detected									
G1	F10	None Detected									
G1	I7	None Detected									
G2	B10	None Detected									
G2	H8	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:	042419341
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:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091424-AB**		**Sample Description:**	**DL275461**
EMSL Sample Number:	042419341-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.9
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

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EMSL Order ID: 042419341
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: 042419341-0012 **Customer Sample:** MFL-AM02-091424-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	H5	None Detected									
G5	F9	None Detected									
G5	C10	None Detected									
G6	H9	None Detected									
G6	E4	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:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091424-AB**		**Sample Description:**	**DL275434**
EMSL Sample Number:	042419341-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7116.7
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 %:	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:	**042419341**
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: 042419341-0013 **Customer Sample:** MFL-AM03-091424-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	B10	None Detected									
H1	E8	None Detected									
H1	H6	None Detected									
H2	F7	None Detected									
H2	C6	None Detected									

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

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EMSL Order:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-091424-AB**		**Sample Description:**	**DL275402**
EMSL Sample Number:	042419341-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID:	**042419341**
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: 042419341-0014 **Customer Sample:** MFL-AM07-091424-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	I6	None Detected									
H5	D2	None Detected									
H5	B6	None Detected									
H6	I4	None Detected									
H6	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:	042419341
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

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Received Date:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091424-AB** **Sample Description: DL275407**

EMSL Sample Number:	042419341-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419341
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: 042419341-0015 **Customer Sample:** MFL-FB01-091424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	H7	None Detected									
I2	G4	None Detected									
I2	C8	None Detected									
I3	A7	None Detected									
I3	F2	None Detected									
I4	J2	None Detected									
I4	H2	None Detected									
I4	F7	None Detected									
I4	D3	None Detected									
I4	B10	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:	042419341
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:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091524-AB**		**Sample Description:**	**DL275446**
EMSL Sample Number:	042419341-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419341
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: 042419341-0016 **Customer Sample:** MFL-AM05-091524-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					
I6	B1	None Detected									
I6	J8	None Detected									
I8	B1	None Detected									
I8	D2	None Detected									
I8	G2	None Detected									

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

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

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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091524-AB**		**Sample Description:**	**DL275400**
EMSL Sample Number:	042419341-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042419341-0017 **Customer Sample:** MFL-AM02-091524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	I2	None Detected									
J1	E7	None Detected									
J1	B5	None Detected									
J2	H2	None Detected									
J2	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 PO:	1207085
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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091524-AB**		**Sample Description:**	**DL275447**
EMSL Sample Number:	042419341-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7246.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419341
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: 042419341-0018 **Customer Sample:** MFL-AM03-091524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J5	None Detected									
J5	G6	None Detected									
J5	B2	None Detected									
J6	G2	None Detected									
J6	A3	None Detected									

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

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EMSL Order:	042419341
Customer ID:	TTDC42
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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-091524-AB**		**Sample Description:**	**DL275412**
EMSL Sample Number:	042419341-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042419341
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: 042419341-0019 **Customer Sample:** MFL-AM07-091524-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					
K3	A2	None Detected									
K3	C6	None Detected									
K3	F4	None Detected									
K4	A6	None Detected									
K4	G2	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:	042419341
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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-091524-AB** **Sample Description:** **DL275408**

EMSL Sample Number:	042419341-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment


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: 042419341
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: 042419341-0020 **Customer Sample:** MFL-FB01-091524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A4	None Detected									
K5	C6	None Detected									
K5	E9	None Detected									
K5	G7	None Detected									
K5	I6	None Detected									
K6	J2	None Detected									
K6	H5	None Detected									
K6	F4	None Detected									
K6	C5	None Detected									
K6	A4	None Detected									

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

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

EMSL Order:	042419341
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:	09/18/2024 09:40 AM
Analysis Date:	09/23/2024
Report Date:	09/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042419341-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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

EMSL Order ID: 042419341
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: 042419341-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A3	A7	None Detected									
A3	C6	None Detected									
A3	E7	None Detected									
A3	G3	None Detected									
A3	I5	None Detected									
A4	A4	None Detected									
A4	C7	None Detected									
A4	E2	None Detected									
A4	G3	None Detected									
A4	I5	None Detected									

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

OrderID: 042419341

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042419341

RECEIVED EMSL CINNAMINSON, NJ
24 SEP 18 PM12:14

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

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

Customer Information

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. Karyga Saldana
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM05-091224-AB	DL275443	7,221.207	09/12/24 1100
MFL-AM02-091224-AB	DL275442	7,128.813	09/12/24 1117
MFL-AM03-091224-AB	DL275435	7,173.001	09/12/24 1302
MFL-AM06-091224-AB	DL275439	7,138.491	09/12/24 1323
MFL-FB01-091224-AB	DL275431	0	09/12/24 1200
MFL-AM02-091324-AB (ERS)	DL275440	7,122.719	09/13/24 1105
MFL-AM02-091324-AB	DL275399	7,178.342	09/13/24 1120
MFL-AM03-091324-AB	DL275437	7,207.693	09/13/24 1308

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

All samples received acceptable for analysis.

Method of Shipment: FED EX
Sample Condition Upon Receipt:

Relinquished by:	Date/Time: 09/16/24 1100	Received by: FX	Date/Time: 9/18/24 9:40
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.

20 BD

OrderID: 042419341

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419341

RECEIVED EMSL CINNAMINSON, NJ 16 SEP 24 PM 12:14

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.)

* Note: Lower volume collected. Contact Chelsea ~~Sabet~~ before opening more grids.

	Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
*	MFL-AM06-091324-AB	DL275430	5,486.979	09/13/24 0758
	MFL-FB01-091324-AB	DL275441	0	09/13/24 1200
	MFL-AM05-091424-AB	DL275438	7,129.430	09/14/24 1056
	MFL-AM02-091424-AB	DL275461	7,168.881	09/14/24 1114
	MFL-AM03-091424-AB	DL275434	7,116.735	09/14/24 1255
	MFL-AM07-091424-AB	DL275402	7,198.605	09/14/24 1321
	MFL-FB01-091424-AB	DL275407	0	09/14/24 1200
	MFL-AM05-091524-AB	DL275446	7,162.635	09/15/24 1100
	MFL-AM02-091524-AB	DL275400	7,221.500	09/15/24 1112
	MFL-AM03-091524-AB	DL275447	7,246.771	09/15/24 1259
	MFL-AM07-091524-AB	DL275412	7,216.187	09/15/24 1321
	MFL-FB01-091524-AB	DL275408	0	09/15/24 1200

Method of Shipment:	FED EX		Sample Condition Upon Receipt:		
Relinquished by:		Date/Time: 09/16/24 1100	Received by:		Date/Time: 9/18/24 9:40
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.

20 BD

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/24/2024 and Shanna Vasser 09/26/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/12/2024 – 09/15/2024
Report No: 42419341

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

Discrepancies: None.

Notes: None.

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

EMSL Order:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091624-AB**		**Sample Description:**	**DL275406**
EMSL Sample Number:	042419704-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7224.1
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 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: 042419704
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: 042419704-0001 **Customer Sample:** MFL-AM05-091624-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	B7	None Detected									
A5	E10	None Detected									
A5	I5	None Detected									
A6	C5	None Detected									
A6	H7	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:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091624-AB**		**Sample Description:**	**DL275464**
EMSL Sample Number:	042419704-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 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: 042419704
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: 042419704-0002 **Customer Sample:** MFL-AM02-091624-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	I1	None Detected									
B2	E4	None Detected									
B2	C8	None Detected									
B3	A3	None Detected									
B3	I4	None Detected									

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

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

EMSL Order:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091624-AB**	**Sample Description:**	**DL275473**
EMSL Sample Number:	042419704-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7074.9
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419704
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: 042419704-0003 **Customer Sample:** MFL-AM03-091624-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	I3	None Detected									
B5	F4	None Detected									
B5	C7	None Detected									
B6	H4	None Detected									
B6	E1	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:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-091624-AB**		**Sample Description:**	**DL275462**
EMSL Sample Number:	042419704-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.1
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042419704-0004 **Customer Sample:** MFL-AM07-091624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J2	None Detected									
C2	H6	None Detected									
C2	F8	None Detected									
C3	A6	None Detected									
C3	G9	None Detected									

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

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EMSL Order:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-091624-AB**	**Sample Description:**	**DL275448**
EMSL Sample Number:	042419704-0005	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):	0.0129
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	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042419704
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: 042419704-0005 **Customer Sample:** MFL-FB01-091624-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	J1	None Detected									
C5	H4	None Detected									
C5	F1	None Detected									
C5	D3	None Detected									
C5	B5	None Detected									
C6	A10	None Detected									
C6	C9	None Detected									
C6	E10	None Detected									
C6	G7	None Detected									
C6	I10	None Detected									

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

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EMSL Order:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-091724-AB** **Sample Description: DL275454**

EMSL Sample Number:	042419704-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7222.8
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042419704
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: 042419704-0006 **Customer Sample:** MFL-AM05-091724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A9	None Detected									
D2	F10	None Detected									
D2	J7	None Detected									
D3	E10	None Detected									
D3	H6	None Detected									

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

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EMSL Order:	042419704
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-AM02-091724-AB**		**Sample Description:**	**DL275459**
EMSL Sample Number:	042419704-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.7
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042419704
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: 042419704-0007 **Customer Sample:** MFL-AM02-091724-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	J5	None Detected									
D5	H2	None Detected									
D5	D2	None Detected									
D6	C9	None Detected									
D6	H7	None Detected									

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

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EMSL Order:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091724-AB**		**Sample Description:**	**DL275451**
EMSL Sample Number:	042419704-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7184.6
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042419704
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: 042419704-0008 **Customer Sample:** MFL-AM03-091724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	B7	None Detected									
E2	D6	None Detected									
E2	G5	None Detected									
E3	B7	None Detected									
E3	E8	None Detected									

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

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Project: **Maui Fires - Lahaina**

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Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM07-091724-AB** **Sample Description: DL275456**

EMSL Sample Number:	042419704-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.8
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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 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: 042419704-0009 **Customer Sample:** MFL-AM07-091724-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	A6	None Detected									
E5	E3	None Detected									
E5	G6	None Detected									
E6	I6	None Detected									
E6	E3	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
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Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-091724-AB**		**Sample Description:**	**DL275458**
EMSL Sample Number:	042419704-0010		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):	0.0129
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

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EMSL Order ID: 042419704
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: 042419704-0010 **Customer Sample:** MFL-FB01-091724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A8	None Detected									
F2	C10	None Detected									
F2	E10	None Detected									
F2	G8	None Detected									
F2	I9	None Detected									
F3	J1	None Detected									
F3	H3	None Detected									
F3	E1	None Detected									
F3	C2	None Detected									
F3	A4	None Detected									

