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

August 29 through September 4, 2024
[Report Updated: October 29, 2024]

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

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

Particulate monitoring took place each day while air sampling was paused in observance of the Labor Day holiday and samples were not collected or placed on September 2. As a result, asbestos and metals sampling data is unavailable on September 1 and September 2. Sample deployment and Tetra Tech field team observations resumed on September 3.

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

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from August 29 through September 4 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

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

- The air monitoring and sampling station located at Lahaina Skate Park (Location ID AM-06) experienced power interruptions from a tripped electrical circuit on the evenings of September 2, September 3, and September 4. As a result, the intended air monitoring periods of 24 hours were interrupted as described below:
    - On September 2, air monitoring was conducted for only 19 hours.
    - On September 3, air monitoring was conducted for only 15 hours.
    - On September 4, air monitoring was conducted for only 17 hours.
- The air monitoring and sampling station located at Lahaina Skate Park (Location ID AM-06) was relocated and moved 151 feet east from the original location at the guidance of the HDOH on September 4. The station was relocated to increase the distance and decrease the disturbance from the active highway and closer align with Environmental Protection Agency (EPA) PM_{10} air monitoring siting criteria. As a result, the intended air monitoring periods of 24 hours were interrupted as described below:
    - On September 4, air monitoring was conducted for only 17 hours.
- Because of equipment faults, air monitoring periods were interrupted as described below:
    - On September 2, air monitoring was conducted at Opukea Townhomes (Location ID AM-05) for only 21 hours.
    - On September 2, air monitoring was conducted at WW Pump Station #4 (Location ID AM-02) for only 22 hours.
    - On September 2, air monitoring was conducted at Lahaina Intermediate School (Location ID AM-03) for only 17 hours.
    - On September 3, air monitoring was conducted at Lahaina Intermediate School for only 17 hours.

The equipment fault codes at Opukea Townhomes (Location ID AM-05), WW Pump Station #4 (Location ID AM-02), and Lahaina Intermediate School (Location ID AM-03) were the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. This disruption caused a shortened monitoring duration which was addressed in the 24-hour time weighted average (TWA) calculations.

The PM_{10} monitoring results were found to have exceeded the 150 $\mu g/m^3$ TWA screening level five times, all at the Lahaina Skate Park monitoring location (i.e., on August 29, 30, and on September 2 through 4 as shown in **Table 1)**.

The air monitoring and sampling station at Lahaina Skate Park is located approximately 55 feet east of the highway. Exceedances were most likely attributable to the proximity of county workers working in the area, and from proximity to the nearby highway. Consistent elevated readings occurred throughout the day in the early morning and late-night hours. As indicated by the associated field observations, none of the elevated particulate concentrations were observed to be related to USACE activities. The exceedances on August 29, 30, and on September 2 through 4 are described below:

- On August 29, county workers were observed working approximately 300 yards north of the monitoring station conducting erosion control or scraping activities, and county workers were conducting pool maintenance. No visible dust was observed at the site located approximately 300 yards north of the station. The county crew were observed using water for dust suppression. Elevated particulate readings occurred during the 00:00, 05:00 through 08:00 and 21:00 through 23:00 time blocks. With the exception of the 07:00 and 08:00 time blocks, field observations are not available because the timeframe of these readings was outside of normal working hours. It is unlikely that the readings were related to USACE operations because debris

removal operations were not being conducted at those times. The exceedance could have been attributed to proximity to the nearby highway.

- On August 30, a county crew was observed working around the pool area in the pool pump house. A bulldozer was observed approximately 300 yards north of the monitoring station with no active crew working in the area until the final station check at 16:00. No visible dust was observed at that time, and water was being sprayed to suppress dust while work was conducted by the county crew located 300 yards north of the station. County crew were potentially conducting erosion control or scraping activities. Elevated particulate readings occurred during the 0:00, 06:00, 08:00, and 10:00 time blocks. With the exception of the 08:00 and 10:00 time blocks, field observations are not available because the timeframe of these readings was outside of normal working hours. The exceedance could have been attributed to proximity to the nearby highway, and possibly from crews setting up when they arrived.
- In observance of the Labor Day holiday, no Tetra Tech field teams or USACE crews were active on September 2. Given that no USACE crew activities were taking place on that day the September 2 exceedance could have been attributed to proximity to the nearby highway.
- On September 3, a county crew was observed breaking up concrete at the aquatic center near the monitoring station. Visible dust was observed originating from the county crew activities and no dust suppression methods were observed to have been used that day. As a result, the county crew's activities coupled with proximity to the nearby highway could have contributed to the noted exceedance on September 3.
- At the guidance of HDOH, this air monitoring and sampling station was moved approximately 150 feet east of its original position on September 4 at 13:00 to distance the station further from the active highway and closer align with EPA PM_{10} air monitoring siting criteria. Prior to this change, a TWA screening level exceedance was again noted at the Lahaina Skate Park location on September 4. On that day, a county crew was observed breaking up concrete at the aquatic center near the monitoring station. No visible dust was observed originating from the county crew activities and no dust suppression methods were observed to have been used. The elevated readings took place in the early morning hours, with the highest taking place at 08:00. Proximity to the nearby highway on September 4 could have attributed to this exceedance.

Air Sampling Results

A total of 20 samples for asbestos fibers were collected during this reporting period. In observance of the Labor Day Holiday on September 2, no air samples were deployed at any of the four air sampling stations on September 1 or 2 nor collected on September 2 or 3. 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**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Opukea Townhomes on August 31
- WW Pump Station #4 on August 31
- Lahaina Intermediate School on August 29
- Lahaina Skate Park on August 29

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 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.

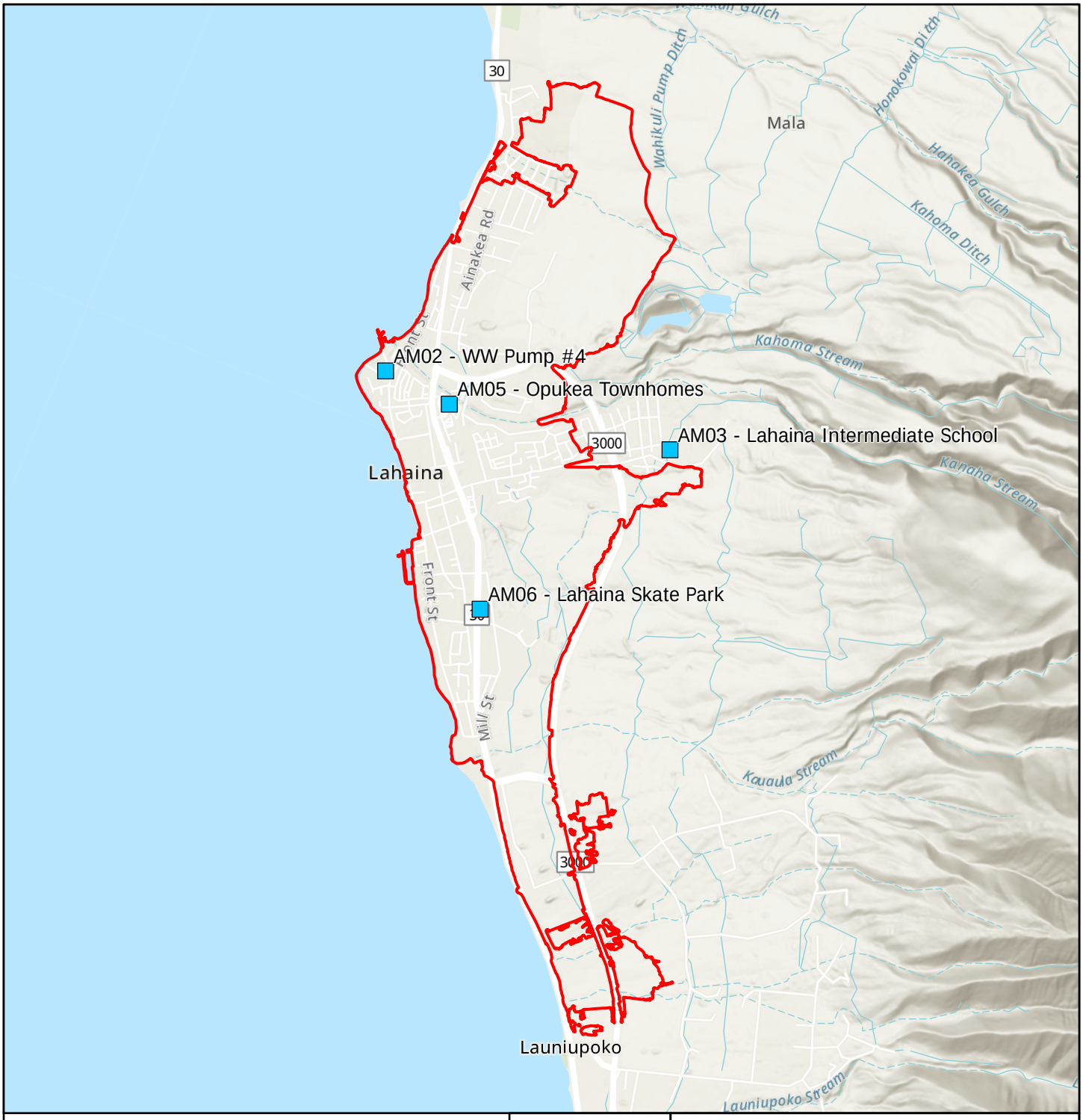
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- 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
August 29 through September 4, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
8/29/2024	Opukea Townhomes (AM-05)	6.8
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	7.2
	Lahaina Skate Park (AM-06)	**217**
8/30/2024	Opukea Townhomes (AM-05)	7.5
	WW Pump Station #4 (AM-02)	8.7
	Lahaina Intermediate School (AM-03)	18
	Lahaina Skate Park (AM-06)	**183**
8/31/2024	Opukea Townhomes (AM-05)	9.5
	WW Pump Station #4 (AM-02)	7.5
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Skate Park (AM-06)	15
9/1/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	8.0
	Lahaina Intermediate School (AM-03)	11
	Lahaina Skate Park (AM-06)	15
9/2/2024	Opukea Townhomes (AM-05)	9*
	WW Pump Station #4 (AM-02)	8.9*
	Lahaina Intermediate School (AM-03)	12*
	Lahaina Skate Park (AM-06)	**176****
9/3/2024	Opukea Townhomes (AM-05)	7.4
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	13*
	Lahaina Skate Park (AM-06)	**258****
9/4/2024	Opukea Townhomes (AM-05)	10
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Skate Park (AM-06)	**181****