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

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Received Date:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-091824-AB**		**Sample Description:**	**DL275433**
EMSL Sample Number:	042419704-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.9
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042419704
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: 042419704-0011 **Customer Sample:** MFL-AM05-091824-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	A4	None Detected									
F5	F2	None Detected									
F5	H6	None Detected									
F6	A9	None Detected									
F6	C9	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:	042419704
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-091824-AB**		**Sample Description:**	**DL275460**
EMSL Sample Number:	042419704-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7020.0
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):	0.0129
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**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 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: 042419704
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: 042419704-0012 **Customer Sample:** MFL-AM02-091824-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	J3	None Detected									
G2	H7	None Detected									
G2	B4	None Detected									
G3	H2	None Detected									
G3	C2	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:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-091824-AB**	**Sample Description:**	**DL274896**
EMSL Sample Number:	042419704-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7210.4
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 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: 042419704
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: 042419704-0013 **Customer Sample:** MFL-AM03-091824-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	B7	None Detected									
G5	E4	None Detected									
G5	G9	None Detected									
G6	A9	None Detected									
G6	H8	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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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM07-091824-AB**	**Sample Description:**	**DL274909**
EMSL Sample Number:	042419704-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7258.5
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):	0.0129
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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 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: 042419704
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: 042419704-0014 **Customer Sample:** MFL-AM07-091824-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	A8	None Detected									
H2	D4	None Detected									
H2	G7	None Detected									
H3	H2	None Detected									
H3	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:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-091824-AB**		**Sample Description:**	**DL274899**
EMSL Sample Number:	042419704-0015		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):	0.0129
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

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: 042419704
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: 042419704-0015 **Customer Sample:** MFL-FB01-091824-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	J1	None Detected									
H5	H4	None Detected									
H5	F7	None Detected									
H5	D4	None Detected									
H5	B1	None Detected									
H6	A4	None Detected									
H6	C9	None Detected									
H6	E8	None Detected									
H6	G7	None Detected									
H6	I5	None Detected									

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

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

EMSL Order:	042419704
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:	09/23/2024 08:50 AM
Analysis Date:	09/26/2024
Report Date:	09/26/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042419704-0016		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):	0.0129
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**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

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: 042419704
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: 042419704-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	A7	None Detected									
A2	C8	None Detected									
A2	E9	None Detected									
A2	G5	None Detected									
A2	I6	None Detected									
A3	A7	None Detected									
A3	C5	None Detected									
A3	E3	None Detected									
A3	G4	None Detected									
A3	H7	None Detected									

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

OrderID: 042419704

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419704

RECEIVED EMSL CINNAMINSON, NJ 24 SEP 23 AM 9:19

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

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

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	TETRA TECH	Company Name:	
Contact Name:	CHELSEA SABER	Billing Contact:	
Street Address:	1560 BROADWAY STE 1400	Street Address:	
City, State, Zip:	DENVER, CO 80202 Country: USA	City, State, Zip:	Country:
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Karyon-Saldaña
Sampled By Signature: [signature]
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

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-AM05-091624-AB	DL275406	7,224.068	09/16/24 1102
MFL-AM02-091624-AB	DL275464	7,163.136	09/16/24 1114
MFL-AM03-091624-AB	DL275473	7,074.885	09/16/24 1305
MFL-AM07-091624-AB	DL275462	7,215.087	09/16/24 1327
MFL-FB01-091624-AB	DL275448	0	09/16/24 1200
MFL-AM05-091724-AB	DL275454	7,222.786	09/17/24 1100
MFL-AM02-091724-AB	DL275459	7,175.717	09/17/24 1116
MFL-AM03-091724-AB	DL275451	7,184.627	09/17/24 1303

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

All samples received acceptable for analysis.

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 09/19/24 1100	Received by: [signature] FX	Date/Time: 9/23/24 ~~9:00~~ 8:50a
Relinquished by:	Date/Time:	Received by:	Date/Time

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

1509

OrderID: 042419704

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042419704

RECEIVED EMSL CINNAMINSON NJ
24 SEP 23 AM 9:19

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM07-091724-AB	DL275456	7,176.841	09/17/24 1325
MFL-FB01-091724-AB	DL275458	0	09/17/24 1200
MFL-AM05-091824-AB	DL275433	7,160.858	09/18/24 1101
MFL-AM02-091824-AB	DL275460	7,020.000	09/18/24 1119
MFL-AM03-091824-AB	DL274896	7,210.368	09/18/24 1305
MFL-AM07-091824-AB	DL274909	7,258.461	09/18/24 1329
MFL-FB01-091824-AB	DL274899	0	09/18/24 1200

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/19/24 1400	Received by: FX	Date/Time: 9/23/24 8500
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/30/2024 and Shanna Vasser 10/01/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/16/2024 – 09/18/2024
Report No: 42419704

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

Discrepancies: None.

Notes: None.

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

October 01, 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 09/23/24 10:07.

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: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-091224-HM	4092329-01	Air	09/12/24 23:59	09/23/24 10:07
MFL-AM02-091224-HM	4092329-02	Air	09/12/24 23:59	09/23/24 10:07
MFL-AM03-091224-HM	4092329-03	Air	09/12/24 23:59	09/23/24 10:07
MFL-AM06-091224-HM	4092329-04	Air	09/12/24 23:59	09/23/24 10:07
MFL-AM05-091324-HM	4092329-05	Air	09/13/24 23:59	09/23/24 10:07
MFL-AM02-091324-HM	4092329-06	Air	09/13/24 23:59	09/23/24 10:07
MFL-AM03-091324-HM	4092329-07	Air	09/13/24 23:59	09/23/24 10:07
MFL-AM06-091324-HM	4092329-08	Air	09/13/24 23:59	09/23/24 10:07
MFL-FB01-091324-HM	4092329-09	Air	09/13/24 00:00	09/23/24 10:07
MFL-AM05-091424-HM	4092329-10	Air	09/14/24 23:59	09/23/24 10:07
MFL-AM02-091424-HM	4092329-11	Air	09/14/24 23:59	09/23/24 10:07
MFL-AM03-091424-HM	4092329-12	Air	09/14/24 23:59	09/23/24 10:07
MFL-AM07-091424-HM	4092329-13	Air	09/14/24 23:59	09/23/24 10:07
MFL-AM05-091524-HM	4092329-14	Air	09/15/24 23:59	09/23/24 10:07
MFL-AM02-091524-HM	4092329-15	Air	09/15/24 23:59	09/23/24 10:07
MFL-AM03-091524-HM	4092329-16	Air	09/15/24 23:59	09/23/24 10:07
MFL-AM07-091524-HM	4092329-17	Air	09/15/24 23:59	09/23/24 10:07
MFL-FB01-091524-HM	4092329-18	Air	09/15/24 00:00	09/23/24 10:07
MFL-AM05-091624-HM	4092329-19	Air	09/16/24 23:59	09/23/24 10:07
MFL-AM02-091624-HM	4092329-20	Air	09/16/24 23:59	09/23/24 10:07
MFL-AM03-091624-HM	4092329-21	Air	09/16/24 23:59	09/23/24 10:07

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: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM07-091624-HM	4092329-22	Air	09/16/24 23:59	09/23/24 10:07
MFL-AM05-091724-HM	4092329-23	Air	09/17/24 23:59	09/23/24 10:07
MFL-AM02-091724-HM	4092329-24	Air	09/17/24 23:59	09/23/24 10:07
MFL-AM03-091724-HM	4092329-25	Air	09/17/24 23:59	09/23/24 10:07
MFL-AM07-091724-HM	4092329-26	Air	09/17/24 23:59	09/23/24 10:07
MFL-FB01-091724-HM	4092329-27	Air	09/17/24 00:00	09/23/24 10:07
MFL-AM05-091824-HM	4092329-28	Air	09/18/24 23:59	09/23/24 10:07
MFL-AM02-091824-HM	4092329-29	Air	09/18/24 23:59	09/23/24 10:07
MFL-AM03-091824-HM	4092329-30	Air	09/18/24 23:59	09/23/24 10:07
MFL-AM07-091824-HM	4092329-31	Air	09/18/24 23:59	09/23/24 10:07
MFL-LB01-091324-HM	4092329-32	Air	09/13/24 00:00	09/23/24 10:07

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: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091224-HM
Matrix: Air
Lab ID: 4092329-01
Sample Volume: 1946.203 m³
Filter ID:
Sampled: 09/12/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 01:39

Comments: Q9537591 - 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**	**0.127**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.647**		**0.00783**
Barium	**7440-39-3**	**4.07**		**0.895**
Beryllium	**7440-41-7**	**0.00983**		**0.00268**
Cadmium	7440-43-9	0.0486	U	0.0619
Chromium	**7440-47-3**	**2.89**		**1.85**
Cobalt	**7440-48-4**	**0.352**		**0.0364**
Copper	**7440-50-8**	**43.5**		**2.20**
Lead	**7439-92-1**	**1.50**		**0.179**
Manganese	**7439-96-5**	**10.3**		**1.58**
Molybdenum	**7439-98-7**	**2.27**		**0.300**
Nickel	**7440-02-0**	**1.29**		**0.545**
Selenium	**7782-49-2**	**0.240**		**0.00749**
Thallium	**7440-28-0**	**0.00113**		**4.92E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0442**
Zinc	7440-66-6	19.2	U	64.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091224-HM
Matrix: Air
Lab ID: 4092329-02
Sample Volume: 2043.692 m³
Filter ID:
Sampled: 09/12/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 01:56

Comments: Q9537589 - 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**	**0.119**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.221**		**0.00746**
Barium	**7440-39-3**	**4.28**		**0.852**
Beryllium	**7440-41-7**	**0.00895**		**0.00255**
Cadmium	7440-43-9	0.0148	U	0.0590
Chromium	**7440-47-3**	**2.53**		**1.76**
Cobalt	**7440-48-4**	**0.322**		**0.0347**
Copper	**7440-50-8**	**25.6**		**2.09**
Lead	**7439-92-1**	**0.595**		**0.170**
Manganese	**7439-96-5**	**9.73**		**1.50**
Molybdenum	**7439-98-7**	**1.55**		**0.286**
Nickel	**7440-02-0**	**1.11**		**0.519**
Selenium	**7782-49-2**	**0.266**		**0.00713**
Thallium	**7440-28-0**	**9.38E-4**		**4.69E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0421**
Zinc	7440-66-6	13.7	U	61.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091224-HM
Matrix: Air
Lab ID: 4092329-03
Sample Volume: 1993.082 m³
Filter ID:
Sampled: 09/12/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 02:16

Comments: Q9537587 - 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**	**0.0423**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.141**		**0.00765**
Barium	**7440-39-3**	**2.46**		**0.873**
Beryllium	**7440-41-7**	**0.0150**		**0.00261**
Cadmium	7440-43-9	0.0183	U	0.0605
Chromium	**7440-47-3**	**3.06**		**1.80**
Cobalt	**7440-48-4**	**0.386**		**0.0356**
Copper	**7440-50-8**	**42.3**		**2.15**
Lead	**7439-92-1**	**0.295**		**0.175**
Manganese	**7439-96-5**	**10.5**		**1.54**
Molybdenum	**7439-98-7**	**2.36**		**0.293**
Nickel	**7440-02-0**	**1.53**		**0.532**
Selenium	**7782-49-2**	**0.204**		**0.00731**
Thallium	**7440-28-0**	**8.90E-4**		**4.81E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0432**
Zinc	7440-66-6	10.8	U	62.7