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 were from a reduced TWA calculation as a result of a power failure cause by a tripped electrical circuit.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
August 29 through September 4, 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
8/29/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000696	0.000309	0.00247	0.00000686	ND	ND	0.000219	0.0705	0.000907	0.00618	0.00207	0.000865	0.000173	0.00000219	0.000740	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000531	0.000201	0.00206	0.00000585	ND	ND	0.000164	0.0425	0.000474	0.00534	0.00368	0.000637	0.000181	0.00000226	0.000588	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000408	0.000146	0.00222	0.0000231	ND	0.00230	0.000355	0.0802	0.000259	0.00861	0.00264	0.00124	0.000160	0.00000207	0.000847	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000149	0.000226	0.00661	0.00000786	ND	0.00253	0.000334	0.0726	0.000853	0.0102	0.00225	0.00114	0.000154	0.00000188	0.000941	ND
8/30/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000857	0.000281	0.00385	0.0000120	ND	0.00300	0.000555	0.0809	0.000638	0.0131	0.00213	0.00197	0.000144	0.00000123	0.00147	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000113	0.000385	0.00468	0.0000173	ND	0.00327	0.000623	0.0551	0.00120	0.0173	0.00349	0.00207	0.000176	0.00000150	0.00184	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000490	0.000103	0.00195	0.0000161	ND	0.00199	0.000282	0.0796	0.000155	0.00720	0.00259	0.00116	0.000141	0.000000920	0.000584	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000213	0.000310	0.00819	0.00000920	ND	0.00516	0.000561	0.0304	0.000729	0.0112	0.00130	0.0108	0.000125	0.00000113	0.000835	ND
8/31/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000591	0.000265	0.00256	0.00000500	ND	0.00198	0.000133	0.0290	0.000610	0.00397	0.00131	0.000928	0.000192	0.000000619	0.000528	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000561	0.000301	0.00172	0.00000354	ND	ND	0.0000899	0.0232	0.000360	0.00254	0.000990	0.000554	0.000195	0.000000599	0.000467	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000478	0.000109	0.00249	0.0000108	ND	0.00199	0.000226	0.0468	0.000410	0.00539	0.00174	0.00145	0.000177	0.000000862	0.000618	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000160	0.000312	0.00477	0.00000663	0.000105	0.00593	0.000288	0.0555	0.000917	0.00717	0.00233	0.00396	0.000172	0.00000150	0.000731	ND
9/1/2024	Opukea Townhomes (AM-05)	<0.0024	0.0000404	0.000160	0.00175	0.00000303	ND	ND	0.0000820	0.0243	0.000487	0.00224	0.00110	0.000586	0.000158	0.000000779	0.000619	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000808	0.000220	0.00323	0.00000563	ND	ND	0.000145	0.0219	0.000664	0.00491	0.00101	0.000786	0.000224	0.00000106	0.00103	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000100	0.00182	0.0000110	ND	0.00273	0.000252	0.0454	0.000230	0.00543	0.00151	0.00149	0.000171	0.000000991	0.000737	ND
	Lahaina Skate Park (AM-06)	<0.0024	0.000112	0.000180	0.00428	0.00000365	0.0000772	0.00290	0.000161	0.0461	0.000729	0.00358	0.00176	0.00104	0.000165	0.000000884	0.000662	ND
9/2/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Skate Park (AM-06)																	
9/3/2024	Opukea Townhomes (AM-05)																	
	WW Pump Station #4 (AM-02)																	
	Lahaina Intermediate School (AM-03)																	
	Lahaina Skate Park (AM-06)																	
9/4/2024	Opukea Townhomes (AM-05)	<0.0024	0.000318	0.00126	0.00712	0.0000163	ND	0.00329	0.000579	0.0359	0.00184	0.0185	0.00148	0.00177	0.000211	0.00000199	0.00182	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000127	0.000241	0.00408	0.0000105	ND	0.00263	0.000414	0.0219	0.000439	0.0103	0.00100	0.00126	0.000208	0.000000904	0.00143	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000404	0.000168	0.00318	0.0000212	ND	0.00285	0.000364	0.0369	0.000272	0.00951	0.00146	0.00133	0.000188	0.000000932	0.00116	ND
	Lahaina Skate Park (AM-06)	<0.0027	0.000230	0.000261	0.00516	0.00000868	ND	0.00397	0.000306	0.0481	0.000884	0.00945	0.00154	0.00220	0.000171	0.00000107	0.000998	ND
95% Upper Confidence Limit[2]		NA	0.000150	0.000350	0.00464	0.0000230	NA	0.00395	0.000420	0.0581	0.000890	0.0108	0.00222	0.00244	0.000190	0.00000150	0.00111	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

Labor Day holiday observance

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
August 29 through September 4, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
8/29/2024	AM-02	WW Pump Station #4	1.0	SSE	83	71	762.0
8/29/2024	AM-03	Lahaina Intermediate School	1.3	SE	83	68	752.5
8/29/2024	AM-05	Opukea Townhomes	1.5	SE	86	68	761.2
8/29/2024	AM-06	Lahaina Skate Park	1.2	SSE	83	71	761.7
8/30/2024	AM-02	WW Pump Station #4	1.3	S	80	82	761.9
8/30/2024	AM-03	Lahaina Intermediate School	1.9	SSE	80	77	752.4
8/30/2024	AM-05	Opukea Townhomes	2.1	SE	83	78	761.1
8/30/2024	AM-06	Lahaina Skate Park	1.8	SSE	81	80	761.7
8/31/2024	AM-02	WW Pump Station #4	0.9	S	83	76	763.4
8/31/2024	AM-03	Lahaina Intermediate School	1.1	SE	82	71	753.9
8/31/2024	AM-05	Opukea Townhomes	1.1	SSE	86	72	762.6
8/31/2024	AM-06	Lahaina Skate Park	1.3	S	83	74	763.1
9/1/2024	AM-02	WW Pump Station #4	1.0	S	82	72	763.4
9/1/2024	AM-03	Lahaina Intermediate School	1.1	SE	83	68	753.9
9/1/2024	AM-05	Opukea Townhomes	1.0	SSE	86	69	762.5
9/1/2024	AM-06	Lahaina Skate Park	1.2	S	82	73	763.1
9/2/2024	AM-02	WW Pump Station #4	1.1	S	82	69	762.8
9/2/2024	AM-03	Lahaina Intermediate School	0.9	ESE	81	67	753.7
9/2/2024	AM-05	Opukea Townhomes	1.3	SSE	86	64	761.9
9/2/2024	AM-06	Lahaina Skate Park	1.4	S	82	69	762.6
9/3/2024	AM-02	WW Pump Station #4	1.1	S	81	69	762.5
9/3/2024	AM-03	Lahaina Intermediate School	1.4	SE	83	62	752.9
9/3/2024	AM-05	Opukea Townhomes	1.3	SSE	85	65	761.7
9/3/2024	AM-06	Lahaina Skate Park	1.4	S	84	65	762.1
9/4/2024	AM-02	WW Pump Station #4	1.0	S	81	67	761.6
9/4/2024	AM-03	Lahaina Intermediate School	1.3	ESE	81	64	752.1
9/4/2024	AM-05	Opukea Townhomes	1.4	SE	84	64	760.7
9/4/2024	AM-06	Lahaina Skate Park	1.0	S	81	67	761.2

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

station	date	Wind Spee	Wind Degree	direction	Temp (c)	temp (f)	rel humity	Baro
AM02	8/29/2024	1.0	158.7977762	SSE	28.40035	83.12063	71	762.0
AM02	8/30/2024	1.3	182.275	S	26.88014	80.38425	82	761.9
AM02	8/31/2024	0.9	183.2472222	S	28.21007	82.77813	76	763.4
AM02	9/1/2024	1.0	171.4701389	S	28.0109	82.41963	72	763.4
AM02	9/2/2024	1.1	176.6701461	S	27.88859	82.19946	69	762.8
AM02	9/3/2024	1.1	173.1537926	S	27.42999	81.37399	69	762.5
AM02	9/4/2024	1.0	169.2919034	S	27.337	81.20661	67	761.6
AM03	8/29/2024	1.3	137.6071429	SE	28.21709	82.79076	68	752.5
AM03	8/30/2024	1.9	147.6105263	SSE	26.88933	80.4008	77	752.4
AM03	8/31/2024	1.1	141.0342418	SE	28.05346	82.49623	71	753.9
AM03	9/1/2024	1.1	129.0202797	SE	28.11014	82.59825	68	753.9
AM03	9/2/2024	0.9	114.2577447	ESE	27.27844	81.10119	67	753.7
AM03	9/3/2024	1.4	141.7837022	SE	28.56751	83.42151	62	752.9
AM03	9/4/2024	1.3	113.7357955	ESE	27.00518	80.60933	64	752.1
AM05	8/29/2024	1.5	145.19375	SE	29.97958	85.96325	68	761.2
AM05	8/30/2024	2.1	135.65625	SE	28.57069	83.42725	78	761.1
AM05	8/31/2024	1.1	150.3263889	SSE	29.80167	85.643	72	762.6
AM05	9/1/2024	1.0	152.8354167	SSE	29.74938	85.54888	69	762.5
AM05	9/2/2024	1.3	159.0988924	SSE	30.01843	86.03318	64	761.9
AM05	9/3/2024	1.3	147.9415449	SSE	29.19722	84.55499	65	761.7
AM05	9/4/2024	1.4	145.7324344	SE	28.92122	84.0582	64	760.7
AM06	8/29/2024	1.2	162.6576389	SSE	28.31181	82.96125	71	761.7
AM06	8/30/2024	1.8	166.2041667	SSE	27.08847	80.75925	80	761.7
AM06	8/31/2024	1.3	171.3895833	S	28.15833	82.685	74	763.1
AM06	9/1/2024	1.2	170.2222222	S	27.82854	82.09137	73	763.1
AM06	9/2/2024	1.4	171.7766636	S	27.95314	82.31566	69	762.6
AM06	9/3/2024	1.4	183.4565678	S	28.8	83.84	65	762.1
AM06	9/4/2024	1.0	172.292093	S	27.19088	80.94359	67	761.2
		1.3	156.2406795	SSE				

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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EMSL Order:	042418461
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:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-082924-AB** **Sample Description: DL275063**

EMSL Sample Number:	042418461-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7158.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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Approved Signatory

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EMSL Order ID: 042418461
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: 042418461-0001 **Customer Sample:** MFL-AM05-082924-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	J7	None Detected									
B1	E7	None Detected									
B1	A4	None Detected									
B2	H4	None Detected									
B2	D7	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:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-082924-AB**		**Sample Description:**	**DL274994**
EMSL Sample Number:	042418461-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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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: 042418461-0002 **Customer Sample:** MFL-AM02-082924-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	C5	None Detected									
B5	G7	None Detected									
B5	J5	None Detected									
B6	G8	None Detected									
B6	D5	None Detected									

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

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Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-082924-AB**		**Sample Description:**	**DL275005**
EMSL Sample Number:	042418461-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
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: 042418461-0003 **Customer Sample:** MFL-AM03-082924-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	I3	None Detected									
C2	E4	None Detected									
C2	A6	None Detected									
C3	G9	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:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Analysis Date:	09/11/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-082924-AB**		**Sample Description:**	**DL275002**
EMSL Sample Number:	042418461-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
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: 042418461-0004 **Customer Sample:** MFL-AM06-082924-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	J7	None Detected									
C5	G3	None Detected									
C5	B6	None Detected									
C6	J7	None Detected									
C6	A7	None Detected									

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

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Project: **Maui Fires - Lahaina**

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Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-082924-AB** **Sample Description: DL275012**

EMSL Sample Number:	042418461-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0005 **Customer Sample:** MFL-FB01-082924-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	A2	None Detected									
D1	D6	None Detected									
D1	F3	None Detected									
D1	H8	None Detected									
D2	J3	None Detected									
D2	G5	None Detected									
D2	B7	None Detected									
D3	H8	None Detected									
D3	E4	None Detected									
D3	A5	None Detected									