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-091224-HM
Matrix: Air
Lab ID: 4092329-04
Sample Volume: 1593.756 m³
Filter ID:
Sampled: 09/12/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/24/24 19:02

Comments: Q9537586 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**	**0.193**	SL	**0.0394**
Arsenic	**7440-38-2**	**0.275**		**0.00957**
Barium	**7440-39-3**	**6.13**		**1.09**
Beryllium	**7440-41-7**	**0.00988**		**0.00327**
Cadmium	7440-43-9	0.0319	U	0.0756
Chromium	**7440-47-3**	**3.28**		**2.26**
Cobalt	**7440-48-4**	**0.378**		**0.0445**
Copper	**7440-50-8**	**38.6**	QM-07	**2.68**
Lead	**7439-92-1**	**1.05**		**0.218**
Manganese	**7439-96-5**	**11.2**	QM-07	**1.93**
Molybdenum	**7439-98-7**	**1.96**	QM-07	**0.366**
Nickel	**7440-02-0**	**2.05**		**0.666**
Selenium	**7782-49-2**	**0.233**		**0.00915**
Thallium	**7440-28-0**	**0.00127**		**6.01E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0540**
Zinc	7440-66-6	22.5	U	78.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091324-HM
Matrix: Air
Lab ID: 4092329-05
Sample Volume: 1822.304 m³
Filter ID:
Sampled: 09/13/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 02:32

Comments: Q8518525 - 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**	**0.111**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.276**		**0.00837**
Barium	**7440-39-3**	**3.74**		**0.955**
Beryllium	**7440-41-7**	**0.00795**		**0.00286**
Cadmium	7440-43-9	0.0495	U	0.0662
Chromium	**7440-47-3**	**2.04**		**1.97**
Cobalt	**7440-48-4**	**0.268**		**0.0389**
Copper	**7440-50-8**	**39.4**		**2.35**
Lead	**7439-92-1**	**0.756**		**0.191**
Manganese	**7439-96-5**	**9.13**		**1.69**
Molybdenum	**7439-98-7**	**2.10**		**0.321**
Nickel	**7440-02-0**	**1.20**		**0.582**
Selenium	**7782-49-2**	**0.252**		**0.00800**
Thallium	**7440-28-0**	**9.76E-4**		**5.26E-4**
Vanadium	**7440-62-2**	**1.23**		**0.0472**
Zinc	7440-66-6	11.8	U	68.6

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: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091324-HM
Matrix: Air
Lab ID: 4092329-06
Sample Volume: 2017.914 m³
Filter ID:
Sampled: 09/13/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 02:49

Comments: Q8518524 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.267**		**0.00755**
Barium	**7440-39-3**	**4.47**		**0.863**
Beryllium	**7440-41-7**	**0.0103**		**0.00258**
Cadmium	7440-43-9	0.0117	U	0.0597
Chromium	**7440-47-3**	**2.04**		**1.78**
Cobalt	**7440-48-4**	**0.333**		**0.0352**
Copper	**7440-50-8**	**28.7**		**2.12**
Lead	**7439-92-1**	**0.698**		**0.173**
Manganese	**7439-96-5**	**11.0**		**1.52**
Molybdenum	**7439-98-7**	**1.38**		**0.289**
Nickel	**7440-02-0**	**1.23**		**0.526**
Selenium	**7782-49-2**	**0.296**		**0.00722**
Thallium	**7440-28-0**	**8.98E-4**		**4.75E-4**
Vanadium	**7440-62-2**	**1.47**		**0.0427**
Zinc	7440-66-6	11.7	U	61.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091324-HM
Matrix: Air
Lab ID: 4092329-07
Sample Volume: 1906.296 m³
Filter ID:
Sampled: 09/13/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 03:04

Comments: Q8518523 - 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**	**0.0750**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.248**		**0.00800**
Barium	**7440-39-3**	**3.72**		**0.913**
Beryllium	**7440-41-7**	**0.0210**		**0.00273**
Cadmium	7440-43-9	0.0127	U	0.0632
Chromium	**7440-47-3**	**3.48**		**1.89**
Cobalt	**7440-48-4**	**0.514**		**0.0372**
Copper	**7440-50-8**	**37.9**		**2.24**
Lead	**7439-92-1**	**0.427**		**0.183**
Manganese	**7439-96-5**	**14.2**		**1.61**
Molybdenum	**7439-98-7**	**2.54**		**0.306**
Nickel	**7440-02-0**	**3.46**		**0.556**
Selenium	**7782-49-2**	**0.277**		**0.00765**
Thallium	**7440-28-0**	**0.00102**		**5.03E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0451**
Zinc	7440-66-6	9.50	U	65.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-091324-HM
Matrix: Air
Lab ID: 4092329-08
Sample Volume: 1180.934 m³
Filter ID:
Sampled: 09/13/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 03:19

Comments: Q8518520 - 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**	**0.216**	SL	**0.0532**
Arsenic	**7440-38-2**	**0.215**		**0.0129**
Barium	**7440-39-3**	**5.85**		**1.47**
Beryllium	**7440-41-7**	**0.00841**		**0.00441**
Cadmium	7440-43-9	0.0226	U	0.102
Chromium	**7440-47-3**	**3.04**		**3.04**
Cobalt	**7440-48-4**	**0.368**		**0.0601**
Copper	**7440-50-8**	**47.6**		**3.62**
Lead	**7439-92-1**	**0.669**		**0.295**
Manganese	**7439-96-5**	**12.3**		**2.60**
Molybdenum	**7439-98-7**	**2.35**		**0.495**
Nickel	**7440-02-0**	**2.33**		**0.898**
Selenium	**7782-49-2**	**0.273**		**0.0123**
Thallium	**7440-28-0**	**0.00116**		**8.11E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0729**
Zinc	7440-66-6	18.6	U	106

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: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091324-HM
Matrix: Air
Lab ID: 4092329-09
Sample Volume: 1822.304 m³
Filter ID:
Sampled: 09/13/24 00:00
Received: 09/23/24 10:07
Analysis Date: 09/25/24 03:35

Comments: Q8518513 - 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	0.0191	SL, U	0.0345
Arsenic	7440-38-2	0.00343	U	0.00837
Barium	7440-39-3	0.814	U	0.955
Beryllium	7440-41-7	2.37E-4	U	0.00286
Cadmium	7440-43-9	0.00104	U	0.0662
Chromium	7440-47-3	0.886	U	1.97
Cobalt	7440-48-4	0.0103	U	0.0389
Copper	7440-50-8	0.309	U	2.35
Lead	7439-92-1	0.0265	U	0.191
Manganese	7439-96-5	0.169	U	1.69
Molybdenum	7439-98-7	0.145	U	0.321
Nickel	7440-02-0	0.388	U	0.582
Selenium	7782-49-2	0.00243	U	0.00800
Thallium	7440-28-0	1.25E-4	U	5.26E-4
Vanadium	7440-62-2	0.00803	U	0.0472
Zinc	7440-66-6	3.52	U	68.6

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091424-HM
Matrix: Air
Lab ID: 4092329-10
Sample Volume: 2009.227 m³
Filter ID:
Sampled: 09/14/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 03:49

Comments: Q8518519 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.227**		**0.00759**
Barium	**7440-39-3**	**3.16**		**0.866**
Beryllium	**7440-41-7**	**0.00607**		**0.00259**
Cadmium	7440-43-9	0.0196	U	0.0600
Chromium	7440-47-3	1.59	U	1.79
Cobalt	**7440-48-4**	**0.238**		**0.0353**
Copper	**7440-50-8**	**33.6**		**2.13**
Lead	**7439-92-1**	**0.505**		**0.173**
Manganese	**7439-96-5**	**7.72**		**1.53**
Molybdenum	**7439-98-7**	**2.04**		**0.291**
Nickel	**7440-02-0**	**0.921**		**0.528**
Selenium	**7782-49-2**	**0.271**		**0.00726**
Thallium	**7440-28-0**	**0.00133**		**4.77E-4**
Vanadium	**7440-62-2**	**0.888**		**0.0428**
Zinc	7440-66-6	10.3	U	62.2

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091424-HM
Matrix: Air
Lab ID: 4092329-11
Sample Volume: 1997.726 m³
Filter ID:
Sampled: 09/14/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 05:13

Comments: Q8518516 - 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**	**0.151**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.369**		**0.00763**
Barium	**7440-39-3**	**4.49**		**0.871**
Beryllium	**7440-41-7**	**0.00945**		**0.00261**
Cadmium	7440-43-9	0.0163	U	0.0603
Chromium	**7440-47-3**	**2.09**		**1.80**
Cobalt	**7440-48-4**	**0.314**		**0.0355**
Copper	**7440-50-8**	**36.4**		**2.14**
Lead	**7439-92-1**	**0.906**		**0.174**
Manganese	**7439-96-5**	**10.6**		**1.54**
Molybdenum	**7439-98-7**	**1.65**		**0.292**
Nickel	**7440-02-0**	**1.10**		**0.531**
Selenium	**7782-49-2**	**0.336**		**0.00730**
Thallium	**7440-28-0**	**0.00163**	QB-04	**4.80E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0431**
Zinc	7440-66-6	11.0	U	62.5

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091424-HM
Matrix: Air
Lab ID: 4092329-12
Sample Volume: 1872.156 m³
Filter ID:
Sampled: 09/14/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 05:28

Comments: Q8518512 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.190**		**0.00814**
Barium	**7440-39-3**	**4.05**		**0.930**
Beryllium	**7440-41-7**	**0.0167**		**0.00278**
Cadmium	7440-43-9	0.0263	U	0.0644
Chromium	**7440-47-3**	**12.6**		**1.92**
Cobalt	**7440-48-4**	**0.606**		**0.0379**
Copper	**7440-50-8**	**54.1**		**2.29**
Lead	**7439-92-1**	**0.491**		**0.186**
Manganese	**7439-96-5**	**12.8**		**1.64**
Molybdenum	**7439-98-7**	**3.78**		**0.312**
Nickel	**7440-02-0**	**8.64**		**0.567**
Selenium	**7782-49-2**	**0.285**		**0.00779**
Thallium	**7440-28-0**	**0.00180**	QB-04	**5.12E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0460**
Zinc	7440-66-6	24.4	U	66.7

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091424-HM
Matrix: Air
Lab ID: 4092329-13
Sample Volume: 1724.725 m³
Filter ID:
Sampled: 09/14/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 05:45

Comments: Q8518511 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0364**
Arsenic	**7440-38-2**	**0.199**		**0.00884**
Barium	**7440-39-3**	**2.92**		**1.01**
Beryllium	**7440-41-7**	**0.00628**		**0.00302**
Cadmium	7440-43-9	0.0230	U	0.0699
Chromium	7440-47-3	1.85	U	2.08
Cobalt	**7440-48-4**	**0.233**		**0.0411**
Copper	**7440-50-8**	**47.1**		**2.48**
Lead	**7439-92-1**	**0.424**		**0.202**
Manganese	**7439-96-5**	**8.07**		**1.78**
Molybdenum	**7439-98-7**	**2.58**		**0.339**
Nickel	**7440-02-0**	**1.00**		**0.615**
Selenium	**7782-49-2**	**0.265**		**0.00845**
Thallium	**7440-28-0**	**0.00138**	QB-04	**5.56E-4**
Vanadium	**7440-62-2**	**0.831**		**0.0499**
Zinc	7440-66-6	10.0	U	72.4