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

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-083024-AB**		**Sample Description:**	**DL274922**
EMSL Sample Number:	042418461-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7145.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0006 **Customer Sample:** MFL-AM05-083024-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	I4	None Detected									
D5	F6	None Detected									
D5	B3	None Detected									
D6	D7	None Detected									
D6	G4	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-083024-AB**	**Sample Description:**	**DL274975**
EMSL Sample Number:	042418461-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7216.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0007 **Customer Sample:** MFL-AM02-083024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	C4	None Detected									
E1	F9	None Detected									
E1	I6	None Detected									
E3	H10	None Detected									
E3	B6	None Detected									

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

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Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-083024-AB**		**Sample Description:**	**DL275055**
EMSL Sample Number:	042418461-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7209.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0008 **Customer Sample:** MFL-AM03-083024-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	H7	None Detected									
E5	G4	None Detected									
E5	B6	None Detected									
E6	I3	None Detected									
E6	D5	None Detected									

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

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-083024-AB**		**Sample Description:**	**DL275079**
EMSL Sample Number:	042418461-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7251.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0009 **Customer Sample:** MFL-AM06-083024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J4	None Detected									
F1	E5	None Detected									
F1	B8	None Detected									
F2	G7	None Detected									
F2	C4	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-083024-AB** **Sample Description: DL274979**

EMSL Sample Number:	042418461-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042418461
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: 042418461-0010 **Customer Sample:** MFL-FB01-083024-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	I3	None Detected									
F5	H7	None Detected									
F5	F4	None Detected									
F5	C6	None Detected									
F6	J4	None Detected									
F6	G8	None Detected									
F6	A5	None Detected									
F7	B2	None Detected									
F7	D5	None Detected									
F7	J4	None Detected									

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

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EMSL Order:	042418461
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:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-083124-AB**		**Sample Description:**	**DL275018**
EMSL Sample Number:	042418461-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042418461
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: 042418461-0011 **Customer Sample:** MFL-AM05-083124-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	A4	None Detected									
G1	F6	None Detected									
G1	H3	None Detected									
G2	C7	None Detected									
G2	G4	None Detected									

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

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-083124-AB**		**Sample Description:**	**DL275098**
EMSL Sample Number:	042418461-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7124.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

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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: 042418461-0012 **Customer Sample:** MFL-AM02-083124-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	G9	None Detected									
G5	F4	None Detected									
G5	A5	None Detected									
G6	C8	None Detected									
G6	H5	None Detected									

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

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EMSL Order:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-083124-AB**		**Sample Description:**	**DL274945**
EMSL Sample Number:	042418461-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7266.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0013 **Customer Sample:** MFL-AM03-083124-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	J3	None Detected									
H1	E7	None Detected									
H1	A8	None Detected									
H2	G4	None Detected									
H2	C7	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:	042418461
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM06-083124-AB** **Sample Description: DL274999**

EMSL Sample Number:	042418461-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID:	**042418461**
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: 042418461-0014 **Customer Sample:** MFL-AM06-083124-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	B2	None Detected									
H5	E7	None Detected									
H5	I4	None Detected									
H6	G6	None Detected									
H6	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:	042418461
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:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-083124-AB** **Sample Description: DL275031**

EMSL Sample Number:	042418461-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0015 **Customer Sample:** MFL-FB01-083124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	A4	None Detected									
I1	D2	None Detected									
I1	F6	None Detected									
I1	I8	None Detected									
I2	C9	None Detected									
I2	E5	None Detected									
I2	J3	None Detected									
I3	A1	None Detected									
I3	A5	None Detected									
I3	F3	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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Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM05-090124-AB**		**Sample Description:**	**DL274913**
EMSL Sample Number:	042418461-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7150.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0016 **Customer Sample:** MFL-AM05-090124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J8	None Detected									
I5	G4	None Detected									
I5	C7	None Detected									
I6	H9	None Detected									
I6	D3	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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Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/12/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090124-AB**		**Sample Description:**	**DL275049**
EMSL Sample Number:	042418461-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7157.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0017 **Customer Sample:** MFL-AM02-090124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	A7	None Detected									
J2	E4	None Detected									
J2	H8	None Detected									
J3	G3	None Detected									
J3	B4	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:	09/05/2024 09:40 AM
Analysis Date:	09/12/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090124-AB**		**Sample Description:**	**DL274891**
EMSL Sample Number:	042418461-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7156.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418461
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: 042418461-0018 **Customer Sample:** MFL-AM03-090124-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	A9	None Detected									
J5	D5	None Detected									
J5	H8	None Detected									
J6	I2	None Detected									
J6	B1	None Detected									

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

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

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Received Date:	09/05/2024 09:40 AM
Analysis Date:	09/12/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090124-AB**		**Sample Description:**	**DL275069**
EMSL Sample Number:	042418461-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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

EMSL Order ID: 042418461
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: 042418461-0019 **Customer Sample:** MFL-AM06-090124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	A6	None Detected									
K2	D4	None Detected									
K2	G3	None Detected									
K3	H8	None Detected									
K3	C6	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:	042418461
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:	09/05/2024 09:40 AM
Analysis Date:	09/12/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090124-AB**		**Sample Description:**	**DL274918**
EMSL Sample Number:	042418461-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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: 042418461
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: 042418461-0020 **Customer Sample:** MFL-FB01-090124-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	J3	None Detected									
K5	H1	None Detected									
K5	F4	None Detected									
K5	D5	None Detected									
K5	B3	None Detected									
K6	A7	None Detected									
K6	C10	None Detected									
K6	E8	None Detected									
K6	G8	None Detected									
K6	I5	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:	042418461
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:	09/05/2024 09:40 AM
Analysis Date:	09/11/2024
Report Date:	09/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042418461-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042418461
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: 042418461-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	B6	None Detected									
A1	E4	None Detected									
A1	J8	None Detected									
A2	A4	None Detected									
A2	D8	None Detected									
A2	F3	None Detected									
A2	H5	None Detected									
A3	C9	None Detected									
A3	F6	None Detected									
A3	J5	None Detected									

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

OrderID: 042418461

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042418461

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

RECEIVED
EMSL
CINNAMINSON, NJ
24 SEP -5 AM 11:05

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

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

TEM - Bulk

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-AM05-082924-AB	DL275063	7,158.695	08/29/24 1101
MFL-AM02-082924-AB	DL274994	7,129.532	08/29/24 1121
MFL-AM03-082924-AB	DL275005	7,203.517	08/29/24 1303
MFL-AM06-082924-AB	DL275002	7,198.416	08/29/24 1326
MFL-FB01-082924-AB	DL275012	0	08/29/24 1200
MFL-AM05-083024-AB	DL274922	7,145.269	08/30/24 1055
MFL-AM02-083024-AB	DL274975	7,216.118	08/30/24 1130
MFL-AM03-083024-AB	DL275055	7,209.829	08/30/24 1255

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

All samples received acceptable for analysis.