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091524-HM
Matrix: Air
Lab ID: 4092329-14
Sample Volume: 2097.448 m³
Filter ID:
Sampled: 09/15/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:00

Comments: Q8518509 - 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**	**0.0665**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.118**		**0.00727**
Barium	**7440-39-3**	**2.15**		**0.830**
Beryllium	**7440-41-7**	**0.00423**		**0.00248**
Cadmium	7440-43-9	0.0187	U	0.0575
Chromium	7440-47-3	1.41	U	1.71
Cobalt	**7440-48-4**	**0.153**		**0.0338**
Copper	**7440-50-8**	**29.4**		**2.04**
Lead	**7439-92-1**	**0.229**		**0.166**
Manganese	**7439-96-5**	**4.41**		**1.47**
Molybdenum	**7439-98-7**	**1.98**		**0.278**
Nickel	**7440-02-0**	**0.712**		**0.506**
Selenium	**7782-49-2**	**0.102**		**0.00695**
Thallium	7440-28-0	4.05E-4	QB-04, U	4.57E-4
Vanadium	**7440-62-2**	**0.523**		**0.0410**
Zinc	7440-66-6	6.79	U	59.6

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091524-HM
Matrix: Air
Lab ID: 4092329-15
Sample Volume: 1943.624 m³
Filter ID:
Sampled: 09/15/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:16

Comments: Q8518508 - 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**	**0.121**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.199**		**0.00784**
Barium	**7440-39-3**	**3.89**		**0.896**
Beryllium	**7440-41-7**	**0.00754**		**0.00268**
Cadmium	7440-43-9	0.0158	U	0.0620
Chromium	7440-47-3	1.82	U	1.85
Cobalt	**7440-48-4**	**0.264**		**0.0365**
Copper	**7440-50-8**	**33.7**		**2.20**
Lead	**7439-92-1**	**0.429**		**0.179**
Manganese	**7439-96-5**	**8.15**		**1.58**
Molybdenum	**7439-98-7**	**1.82**		**0.301**
Nickel	**7440-02-0**	**0.978**		**0.546**
Selenium	**7782-49-2**	**0.157**		**0.00750**
Thallium	**7440-28-0**	**6.07E-4**	QB-04	**4.93E-4**
Vanadium	**7440-62-2**	**0.899**		**0.0443**
Zinc	7440-66-6	10.7	U	64.3

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091524-HM
Matrix: Air
Lab ID: 4092329-16
Sample Volume: 1936.14 m³
Filter ID:
Sampled: 09/15/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:30

Comments: Q8518505 - 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**	**0.0447**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.128**		**0.00787**
Barium	**7440-39-3**	**2.75**		**0.899**
Beryllium	**7440-41-7**	**0.0217**		**0.00269**
Cadmium	7440-43-9	0.00670	U	0.0623
Chromium	**7440-47-3**	**2.47**		**1.86**
Cobalt	**7440-48-4**	**0.364**		**0.0366**
Copper	**7440-50-8**	**35.4**		**2.21**
Lead	**7439-92-1**	**0.243**		**0.180**
Manganese	**7439-96-5**	**8.48**		**1.59**
Molybdenum	**7439-98-7**	**2.58**		**0.302**
Nickel	**7440-02-0**	**1.35**		**0.548**
Selenium	**7782-49-2**	**0.132**		**0.00753**
Thallium	**7440-28-0**	**5.96E-4**	QB-04	**4.95E-4**
Vanadium	**7440-62-2**	**0.996**		**0.0445**
Zinc	7440-66-6	7.43	U	64.5

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091524-HM
Matrix: Air
Lab ID: 4092329-17
Sample Volume: 1700.416 m³
Filter ID:
Sampled: 09/15/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:44

Comments: Q8518504 - 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**	**0.0693**	SL	**0.0369**
Arsenic	**7440-38-2**	**0.104**		**0.00897**
Barium	**7440-39-3**	**1.69**		**1.02**
Beryllium	7440-41-7	0.00279	U	0.00306
Cadmium	7440-43-9	0.00506	U	0.0709
Chromium	7440-47-3	1.53	U	2.11
Cobalt	**7440-48-4**	**0.0984**		**0.0417**
Copper	**7440-50-8**	**16.7**		**2.52**
Lead	7439-92-1	0.179	U	0.205
Manganese	**7439-96-5**	**2.93**		**1.81**
Molybdenum	**7439-98-7**	**1.10**		**0.344**
Nickel	**7440-02-0**	**0.744**		**0.624**
Selenium	**7782-49-2**	**0.0707**		**0.00857**
Thallium	7440-28-0	3.17E-4	QB-04, U	5.64E-4
Vanadium	**7440-62-2**	**0.329**		**0.0506**
Zinc	7440-66-6	8.23	U	73.5

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FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091524-HM
Matrix: Air
Lab ID: 4092329-18
Sample Volume: 2097.448 m³
Filter ID:
Sampled: 09/15/24 00:00
Received: 09/23/24 10:07
Analysis Date: 09/25/24 06:58

Comments: Q8518497 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0165	SL, U	0.0299
Arsenic	7440-38-2	0.00298	U	0.00727
Barium	7440-39-3	0.745	U	0.830
Beryllium	7440-41-7	7.31E-5	U	0.00248
Cadmium	7440-43-9	4.73E-4	U	0.0575
Chromium	7440-47-3	0.737	U	1.71
Cobalt	7440-48-4	0.00722	U	0.0338
Copper	7440-50-8	0.335	U	2.04
Lead	7439-92-1	0.0226	U	0.166
Manganese	7439-96-5	0.101	U	1.47
Molybdenum	7439-98-7	0.132	U	0.278
Nickel	7440-02-0	0.315	U	0.506
Selenium	7782-49-2	ND	U	0.00695
Thallium	7440-28-0	8.12E-5	QB-04, U	4.57E-4
Vanadium	7440-62-2	0.00499	U	0.0410
Zinc	7440-66-6	3.37	U	59.6

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091624-HM
Matrix: Air
Lab ID: 4092329-19
Sample Volume: 1864.3 m³
Filter ID:
Sampled: 09/16/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 07:12

Comments: Q8518502 - 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**	**0.0908**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.240**		**0.00818**
Barium	**7440-39-3**	**3.92**		**0.934**
Beryllium	**7440-41-7**	**0.00814**		**0.00279**
Cadmium	7440-43-9	0.0158	U	0.0647
Chromium	**7440-47-3**	**2.35**		**1.93**
Cobalt	**7440-48-4**	**0.361**		**0.0381**
Copper	**7440-50-8**	**51.2**		**2.30**
Lead	**7439-92-1**	**0.504**		**0.187**
Manganese	**7439-96-5**	**9.62**		**1.65**
Molybdenum	**7439-98-7**	**2.61**		**0.313**
Nickel	**7440-02-0**	**1.40**		**0.569**
Selenium	**7782-49-2**	**0.189**		**0.00782**
Thallium	**7440-28-0**	**7.22E-4**	QB-04	**5.14E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0462**
Zinc	7440-66-6	13.2	U	67.0

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091624-HM
Matrix: Air
Lab ID: 4092329-20
Sample Volume: 1990.904 m³
Filter ID:
Sampled: 09/16/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 07:27

Comments: Q8518501 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.284**		**0.00766**
Barium	**7440-39-3**	**4.93**		**0.874**
Beryllium	**7440-41-7**	**0.0118**		**0.00262**
Cadmium	7440-43-9	0.0109	U	0.0606
Chromium	**7440-47-3**	**2.87**		**1.81**
Cobalt	**7440-48-4**	**0.511**		**0.0356**
Copper	**7440-50-8**	**35.6**		**2.15**
Lead	**7439-92-1**	**0.671**		**0.175**
Manganese	**7439-96-5**	**14.2**		**1.54**
Molybdenum	**7439-98-7**	**1.71**		**0.293**
Nickel	**7440-02-0**	**1.62**		**0.533**
Selenium	**7782-49-2**	**0.203**		**0.00732**
Thallium	**7440-28-0**	**9.13E-4**	QB-04	**4.81E-4**
Vanadium	**7440-62-2**	**1.73**		**0.0432**
Zinc	7440-66-6	10.6	U	62.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091624-HM
Matrix: Air
Lab ID: 4092329-21
Sample Volume: 1964.044 m³
Filter ID:
Sampled: 09/16/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 08:55

Comments: Q8518499 - 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**	**0.0514**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.203**		**0.00776**
Barium	**7440-39-3**	**2.89**	LJ, QX	**0.886**
Beryllium	**7440-41-7**	**0.0175**		**0.00265**
Cadmium	7440-43-9	0.0170	U	0.0614
Chromium	**7440-47-3**	**2.62**		**1.83**
Cobalt	**7440-48-4**	**0.405**		**0.0361**
Copper	**7440-50-8**	**53.8**		**2.18**
Lead	**7439-92-1**	**0.366**		**0.177**
Manganese	**7439-96-5**	**11.5**		**1.57**
Molybdenum	**7439-98-7**	**4.14**		**0.297**
Nickel	**7440-02-0**	**2.16**		**0.540**
Selenium	**7782-49-2**	**0.185**		**0.00742**
Thallium	**7440-28-0**	**0.00108**	QB-04	**4.88E-4**
Vanadium	**7440-62-2**	**0.996**		**0.0438**
Zinc	7440-66-6	9.62	U	63.6

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091624-HM
Matrix: Air
Lab ID: 4092329-22
Sample Volume: 1719.771 m³
Filter ID:
Sampled: 09/16/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 09:13

Comments: Q8518496 - 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**	**0.102**	SL	**0.0365**
Arsenic	**7440-38-2**	**0.170**		**0.00886**
Barium	**7440-39-3**	**2.53**	LJ, QX	**1.01**
Beryllium	**7440-41-7**	**0.00540**		**0.00303**
Cadmium	7440-43-9	0.0129	U	0.0701
Chromium	**7440-47-3**	**4.02**		**2.09**
Cobalt	**7440-48-4**	**0.295**		**0.0412**
Copper	**7440-50-8**	**37.3**		**2.49**
Lead	**7439-92-1**	**0.344**		**0.202**
Manganese	**7439-96-5**	**8.71**		**1.79**
Molybdenum	**7439-98-7**	**2.22**		**0.340**
Nickel	**7440-02-0**	**2.38**		**0.617**
Selenium	**7782-49-2**	**0.185**		**0.00848**
Thallium	**7440-28-0**	**9.19E-4**	QB-04	**5.57E-4**
Vanadium	**7440-62-2**	**0.709**		**0.0500**
Zinc	7440-66-6	12.0	U	72.7

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091724-HM
Matrix: Air
Lab ID: 4092329-23
Sample Volume: 1918.286 m³
Filter ID:
Sampled: 09/17/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 09:26

Comments: Q8518494 - 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**	**0.0658**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.193**		**0.00795**
Barium	**7440-39-3**	**2.85**	LJ, QX	**0.908**
Beryllium	**7440-41-7**	**0.00500**		**0.00271**
Cadmium	7440-43-9	0.0223	U	0.0628
Chromium	7440-47-3	1.72	U	1.87
Cobalt	**7440-48-4**	**0.239**		**0.0370**
Copper	**7440-50-8**	**47.6**		**2.23**
Lead	**7439-92-1**	**0.376**		**0.182**
Manganese	**7439-96-5**	**7.59**		**1.60**
Molybdenum	**7439-98-7**	**2.31**		**0.304**
Nickel	**7440-02-0**	**0.955**		**0.553**
Selenium	**7782-49-2**	**0.209**		**0.00760**
Thallium	**7440-28-0**	**6.76E-4**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**0.855**		**0.0449**
Zinc	7440-66-6	8.66	U	65.1

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091724-HM
Matrix: Air
Lab ID: 4092329-24
Sample Volume: 1950.143 m³
Filter ID:
Sampled: 09/17/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/24/24 22:55

Comments: Q8518493 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**	**0.0999**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.282**		**0.00782**
Barium	**7440-39-3**	**3.63**		**0.893**
Beryllium	**7440-41-7**	**0.00998**		**0.00267**
Cadmium	7440-43-9	0.00885	U	0.0618
Chromium	7440-47-3	1.83	U	1.84
Cobalt	**7440-48-4**	**0.317**		**0.0364**
Copper	**7440-50-8**	**46.5**		**2.19**
Lead	**7439-92-1**	**0.948**		**0.179**
Manganese	**7439-96-5**	**10.3**		**1.58**
Molybdenum	**7439-98-7**	**1.57**		**0.300**
Nickel	**7440-02-0**	**1.05**		**0.544**
Selenium	**7782-49-2**	**0.248**	SRD-01	**0.00748**
Thallium	**7440-28-0**	**8.44E-4**		**4.91E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0441**
Zinc	7440-66-6	15.5	U	64.1

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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: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091724-HM
Matrix: Air
Lab ID: 4092329-25
Sample Volume: 1891.086 m³
Filter ID:
Sampled: 09/17/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 09:41

Comments: Q8518489 - 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**	**0.0668**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.272**		**0.00806**
Barium	**7440-39-3**	**3.45**	LJ, QX	**0.921**
Beryllium	**7440-41-7**	**0.0150**		**0.00275**
Cadmium	7440-43-9	0.0232	U	0.0638
Chromium	**7440-47-3**	**4.12**		**1.90**
Cobalt	**7440-48-4**	**0.635**		**0.0375**
Copper	**7440-50-8**	**77.0**		**2.26**
Lead	**7439-92-1**	**0.435**		**0.184**
Manganese	**7439-96-5**	**17.4**		**1.63**
Molybdenum	**7439-98-7**	**3.90**		**0.309**
Nickel	**7440-02-0**	**6.35**		**0.561**
Selenium	**7782-49-2**	**0.240**		**0.00771**
Thallium	**7440-28-0**	**0.00129**	QB-04	**5.07E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0455**
Zinc	7440-66-6	23.2	U	66.1

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091724-HM
Matrix: Air
Lab ID: 4092329-26
Sample Volume: 1837.719 m³
Filter ID:
Sampled: 09/17/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 09:56

Comments: Q8518488 - 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**	**0.119**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.778**		**0.00830**
Barium	**7440-39-3**	**5.45**	LJ, QX	**0.947**
Beryllium	**7440-41-7**	**0.0339**		**0.00283**
Cadmium	7440-43-9	0.0155	U	0.0656
Chromium	**7440-47-3**	**7.87**		**1.96**
Cobalt	**7440-48-4**	**1.06**		**0.0386**
Copper	**7440-50-8**	**24.4**		**2.33**
Lead	**7439-92-1**	**0.619**		**0.189**
Manganese	**7439-96-5**	**34.1**		**1.67**
Molybdenum	**7439-98-7**	**1.38**		**0.318**
Nickel	**7440-02-0**	**4.48**		**0.577**
Selenium	**7782-49-2**	**0.284**		**0.00793**
Thallium	**7440-28-0**	**0.00183**	QB-04	**5.21E-4**
Vanadium	**7440-62-2**	**2.85**		**0.0468**
Zinc	7440-66-6	15.0	U	68.0

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-091724-HM
Matrix: Air
Lab ID: 4092329-27
Sample Volume: 1918.286 m³
Filter ID:
Sampled: 09/17/24 00:00
Received: 09/23/24 10:07
Analysis Date: 09/25/24 10:13

Comments: Q8518483 - 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**	**0.0458**	FB-01, SL	**0.0327**
Arsenic	**7440-38-2**	**0.00907**	FB-01	**0.00795**
Barium	**7440-39-3**	**0.963**	FB-01, LJ, QX	**0.908**
Beryllium	7440-41-7	3.47E-4	U	0.00271
Cadmium	7440-43-9	0.00124	U	0.0628
Chromium	7440-47-3	0.982	U	1.87
Cobalt	7440-48-4	0.0186	U	0.0370
Copper	**7440-50-8**	**2.83**	FB-01	**2.23**
Lead	7439-92-1	0.135	U	0.182
Manganese	7439-96-5	0.399	U	1.60
Molybdenum	7439-98-7	0.193	U	0.304
Nickel	7440-02-0	0.460	U	0.553
Selenium	7782-49-2	0.00621	U	0.00760
Thallium	7440-28-0	1.46E-4	QB-04, U	5.00E-4
Vanadium	7440-62-2	0.0233	U	0.0449
Zinc	7440-66-6	15.2	U	65.1

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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: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-091824-HM
Matrix: Air
Lab ID: 4092329-28
Sample Volume: 1859.631 m³
Filter ID:
Sampled: 09/18/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 10:27

Comments: Q8518487 - 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**	**0.161**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.608**		**0.00820**
Barium	**7440-39-3**	**8.68**	LJ, QX	**0.936**
Beryllium	**7440-41-7**	**0.0174**		**0.00280**
Cadmium	7440-43-9	0.0295	U	0.0648
Chromium	**7440-47-3**	**3.67**		**1.93**
Cobalt	**7440-48-4**	**0.728**		**0.0381**
Copper	**7440-50-8**	**39.3**		**2.30**
Lead	**7439-92-1**	**3.26**		**0.187**
Manganese	**7439-96-5**	**21.4**		**1.65**
Molybdenum	**7439-98-7**	**2.17**		**0.314**
Nickel	**7440-02-0**	**2.22**		**0.570**
Selenium	**7782-49-2**	**0.253**		**0.00784**
Thallium	**7440-28-0**	**0.00133**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**2.49**		**0.0463**
Zinc	7440-66-6	19.5	U	67.2

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-091824-HM
Matrix: Air
Lab ID: 4092329-29
Sample Volume: 2048.864 m³
Filter ID:
Sampled: 09/18/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 10:46

Comments: Q8518486 - 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**	**0.0907**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.319**		**0.00744**
Barium	**7440-39-3**	**4.46**	LJ, QX	**0.850**
Beryllium	**7440-41-7**	**0.00999**		**0.00254**
Cadmium	7440-43-9	0.00916	U	0.0588
Chromium	**7440-47-3**	**2.14**		**1.75**
Cobalt	**7440-48-4**	**0.374**		**0.0346**
Copper	**7440-50-8**	**47.2**		**2.09**
Lead	**7439-92-1**	**1.22**		**0.170**
Manganese	**7439-96-5**	**12.0**		**1.50**
Molybdenum	**7439-98-7**	**1.91**		**0.285**
Nickel	**7440-02-0**	**1.27**		**0.518**
Selenium	**7782-49-2**	**0.232**		**0.00712**
Thallium	**7440-28-0**	**9.31E-4**	QB-04	**4.68E-4**
Vanadium	**7440-62-2**	**1.56**		**0.0420**
Zinc	7440-66-6	10.4	U	61.0

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-091824-HM
Matrix: Air
Lab ID: 4092329-30
Sample Volume: 1916.392 m³
Filter ID:
Sampled: 09/18/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 11:02

Comments: Q8518485 - 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**	**0.0638**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.197**		**0.00796**
Barium	**7440-39-3**	**3.45**	LJ, QX	**0.908**
Beryllium	**7440-41-7**	**0.0229**		**0.00272**
Cadmium	7440-43-9	0.0115	U	0.0629
Chromium	**7440-47-3**	**3.03**		**1.88**
Cobalt	**7440-48-4**	**0.536**		**0.0370**
Copper	**7440-50-8**	**56.5**		**2.23**
Lead	**7439-92-1**	**0.294**		**0.182**
Manganese	**7439-96-5**	**13.6**		**1.60**
Molybdenum	**7439-98-7**	**3.00**		**0.305**
Nickel	**7440-02-0**	**2.60**		**0.554**
Selenium	**7782-49-2**	**0.200**		**0.00761**
Thallium	**7440-28-0**	**9.87E-4**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0449**
Zinc	7440-66-6	11.2	U	65.2

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM07-091824-HM
Matrix: Air
Lab ID: 4092329-31
Sample Volume: 1916.359 m³
Filter ID:
Sampled: 09/18/24 23:59
Received: 09/23/24 10:07
Analysis Date: 09/25/24 12:37

Comments: Q8518484 - 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**	**0.111**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.238**		**0.00796**
Barium	**7440-39-3**	**2.99**	LJ, QX	**0.908**
Beryllium	**7440-41-7**	**0.00735**		**0.00272**
Cadmium	7440-43-9	0.00950	U	0.0629
Chromium	**7440-47-3**	**2.40**		**1.88**
Cobalt	**7440-48-4**	**0.307**		**0.0370**
Copper	**7440-50-8**	**29.1**		**2.23**
Lead	**7439-92-1**	**0.283**		**0.182**
Manganese	**7439-96-5**	**9.60**		**1.60**
Molybdenum	**7439-98-7**	**1.72**		**0.305**
Nickel	**7440-02-0**	**1.54**		**0.554**
Selenium	**7782-49-2**	**0.173**		**0.00761**
Thallium	**7440-28-0**	**9.76E-4**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0449**
Zinc	7440-66-6	9.77	U	65.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-091324-HM
Matrix: Air
Lab ID: 4092329-32
Sample Volume: 1859.631 m³
Filter ID:
Sampled: 09/13/24 00:00
Received: 09/23/24 10:07
Analysis Date: 09/25/24 13:11

Comments: Q8518517 - 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	0.0193	SL, U	0.0338
Arsenic	7440-38-2	0.00245	U	0.00820
Barium	7440-39-3	0.824	LJ, QX, U	0.936
Beryllium	7440-41-7	1.28E-4	U	0.00280
Cadmium	7440-43-9	6.19E-4	U	0.0648
Chromium	7440-47-3	0.953	U	1.93
Cobalt	7440-48-4	0.00986	U	0.0381
Copper	7440-50-8	0.351	U	2.30
Lead	7439-92-1	0.0240	U	0.187
Manganese	7439-96-5	0.154	U	1.65
Molybdenum	7439-98-7	0.156	U	0.314
Nickel	7440-02-0	0.400	U	0.570
Selenium	7782-49-2	0.00279	U	0.00784
Thallium	7440-28-0	1.79E-4	QB-04, U	5.15E-4
Vanadium	7440-62-2	ND	U	0.0463
Zinc	7440-66-6	2.17	U	67.2