20 pf

Method of Shipment: Fed Ex

Relinquished by:	Date/Time:	Received by:	Date/Time
[signature]	09/03/24 1100	FedEx	9/5/24 9:40A
Relinquished by:	Date/Time:	Received by:	Date/Time

Sample Condition Upon Receipt:

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

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

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

OrderID: 042418461

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042418461

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

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM06-083024-AB	DL 275079	7,251.821	08/30/24 1335
MFL-FB01-083024-AB	DL274979	0	08/30/24 1200
MFL-AM05-083124-AB	DL275018	7,205.852	08/31/24 1104
MFL-AM02-083124-AB	DL275098	7,124.583	08/31/24 1120
MFL-AM03-083124-AB	DL274945	7,266.753	08/31/24 1309
MFL-AM06-083124-AB	DL274999	7,149.690	08/31/24 1330
MFL-FB01-083124-AB	DL275031	0	08/31/24 1200
MFL-AM05-090124-AB	DL274913	7,150.813	09/01/24 1101
MFL-AM02-090124-AB	DL275049	7,157.168	09/01/24 1118
MFL-AM03-090124-AB	DL274891	7,156.880	09/01/24 1307
MFL-AM06-090124-AB	DL275069	7,160.284	09/01/24 1330
MFL-FB01-090124-AB	DL274918	0	09/01/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 SEP -5 AM 11:05

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 09/03/24 1100	Received by: FedEx	Date/Time 9/5/24 9:40A
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 09/12/2024 and Shanna Vasser 09/13/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 08/29/2024 – 09/01/2024
Report No: 42418461

√	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:	042418701
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:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090324-AB**		**Sample Description:**	**DL274906**
EMSL Sample Number:	042418701-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042418701
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: 042418701-0001 **Customer Sample:** MFL-FB01-090324-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	A9	None Detected									
B2	C7	None Detected									
B2	E10	None Detected									
B2	G9	None Detected									
B2	I8	None Detected									
B3	J8	None Detected									
B3	H4	None Detected									
B3	F1	None Detected									
B3	D5	None Detected									
B3	B1	None Detected									

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

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

EMSL Order:	042418701
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:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM05-090424-AB** **Sample Description: DL275064**

EMSL Sample Number:	042418701-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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EMSL Order ID: 042418701
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: 042418701-0002 **Customer Sample:** MFL-AM05-090424-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	A6	None Detected									
B5	D1	None Detected									
B5	G4	None Detected									
B6	B5	None Detected									
B6	G3	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:	042418701
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:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-090424-AB**	**Sample Description:**	**DL275048**
EMSL Sample Number:	042418701-0003	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7222.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418701
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: 042418701-0003 **Customer Sample:** MFL-AM02-090424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	D9	None Detected									
C1	F1	None Detected									
C1	H3	None Detected									
C2	G7	None Detected									
C2	B6	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:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-090424-AB**	**Sample Description:**	**DL275085**
EMSL Sample Number:	042418701-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7289.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID:	**042418701**
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: 042418701-0004 **Customer Sample:** MFL-AM03-090424-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	I9	None Detected									
C5	G6	None Detected									
C5	C4	None Detected									
C6	H3	None Detected									
C6	D3	None Detected									

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

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

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Project: **Maui Fires - Lahaina**

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Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM06-090424-AB**		**Sample Description:**	**DL274986**
EMSL Sample Number:	042418701-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	4759.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	7
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 33.37**	**< 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**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 33.37	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 33.37**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042418701
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: 042418701-0005 **Customer Sample:** MFL-AM06-090424-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	F4	None Detected									
D1	D2	None Detected									
D1	B6	None Detected									
D1	A8	None Detected									
D2	B7	None Detected									
D2	H2	None Detected									
D2	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:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-090424-AB**		**Sample Description:**	**DL274949**
EMSL Sample Number:	042418701-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042418701
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: 042418701-0006 **Customer Sample:** MFL-FB01-090424-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	J10	None Detected									
D5	H7	None Detected									
D5	F4	None Detected									
D5	D10	None Detected									
D5	B6	None Detected									
D6	J10	None Detected									
D6	H7	None Detected									
D6	F9	None Detected									
D6	D6	None Detected									
D6	B5	None Detected									

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

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EMSL Order:	042418701
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	09/09/2024 08:50 AM
Analysis Date:	09/13/2024
Report Date:	09/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042418701-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042418701
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: 042418701-0007 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A7	None Detected									
A1	C8	None Detected									
A1	E9	None Detected									
A1	G4	None Detected									
A1	I5	None Detected									
A2	A6	None Detected									
A2	C7	None Detected									
A2	E4	None Detected									
A2	G8	None Detected									
A2	I9	None Detected									

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

OrderID: 042418701

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042418701 RECEIVED EMSL CINNAMINSON, N.J. 2024 SEP -9 A 9:26

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

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Sober
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202
Country:
Phone: (703) 489-2674
Email(s) for Report: chelsea.sober@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: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment: 6

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-FB01-090329-AB	DL2749O6	0	09/03/24 1200
MFL-AM05-090924-AB	DL275064	7,225,380	09/09/24 1106
MFL-AM02-090924-AB	DL275098	7,222.903	09/09/24 1118
MFL-AM03-090924-AB	DL275085	7,289.170	09/09/24 1303
MFL-AM06-090924-AB	DL274986	4,759.149	09/09/24 1326
MFL-FB01-090424-AB	DL274949	0	09/09/24 1200

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

allow volume due to low run time, contact Chelsea Sober before opening/more grids

All samples received acceptable for analysis.