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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 2409102 - B4I2407										
Calibration Blank (2409102-CCB1)				Prepared & Analyzed: 09/24/24						
Antimony	0.656		ng/l							
Arsenic	0.869		ng/l							
Barium	0.0813		ng/l							
Beryllium	-0.789		ng/l							U
Cadmium	-0.0464		ng/l							U
Chromium	1.95		ng/l							
Cobalt	0.181		ng/l							
Copper	44.6		ng/l							
Lead	4.37		ng/l							
Manganese	10.0		ng/l							
Molybdenum	19.2		ng/l							
Nickel	2.34		ng/l							
Selenium	1.81		ng/l							
Thallium	1.36		ng/l							
Vanadium	-49.2		ng/l							U
Zinc	-90.2		ng/l							U
Calibration Blank (2409102-CCB2)				Prepared & Analyzed: 09/24/24						
Antimony	0.604		ng/l							
Arsenic	2.33		ng/l							
Barium	1.28		ng/l							
Beryllium	-0.860		ng/l							U
Cadmium	0.0393		ng/l							
Chromium	1.74		ng/l							
Cobalt	0.486		ng/l							
Copper	20.3		ng/l							
Lead	2.70		ng/l							
Manganese	6.53		ng/l							
Molybdenum	-2.67		ng/l							U
Nickel	1.83		ng/l							
Selenium	-1.65		ng/l							U
Thallium	0.855		ng/l							
Vanadium	-49.7		ng/l							U
Zinc	-134		ng/l							U
Calibration Blank (2409102-CCB3)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.368		ng/l							
Arsenic	4.68		ng/l							
Barium	1.06		ng/l							
Beryllium	-0.955		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 2409102 - B4I2407										
Calibration Blank (2409102-CCB3) Contin				Prepared: 09/24/24 Analyzed: 09/25/24						
Cadmium	0.0502		ng/l							
Chromium	1.44		ng/l							
Cobalt	0.418		ng/l							
Copper	10.1		ng/l							
Lead	1.56		ng/l							
Manganese	12.1		ng/l							
Molybdenum	-2.84		ng/l							U
Nickel	3.40		ng/l							
Selenium	10.5		ng/l							
Thallium	1.18		ng/l							
Vanadium	-58.3		ng/l							U
Zinc	-126		ng/l							U
Calibration Blank (2409102-CCB4)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.685		ng/l							
Arsenic	2.56		ng/l							
Barium	0.570		ng/l							
Beryllium	-1.50		ng/l							U
Cadmium	0.0585		ng/l							
Chromium	1.30		ng/l							
Cobalt	0.388		ng/l							
Copper	3.77		ng/l							
Lead	0.732		ng/l							
Manganese	9.76		ng/l							
Molybdenum	-3.31		ng/l							U
Nickel	3.88		ng/l							
Selenium	2.22		ng/l							
Thallium	0.977		ng/l							
Vanadium	-63.9		ng/l							U
Zinc	-155		ng/l							U
Calibration Blank (2409102-CCB5)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.674		ng/l							
Arsenic	1.76		ng/l							
Barium	0.491		ng/l							
Beryllium	-1.86		ng/l							U
Cadmium	-0.0372		ng/l							U
Chromium	1.14		ng/l							
Cobalt	0.280		ng/l							
Copper	5.70		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Blank (2409102-CCB5) Contin				Prepared: 09/24/24 Analyzed: 09/25/24						
Lead	1.11		ng/l							
Manganese	10.3		ng/l							
Molybdenum	-0.643		ng/l							U
Nickel	3.09		ng/l							
Selenium	6.72		ng/l							
Thallium	1.53		ng/l							QB-04
Vanadium	-70.5		ng/l							U
Zinc	-156		ng/l							U
Calibration Blank (2409102-CCB6)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.705		ng/l							
Arsenic	3.23		ng/l							
Barium	0.924		ng/l							
Beryllium	-1.64		ng/l							U
Cadmium	0.122		ng/l							
Chromium	2.15		ng/l							
Cobalt	0.351		ng/l							
Copper	9.02		ng/l							
Lead	1.29		ng/l							
Manganese	10.5		ng/l							
Molybdenum	0.898		ng/l							
Nickel	4.27		ng/l							
Selenium	12.2		ng/l							
Thallium	1.49		ng/l							QB-04
Vanadium	-80.0		ng/l							U
Zinc	-107		ng/l							U
Calibration Blank (2409102-CCB7)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.334		ng/l							
Arsenic	0.767		ng/l							
Barium	0.414		ng/l							
Beryllium	-1.55		ng/l							U
Cadmium	0.0232		ng/l							
Chromium	2.35		ng/l							
Cobalt	0.145		ng/l							
Copper	4.50		ng/l							
Lead	0.927		ng/l							
Manganese	9.25		ng/l							
Molybdenum	-2.99		ng/l							U
Nickel	4.84		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Blank (2409102-CCB7) Contin				Prepared: 09/24/24 Analyzed: 09/25/24						
Selenium	13.4		ng/l							
Thallium	1.27		ng/l							
Vanadium	-77.0		ng/l							U
Zinc	-151		ng/l							U
Calibration Check (2409102-CCV1)				Prepared & Analyzed: 09/24/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	4800		ng/l	5000.0		96.1	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	499		ng/l	500.00		99.8	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2409102-CCV2)				Prepared & Analyzed: 09/24/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4980		ng/l	5000.0		99.5	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	49900		ng/l	50000		99.7	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	497		ng/l	500.00		99.3	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	517000		ng/l	500000		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 2409102 - B4I2407										
Calibration Check (2409102-CCV3)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	4820		ng/l	5000.0		96.4	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.0	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	20000		ng/l	20000		99.8	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2409102-CCV4)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	4730		ng/l	5000.0		94.6	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2409102-CCV5)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	221000		ng/l	200000		110	90-110			
Beryllium	4780		ng/l	5000.0		95.7	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Check (2409102-CCV5) Contin				Prepared: 09/24/24 Analyzed: 09/25/24						
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51100		ng/l	50000		102	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	53200		ng/l	50000		106	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2409102-CCV6)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	223000		ng/l	200000		111	90-110			LJ, QX
Beryllium	4700		ng/l	5000.0		94.0	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51900		ng/l	50000		104	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	523000		ng/l	500000		105	90-110			
Molybdenum	54700		ng/l	50000		109	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Calibration Check (2409102-CCV7)				Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	215000		ng/l	200000		108	90-110			
Beryllium	4580		ng/l	5000.0		91.6	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Calibration Check (2409102-CCV7) Contin					Prepared: 09/24/24 Analyzed: 09/25/24					
Lead	207000		ng/l	200000		103	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	53500		ng/l	50000		107	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	499		ng/l	500.00		99.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	532000		ng/l	500000		106	90-110			
High Cal Check (2409102-HCV1)					Prepared & Analyzed: 09/24/24					
Antimony	39900		ng/l	40000		99.8	95-105			
Arsenic	39900		ng/l	40000		99.8	95-105			
Barium	401000		ng/l	400000		100	95-105			
Beryllium	9870		ng/l	10000		98.7	95-105			
Cadmium	40200		ng/l	40000		100	95-105			
Chromium	478000		ng/l	480000		99.6	95-105			
Cobalt	99800		ng/l	100000		99.8	95-105			
Copper	3.99E6		ng/l	4.0000E6		99.7	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	994000		ng/l	1.0000E6		99.4	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	239000		ng/l	240000		99.5	95-105			
Selenium	40400		ng/l	40000		101	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39900		ng/l	40000		99.8	95-105			
Zinc	990000		ng/l	1.0000E6		99.0	95-105			
Initial Cal Blank (2409102-ICB1)					Prepared & Analyzed: 09/24/24					
Antimony	1.21		ng/l							
Arsenic	-1.01		ng/l							U
Barium	0.770		ng/l							
Beryllium	-0.444		ng/l							U
Cadmium	-0.0427		ng/l							U
Chromium	2.70		ng/l							
Cobalt	0.0816		ng/l							
Copper	36.1		ng/l							
Lead	8.24		ng/l							
Manganese	4.71		ng/l							
Molybdenum	5.48		ng/l							
Nickel	1.50		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Initial Cal Blank (2409102-ICB1) Continu				Prepared & Analyzed: 09/24/24						
Selenium	1.61		ng/l							
Thallium	0.769		ng/l							
Vanadium	-49.0		ng/l							U
Zinc	-136		ng/l							U
Initial Cal Check (2409102-ICV1)				Prepared & Analyzed: 09/24/24						
Antimony	19400		ng/l	20000		97.2	90-110			
Arsenic	19400		ng/l	20000		97.1	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	4870		ng/l	5000.0		97.4	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	237000		ng/l	240000		98.6	90-110			
Cobalt	47600		ng/l	50000		95.2	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	489000		ng/l	500000		97.7	90-110			
Molybdenum	49600		ng/l	50000		99.1	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	507		ng/l	500.00		101	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Interference Check A (2409102-IFA1)				Prepared & Analyzed: 09/24/24						
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	317000		ng/l	300000		106	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409102 - B4I2407										
Interference Check B (2409102-IFB1)				Prepared & Analyzed: 09/24/24						
Antimony	20500		ng/l	20000		103	80-120			
Arsenic	20500		ng/l	20000		102	80-120			
Barium	205000		ng/l	200000		102	80-120			
Beryllium	4720		ng/l	5000.0		94.4	80-120			
Cadmium	19900		ng/l	20000		99.3	80-120			
Chromium	234000		ng/l	240000		97.3	80-120			
Cobalt	49400		ng/l	50000		98.7	80-120			
Copper	1.92E6		ng/l	2.0000E6		95.9	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	506000		ng/l	500000		101	80-120			
Molybdenum	371000		ng/l	350000		106	80-120			
Nickel	116000		ng/l	120000		96.7	80-120			
Selenium	19300		ng/l	20000		96.5	80-120			
Thallium	527		ng/l	500.00		105	80-120			
Vanadium	19700		ng/l	20000		98.3	80-120			
Zinc	475000		ng/l	500000		95.0	80-120			
Batch B4I2407 - ICP-MS Extraction										
Blank (B4I2407-BLK1)				Prepared & Analyzed: 09/24/24						
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 (B4I2407-BS1)				Prepared & Analyzed: 09/24/24						
Antimony	0.657	0.0386	ng/m³ Air	1.3829		47.5	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		99.1	80-120			
Barium	28.4	1.07	ng/m³ Air	27.658		103	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 B4I2407 - ICP-MS Extraction										
LCS (B4I2407-BS1) Continued					Prepared & Analyzed: 09/24/24					
Beryllium	1.27	0.00320	ng/m³ Air	1.3829		91.5	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.34	0.0436	ng/m³ Air	1.3829		96.6	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.2	0.214	ng/m³ Air	13.829		95.6	80-120			
Manganese	8.51	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.58	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	3.03	0.652	ng/m³ Air	2.7658		110	80-120			
Selenium	2.68	0.00896	ng/m³ Air	2.7658		96.8	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.1	80-120			
Vanadium	2.69	0.0529	ng/m³ Air	2.7658		97.2	80-120			
Zinc	89.4	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4I2407-BS2)					Prepared & Analyzed: 09/24/24					
Antimony	0.689	0.0386	ng/m³ Air	1.3829		49.8	80-120			SL
Arsenic	2.65	0.00937	ng/m³ Air	2.7658		95.7	80-120			
Barium	27.6	1.07	ng/m³ Air	27.658		99.9	80-120			
Beryllium	1.23	0.00320	ng/m³ Air	1.3829		89.2	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.2	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.28	0.0436	ng/m³ Air	1.3829		92.8	80-120			
Copper	28.1	2.63	ng/m³ Air	27.658		101	80-120			
Lead	12.7	0.214	ng/m³ Air	13.829		91.9	80-120			
Manganese	8.22	1.89	ng/m³ Air	8.2975		99.0	80-120			
Molybdenum	1.51	0.359	ng/m³ Air	1.3829		109	80-120			
Nickel	2.99	0.652	ng/m³ Air	2.7658		108	80-120			
Selenium	2.60	0.00896	ng/m³ Air	2.7658		94.0	80-120			
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.6	80-120			
Vanadium	2.58	0.0529	ng/m³ Air	2.7658		93.3	80-120			
Zinc	86.1	76.8	ng/m³ Air	82.975		104	80-120			
Duplicate (B4I2407-DUP1)		**Source: 4092329-04**			Prepared & Analyzed: 09/24/24					
Antimony	0.169	0.0394	ng/m³ Air		0.193			13.3	10	SL
Arsenic	0.251	0.00957	ng/m³ Air		0.275			8.95	10	
Barium	6.26	1.09	ng/m³ Air		6.13			2.10	10	
Beryllium	0.00869	0.00327	ng/m³ Air		0.00988			12.9	10	
Cadmium	ND	0.0756	ng/m³ Air		ND				10	U
Chromium	3.48	2.26	ng/m³ Air		3.28			5.85	10	
Cobalt	0.352	0.0445	ng/m³ Air		0.378			7.26	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Duplicate (B4I2407-DUP1) Continued			**Source: 4092329-04**		Prepared & Analyzed: 09/24/24					
Copper	36.6	2.68	ng/m³ Air		38.6			5.28	10	
Lead	0.799	0.218	ng/m³ Air		1.05			26.9	10	
Manganese	10.5	1.93	ng/m³ Air		11.2			6.76	10	
Molybdenum	2.01	0.366	ng/m³ Air		1.96			2.23	10	
Nickel	2.11	0.666	ng/m³ Air		2.05			3.02	10	
Selenium	0.206	0.00915	ng/m³ Air		0.233			12.3	10	
Thallium	0.00120	6.01E-4	ng/m³ Air		0.00127			5.49	10	
Vanadium	1.08	0.0540	ng/m³ Air		1.09			0.808	10	
Zinc	ND	78.4	ng/m³ Air		ND				10	U
Duplicate (B4I2407-DUP2)			**Source: 4092329-24**		Prepared & Analyzed: 09/24/24					
Antimony	0.0989	0.0322	ng/m³ Air		0.0999			1.04	10	SL
Arsenic	0.290	0.00782	ng/m³ Air		0.282			2.58	10	
Barium	3.77	0.893	ng/m³ Air		3.63			3.81	10	
Beryllium	0.0105	0.00267	ng/m³ Air		0.00998			5.03	10	
Cadmium	ND	0.0618	ng/m³ Air		ND				10	U
Chromium	1.90	1.84	ng/m³ Air		ND				10	
Cobalt	0.328	0.0364	ng/m³ Air		0.317			3.36	10	
Copper	48.1	2.19	ng/m³ Air		46.5			3.55	10	
Lead	1.04	0.179	ng/m³ Air		0.948			9.34	10	
Manganese	10.7	1.58	ng/m³ Air		10.3			4.02	10	
Molybdenum	1.64	0.300	ng/m³ Air		1.57			4.82	10	
Nickel	1.07	0.544	ng/m³ Air		1.05			1.77	10	
Selenium	0.243	0.00748	ng/m³ Air		0.248			2.28	10	
Thallium	8.11E-4	4.91E-4	ng/m³ Air		8.44E-4			3.95	10	
Vanadium	1.19	0.0441	ng/m³ Air		1.13			5.51	10	
Zinc	ND	64.1	ng/m³ Air		ND				10	U
Duplicate (B4I2407-DUP3)			**Source: 4092329-10**		Prepared: 09/24/24 Analyzed: 09/25/24					
Antimony	0.0990	0.0313	ng/m³ Air		0.100			1.39	10	SL
Arsenic	0.225	0.00759	ng/m³ Air		0.227			0.784	10	
Barium	3.18	0.866	ng/m³ Air		3.16			0.539	10	
Beryllium	0.00657	0.00259	ng/m³ Air		0.00607			7.94	10	
Cadmium	ND	0.0600	ng/m³ Air		ND				10	U
Chromium	ND	1.79	ng/m³ Air		ND				10	U
Cobalt	0.237	0.0353	ng/m³ Air		0.238			0.528	10	
Copper	33.3	2.13	ng/m³ Air		33.6			0.877	10	
Lead	0.502	0.173	ng/m³ Air		0.505			0.562	10	
Manganese	7.74	1.53	ng/m³ Air		7.72			0.338	10	
Molybdenum	2.03	0.291	ng/m³ Air		2.04			0.336	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 B4I2407 - ICP-MS Extraction										
Duplicate (B4I2407-DUP3) Continued		**Source: 4092329-10**		Prepared: 09/24/24 Analyzed: 09/25/24						
Nickel	0.910	0.528	ng/m³ Air		0.921			1.16	10	
Selenium	0.257	0.00726	ng/m³ Air		0.271			5.14	10	
Thallium	0.00130	4.77E-4	ng/m³ Air		0.00133			1.93	10	
Vanadium	0.893	0.0428	ng/m³ Air		0.888			0.542	10	
Zinc	ND	62.2	ng/m³ Air		ND				10	U
Duplicate (B4I2407-DUP4)		**Source: 4092329-31**		Prepared: 09/24/24 Analyzed: 09/25/24						
Antimony	0.109	0.0328	ng/m³ Air		0.111			2.18	10	SL
Arsenic	0.238	0.00796	ng/m³ Air		0.238			0.213	10	
Barium	2.90	0.908	ng/m³ Air		2.99			2.96	10	LJ, QX
Beryllium	0.00744	0.00272	ng/m³ Air		0.00735			1.17	10	
Cadmium	ND	0.0629	ng/m³ Air		ND				10	U
Chromium	2.36	1.88	ng/m³ Air		2.40			2.03	10	
Cobalt	0.300	0.0370	ng/m³ Air		0.307			2.20	10	
Copper	28.4	2.23	ng/m³ Air		29.1			2.34	10	
Lead	0.279	0.182	ng/m³ Air		0.283			1.40	10	
Manganese	9.42	1.60	ng/m³ Air		9.60			1.85	10	
Molybdenum	1.70	0.305	ng/m³ Air		1.72			1.56	10	
Nickel	1.51	0.554	ng/m³ Air		1.54			2.00	10	
Selenium	0.186	0.00761	ng/m³ Air		0.173			7.67	10	
Thallium	9.43E-4	5.00E-4	ng/m³ Air		9.76E-4			3.41	10	QB-04
Vanadium	1.01	0.0449	ng/m³ Air		1.02			1.60	10	
Zinc	ND	65.2	ng/m³ Air		ND				10	U
Matrix Spike (B4I2407-MS1)		**Source: 4092329-04**		Prepared & Analyzed: 09/24/24						
Antimony	0.957	0.0394	ng/m³ Air	1.4118	0.193	54.1	80-120			SL
Arsenic	3.03	0.00957	ng/m³ Air	2.8235	0.275	97.5	80-120			
Barium	34.5	1.09	ng/m³ Air	28.235	6.13	101	80-120			
Beryllium	1.35	0.00327	ng/m³ Air	1.4118	0.00988	94.6	80-120			
Cadmium	1.46	0.0756	ng/m³ Air	1.4118	ND	103	80-120			
Chromium	17.2	2.26	ng/m³ Air	14.118	3.28	98.8	80-120			
Cobalt	1.65	0.0445	ng/m³ Air	1.4118	0.378	90.2	80-120			
Copper	56.3	2.68	ng/m³ Air	28.235	38.6	62.6	80-120			QM-07
Lead	14.6	0.218	ng/m³ Air	14.118	1.05	96.1	80-120			
Manganese	18.4	1.93	ng/m³ Air	8.4706	11.2	84.7	80-120			
Molybdenum	2.78	0.366	ng/m³ Air	1.4118	1.96	58.1	80-120			QM-07
Nickel	4.31	0.666	ng/m³ Air	2.8235	2.05	80.2	80-120			
Selenium	2.98	0.00915	ng/m³ Air	2.8235	0.233	97.3	80-120			
Thallium	0.140	6.01E-4	ng/m³ Air	0.14118	0.00127	98.3	80-120			
Vanadium	3.75	0.0540	ng/m³ Air	2.8235	1.09	94.2	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Matrix Spike (B4I2407-MS1) Continued Source: 4092329-04 Prepared & Analyzed: 09/24/24										
Zinc	107	78.4	ng/m³ Air	84.706	ND	126	80-120			
Matrix Spike (B4I2407-MS2) Source: 4092329-24 Prepared & Analyzed: 09/24/24										
Antimony	0.731	0.0322	ng/m³ Air	1.1538	0.0999	54.7	80-120			SL
Arsenic	2.44	0.00782	ng/m³ Air	2.3075	0.282	93.6	80-120			
Barium	26.0	0.893	ng/m³ Air	23.075	3.63	96.9	80-120			
Beryllium	1.10	0.00267	ng/m³ Air	1.1538	0.00998	94.3	80-120			
Cadmium	1.10	0.0618	ng/m³ Air	1.1538	ND	95.0	80-120			
Chromium	12.8	1.84	ng/m³ Air	11.538	ND	111	80-120			
Cobalt	1.33	0.0364	ng/m³ Air	1.1538	0.317	87.6	80-120			
Copper	65.7	2.19	ng/m³ Air	23.075	46.5	83.5	80-120			
Lead	11.7	0.179	ng/m³ Air	11.538	0.948	93.1	80-120			
Manganese	16.5	1.58	ng/m³ Air	6.9226	10.3	89.1	80-120			
Molybdenum	2.58	0.300	ng/m³ Air	1.1538	1.57	88.2	80-120			
Nickel	3.25	0.544	ng/m³ Air	2.3075	1.05	95.6	80-120			
Selenium	2.37	0.00748	ng/m³ Air	2.3075	0.248	91.8	80-120			
Thallium	0.108	4.91E-4	ng/m³ Air	0.11538	8.44E-4	93.0	80-120			
Vanadium	3.23	0.0441	ng/m³ Air	2.3075	1.13	91.0	80-120			
Zinc	80.8	64.1	ng/m³ Air	69.226	ND	117	80-120			
Matrix Spike Dup (B4I2407-MSD1) Source: 4092329-04 Prepared & Analyzed: 09/24/24										
Antimony	0.924	0.0394	ng/m³ Air	1.4118	0.193	51.7	80-120	3.56	20	SL
Arsenic	2.95	0.00957	ng/m³ Air	2.8235	0.275	94.8	80-120	2.55	20	
Barium	34.2	1.09	ng/m³ Air	28.235	6.13	99.4	80-120	0.955	20	
Beryllium	1.41	0.00327	ng/m³ Air	1.4118	0.00988	99.2	80-120	4.76	20	
Cadmium	1.39	0.0756	ng/m³ Air	1.4118	ND	98.6	80-120	4.70	20	
Chromium	17.2	2.26	ng/m³ Air	14.118	3.28	98.4	80-120	0.277	20	
Cobalt	1.63	0.0445	ng/m³ Air	1.4118	0.378	89.0	80-120	1.05	20	
Copper	45.8	2.68	ng/m³ Air	28.235	38.6	25.3	80-120	20.6	20	QM-07
Lead	14.3	0.218	ng/m³ Air	14.118	1.05	93.7	80-120	2.36	20	
Manganese	17.0	1.93	ng/m³ Air	8.4706	11.2	68.1	80-120	7.95	20	QM-07
Molybdenum	2.47	0.366	ng/m³ Air	1.4118	1.96	35.7	80-120	12.0	20	QM-07
Nickel	4.45	0.666	ng/m³ Air	2.8235	2.05	85.2	80-120	3.23	20	
Selenium	2.87	0.00915	ng/m³ Air	2.8235	0.233	93.6	80-120	3.63	20	
Thallium	0.138	6.01E-4	ng/m³ Air	0.14118	0.00127	96.8	80-120	1.62	20	
Vanadium	3.68	0.0540	ng/m³ Air	2.8235	1.09	91.9	80-120	1.73	20	
Zinc	100	78.4	ng/m³ Air	84.706	ND	118	80-120	6.55	20	
Matrix Spike Dup (B4I2407-MSD2) Source: 4092329-24 Prepared & Analyzed: 09/24/24										
Antimony	0.765	0.0322	ng/m³ Air	1.1538	0.0999	57.7	80-120	4.66	20	SL
Arsenic	2.47	0.00782	ng/m³ Air	2.3075	0.282	94.6	80-120	0.963	20	