Method of Shipment: Fedex

Relinquished by: Shaina Epstein Date/Time: 9/5/24 1100
Relinquished by: Date/Time:

Sample Condition Upon Receipt:

Received by: FX Date/Time: 9/6/24 8:50am
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 09/16/2024 and Shanna Vasser 09/16/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 09/03/2024 – 09/04/2024
Report No: 42418701

√	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: The laboratory noted that sample MFL-AM06-090424-AB had low volume due to low run time.

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

September 17, 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 09/09/24 10:05.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM05-082924-HM	4090925-01	Air	08/29/24 23:59	09/09/24 10:05
MFL-AM02-082924-HM	4090925-02	Air	08/29/24 23:59	09/09/24 10:05
MFL-AM03-082924-HM	4090925-03	Air	08/29/24 23:59	09/09/24 10:05
MFL-AM06-082924-HM	4090925-04	Air	08/29/24 23:59	09/09/24 10:05
MFL-FB01-082924-HM	4090925-05	Air	08/29/24 00:00	09/09/24 10:05
MFL-AM05-083024-HM	4090925-06	Air	08/30/24 23:59	09/09/24 10:05
MFL-AM02-083024-HM	4090925-07	Air	08/30/24 23:59	09/09/24 10:05
MFL-AM03-083024-HM	4090925-08	Air	08/30/24 23:59	09/09/24 10:05
MFL-AM06-083024-HM	4090925-09	Air	08/30/24 23:59	09/09/24 10:05
MFL-AM05-083124-HM	4090925-10	Air	08/31/24 23:59	09/09/24 10:05
MFL-AM02-083124-HM	4090925-11	Air	08/31/24 23:59	09/09/24 10:05
MFL-AM03-083124-HM	4090925-12	Air	08/31/24 23:59	09/09/24 10:05
MFL-AM06-083124-HM	4090925-13	Air	08/31/24 23:59	09/09/24 10:05
MFL-FB01-083124-HM	4090925-14	Air	08/31/24 00:00	09/09/24 10:05
MFL-AM05-090124-HM	4090925-15	Air	09/01/24 23:59	09/09/24 10:05
MFL-AM02-090124-HM	4090925-16	Air	09/01/24 23:59	09/09/24 10:05
MFL-AM03-090124-HM	4090925-17	Air	09/01/24 23:59	09/09/24 10:05
MFL-AM06-090124-HM	4090925-18	Air	09/01/24 23:59	09/09/24 10:05
MFL-FB01-090324-HM	4090925-19	Air	09/03/24 00:00	09/09/24 10:05
MFL-LB01-090324-HM	4090925-20	Air	09/03/24 00:00	09/09/24 10:05
MFL-AM05-090424-HM	4090925-21	Air	09/04/24 23:59	09/09/24 10:05

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM02-090424-HM	4090925-22	Air	09/04/24 23:59	09/09/24 10:05
MFL-AM03-090424-HM	4090925-23	Air	09/04/24 23:59	09/09/24 10:05
MFL-AM06-090424-HM	4090925-24	Air	09/04/24 23:59	09/09/24 10:05

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-082924-HM
Matrix: Air
Lab ID: 4090925-01
Sample Volume: 1974.461 m³
Filter ID:
Sampled: 08/29/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 04:23

Comments: Q9555423 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0696**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.309**		**0.00772**
Barium	**7440-39-3**	**2.47**	B	**0.882**
Beryllium	**7440-41-7**	**0.00686**		**0.00264**
Cadmium	7440-43-9	0.0289	U	0.0611
Chromium	7440-47-3	1.78	U	1.82
Cobalt	**7440-48-4**	**0.219**	QB-01	**0.0359**
Copper	**7440-50-8**	**70.5**		**2.17**
Lead	**7439-92-1**	**0.907**		**0.176**
Manganese	**7439-96-5**	**6.18**		**1.56**
Molybdenum	**7439-98-7**	**2.07**		**0.296**
Nickel	**7440-02-0**	**0.865**		**0.537**
Selenium	**7782-49-2**	**0.173**	LJ, QX	**0.00738**
Thallium	**7440-28-0**	**0.00219**		**4.85E-4**
Vanadium	**7440-62-2**	**0.740**		**0.0436**
Zinc	7440-66-6	13.5	U	63.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-082924-HM
Matrix: Air
Lab ID: 4090925-02
Sample Volume: 2107.514 m³
Filter ID:
Sampled: 08/29/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 04:43

Comments: Q9555421 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0531**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.201**		**0.00723**
Barium	**7440-39-3**	**2.06**	B	**0.826**
Beryllium	**7440-41-7**	**0.00585**		**0.00247**
Cadmium	7440-43-9	0.0150	U	0.0572
Chromium	7440-47-3	1.48	U	1.71
Cobalt	**7440-48-4**	**0.164**	QB-01	**0.0337**
Copper	**7440-50-8**	**42.5**		**2.03**
Lead	**7439-92-1**	**0.474**		**0.165**
Manganese	**7439-96-5**	**5.34**		**1.46**
Molybdenum	**7439-98-7**	**3.68**		**0.277**
Nickel	**7440-02-0**	**0.637**		**0.503**
Selenium	**7782-49-2**	**0.181**	LJ, QX	**0.00692**
Thallium	**7440-28-0**	**0.00226**		**4.55E-4**
Vanadium	**7440-62-2**	**0.588**		**0.0408**
Zinc	7440-66-6	8.32	U	59.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-082924-HM
Matrix: Air
Lab ID: 4090925-03
Sample Volume: 1947.562 m³
Filter ID:
Sampled: 08/29/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 05:03