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 10/01/24 12:07
SUBMITTED: 09/23/24
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 B4I2407 - ICP-MS Extraction										
Matrix Spike Dup (B4I2407-MSD2) Contir			**Source: 4092329-24**			Prepared & Analyzed: 09/24/24				
Barium	26.6	0.893	ng/m³ Air	23.075	3.63	99.4	80-120	2.17	20	
Beryllium	1.08	0.00267	ng/m³ Air	1.1538	0.00998	92.5	80-120	1.96	20	
Cadmium	1.12	0.0618	ng/m³ Air	1.1538	ND	97.5	80-120	2.51	20	
Chromium	13.0	1.84	ng/m³ Air	11.538	ND	113	80-120	1.79	20	
Cobalt	1.34	0.0364	ng/m³ Air	1.1538	0.317	89.0	80-120	1.18	20	
Copper	67.7	2.19	ng/m³ Air	23.075	46.5	92.0	80-120	2.93	20	
Lead	11.8	0.179	ng/m³ Air	11.538	0.948	94.5	80-120	1.40	20	
Manganese	16.4	1.58	ng/m³ Air	6.9226	10.3	88.1	80-120	0.444	20	
Molybdenum	2.61	0.300	ng/m³ Air	1.1538	1.57	90.5	80-120	1.00	20	
Nickel	3.24	0.544	ng/m³ Air	2.3075	1.05	95.1	80-120	0.368	20	
Selenium	2.43	0.00748	ng/m³ Air	2.3075	0.248	94.7	80-120	2.78	20	
Thallium	0.111	4.91E-4	ng/m³ Air	0.11538	8.44E-4	95.7	80-120	2.85	20	
Vanadium	3.23	0.0441	ng/m³ Air	2.3075	1.13	91.2	80-120	0.147	20	
Zinc	80.2	64.1	ng/m³ Air	69.226	ND	116	80-120	0.660	20	
Post Spike (B4I2407-PS1)			**Source: 4092329-04**			Prepared & Analyzed: 09/24/24				
Antimony	0.467	0.0394	ng/m³ Air	0.28235	0.193	96.9	75-125			SL
Arsenic	1.61	0.00957	ng/m³ Air	1.4118	0.275	94.3	75-125			
Barium	8.84	1.09	ng/m³ Air	2.8235	6.13	96.0	75-125			
Beryllium	0.272	0.00327	ng/m³ Air	0.28235	0.00988	93.0	75-125			
Cadmium	0.170	0.0756	ng/m³ Air	0.14118	ND	120	75-125			
Chromium	4.61	2.26	ng/m³ Air	1.4118	3.28	94.4	75-125			
Cobalt	0.640	0.0445	ng/m³ Air	0.28235	0.378	92.8	75-125			
Copper	52.9	2.68	ng/m³ Air	14.118	38.6	101	75-125			
Lead	29.2	0.218	ng/m³ Air	28.235	1.05	99.8	75-125			
Manganese	14.1	1.93	ng/m³ Air	2.8235	11.2	99.8	75-125			
Molybdenum	3.31	0.366	ng/m³ Air	1.4118	1.96	95.7	75-125			
Nickel	4.80	0.666	ng/m³ Air	2.8235	2.05	97.4	75-125			
Selenium	1.58	0.00915	ng/m³ Air	1.4118	0.233	95.7	75-125			
Thallium	0.0706	6.01E-4	ng/m³ Air	7.0588E-2	0.00127	98.2	75-125			
Vanadium	2.43	0.0540	ng/m³ Air	1.4118	1.09	94.9	75-125			
Zinc	ND	78.4	ng/m³ Air	28.235	ND		75-125			U
Post Spike (B4I2407-PS2)			**Source: 4092329-24**			Prepared: 09/24/24 Analyzed: 09/25/24				
Antimony	0.320	0.0322	ng/m³ Air	0.23075	0.0999	95.3	75-125			SL
Arsenic	1.36	0.00782	ng/m³ Air	1.1538	0.282	93.3	75-125			
Barium	5.81	0.893	ng/m³ Air	2.3075	3.63	94.5	75-125			
Beryllium	0.219	0.00267	ng/m³ Air	0.23075	0.00998	90.4	75-125			
Cadmium	0.120	0.0618	ng/m³ Air	0.11538	ND	104	75-125			
Chromium	2.87	1.84	ng/m³ Air	1.1538	ND	248	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I2407 - ICP-MS Extraction										
Post Spike (B4I2407-PS2) Continued			**Source: 4092329-24**		Prepared: 09/24/24 Analyzed: 09/25/24					
Cobalt	0.526	0.0364	ng/m³ Air	0.23075	0.317	90.5	75-125			
Copper	56.6	2.19	ng/m³ Air	11.538	46.5	88.2	75-125			
Lead	23.6	0.179	ng/m³ Air	23.075	0.948	98.3	75-125			
Manganese	12.4	1.58	ng/m³ Air	2.3075	10.3	91.2	75-125			
Molybdenum	2.62	0.300	ng/m³ Air	1.1538	1.57	91.3	75-125			
Nickel	3.24	0.544	ng/m³ Air	2.3075	1.05	94.9	75-125			
Selenium	1.36	0.00748	ng/m³ Air	1.1538	0.248	96.6	75-125			
Thallium	0.0568	4.91E-4	ng/m³ Air	5.7688E-2	8.44E-4	97.0	75-125			
Vanadium	2.17	0.0441	ng/m³ Air	1.1538	1.13	90.1	75-125			
Zinc	ND	64.1	ng/m³ Air	23.075	ND		75-125			U
Dilution Check (B4I2407-SRL1)			**Source: 4092329-04**		Prepared & Analyzed: 09/24/24					
Antimony	ND	0.197	ng/m³ Air		ND				10	SL, U
Arsenic	0.270	0.0478	ng/m³ Air		0.275			1.73	10	
Barium	6.03	5.46	ng/m³ Air		6.13			1.55	10	
Beryllium	ND	0.0163	ng/m³ Air		ND				10	U
Cadmium	ND	0.378	ng/m³ Air		ND				10	U
Chromium	ND	11.3	ng/m³ Air		ND				10	U
Cobalt	0.379	0.223	ng/m³ Air		0.378			0.203	10	
Copper	39.1	13.4	ng/m³ Air		38.6			1.31	10	
Lead	ND	1.09	ng/m³ Air		ND				10	U
Manganese	11.3	9.65	ng/m³ Air		11.2			0.906	10	
Molybdenum	1.93	1.83	ng/m³ Air		1.96			1.59	10	
Nickel	ND	3.33	ng/m³ Air		ND				10	U
Selenium	0.243	0.0457	ng/m³ Air		0.233			4.08	10	
Thallium	ND	0.00301	ng/m³ Air		ND				10	U
Vanadium	1.04	0.270	ng/m³ Air		1.09			4.08	10	
Zinc	ND	392	ng/m³ Air		ND				10	U
Dilution Check (B4I2407-SRL2)			**Source: 4092329-24**		Prepared: 09/24/24 Analyzed: 09/25/24					
Antimony	ND	0.161	ng/m³ Air		ND				10	SL, U
Arsenic	0.280	0.0391	ng/m³ Air		0.282			0.729	10	
Barium	ND	4.46	ng/m³ Air		ND				10	U
Beryllium	ND	0.0133	ng/m³ Air		ND				10	U
Cadmium	ND	0.309	ng/m³ Air		ND				10	U
Chromium	ND	9.22	ng/m³ Air		ND				10	U
Cobalt	0.315	0.182	ng/m³ Air		0.317			0.470	10	
Copper	46.0	11.0	ng/m³ Air		46.5			1.06	10	
Lead	0.912	0.893	ng/m³ Air		0.948			3.85	10	
Manganese	10.2	7.88	ng/m³ Air		10.3			0.846	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 B4I2407 - ICP-MS Extraction										
Dilution Check (B4I2407-SRL2) Continued				**Source: 4092329-24**		Prepared: 09/24/24 Analyzed: 09/25/24				
Molybdenum	1.54	1.50	ng/m³ Air		1.57			2.04	10	
Nickel	ND	2.72	ng/m³ Air		ND				10	U
Selenium	0.224	0.0374	ng/m³ Air		0.248			10.2	10	SRD-01
Thallium	0.00246	0.00246	ng/m³ Air		ND			97.9	10	
Vanadium	1.07	0.221	ng/m³ Air		1.13			5.48	10	
Zinc	ND	320	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 09/04/2024 and Shanna Vasser 10/02/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 09/12/2024 – 09/18/2024
Report No: 4092329

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for antimony, arsenic, barium, and copper in MFL-FB01-091724-HM.

Notes: None.