Comments: Q9555420 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0408**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.146**		**0.00783**
Barium	**7440-39-3**	**2.22**	B	**0.894**
Beryllium	**7440-41-7**	**0.0231**		**0.00267**
Cadmium	7440-43-9	0.0158	U	0.0619
Chromium	**7440-47-3**	**2.30**		**1.85**
Cobalt	**7440-48-4**	**0.355**	QB-01	**0.0364**
Copper	**7440-50-8**	**80.2**		**2.20**
Lead	**7439-92-1**	**0.259**		**0.179**
Manganese	**7439-96-5**	**8.61**		**1.58**
Molybdenum	**7439-98-7**	**2.64**		**0.300**
Nickel	**7440-02-0**	**1.24**		**0.545**
Selenium	**7782-49-2**	**0.160**	LJ, QX	**0.00749**
Thallium	**7440-28-0**	**0.00207**		**4.92E-4**
Vanadium	**7440-62-2**	**0.847**		**0.0442**
Zinc	7440-66-6	7.31	U	64.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-082924-HM
Matrix: Air
Lab ID: 4090925-04
Sample Volume: 1623.466 m³
Filter ID:
Sampled: 08/29/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 05:23

Comments: Q9555418 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0387**
Arsenic	**7440-38-2**	**0.226**		**0.00939**
Barium	**7440-39-3**	**6.61**	B	**1.07**
Beryllium	**7440-41-7**	**0.00786**		**0.00321**
Cadmium	7440-43-9	0.0264	U	0.0743
Chromium	**7440-47-3**	**2.53**		**2.21**
Cobalt	**7440-48-4**	**0.334**	QB-01	**0.0437**
Copper	**7440-50-8**	**72.6**		**2.64**
Lead	**7439-92-1**	**0.853**		**0.214**
Manganese	**7439-96-5**	**10.2**		**1.89**
Molybdenum	**7439-98-7**	**2.25**		**0.360**
Nickel	**7440-02-0**	**1.14**		**0.653**
Selenium	**7782-49-2**	**0.154**	LJ, QX	**0.00898**
Thallium	**7440-28-0**	**0.00188**		**5.90E-4**
Vanadium	**7440-62-2**	**0.941**		**0.0530**
Zinc	7440-66-6	17.8	U	77.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-082924-HM
Matrix: Air
Lab ID: 4090925-05
Sample Volume: 1974.461 m³
Filter ID:
Sampled: 08/29/24 00:00
Received: 09/09/24 10:05
Analysis Date: 09/11/24 05:43

Comments: Q9555409 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0104	U, SL	0.0318
Arsenic	**7440-38-2**	**0.00835**	FB-01	**0.00772**
Barium	7440-39-3	0.442	B, U	0.882
Beryllium	7440-41-7	9.62E-4	U	0.00264
Cadmium	7440-43-9	0.00397	U	0.0611
Chromium	7440-47-3	1.04	U	1.82
Cobalt	7440-48-4	0.0253	QB-01, U	0.0359
Copper	7440-50-8	1.31	U	2.17
Lead	7439-92-1	0.0533	U	0.176
Manganese	7439-96-5	0.329	U	1.56
Molybdenum	7439-98-7	0.225	U	0.296
Nickel	7440-02-0	0.332	U	0.537
Selenium	7782-49-2	0.00711	LJ, QX, U	0.00738
Thallium	7440-28-0	1.04E-4	U	4.85E-4
Vanadium	7440-62-2	0.0322	U	0.0436
Zinc	7440-66-6	2.41	U	63.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-083024-HM
Matrix: Air
Lab ID: 4090925-06
Sample Volume: 1943.546 m³
Filter ID:
Sampled: 08/30/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 06:03

Comments: Q9555414 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0857**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.281**		**0.00784**
Barium	**7440-39-3**	**3.85**	B	**0.896**
Beryllium	**7440-41-7**	**0.0120**		**0.00268**
Cadmium	7440-43-9	0.0222	U	0.0620
Chromium	**7440-47-3**	**3.00**		**1.85**
Cobalt	**7440-48-4**	**0.555**	QB-01	**0.0365**
Copper	**7440-50-8**	**80.9**		**2.20**
Lead	**7439-92-1**	**0.638**		**0.179**
Manganese	**7439-96-5**	**13.1**		**1.58**
Molybdenum	**7439-98-7**	**2.13**		**0.301**
Nickel	**7440-02-0**	**1.97**		**0.546**
Selenium	**7782-49-2**	**0.144**	LJ, QX	**0.00750**
Thallium	**7440-28-0**	**0.00123**		**4.93E-4**
Vanadium	**7440-62-2**	**1.47**		**0.0443**
Zinc	7440-66-6	10.6	U	64.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-083024-HM
Matrix: Air
Lab ID: 4090925-07
Sample Volume: 2125.164 m³
Filter ID:
Sampled: 08/30/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/10/24 21:21

Comments: Q9555412 - MS/MSD - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.385**		**0.00717**
Barium	**7440-39-3**	**4.68**	B	**0.819**
Beryllium	**7440-41-7**	**0.0173**		**0.00245**
Cadmium	7440-43-9	0.0290	U	0.0567
Chromium	**7440-47-3**	**3.27**		**1.69**
Cobalt	**7440-48-4**	**0.623**	QB-01	**0.0334**
Copper	**7440-50-8**	**55.1**		**2.01**
Lead	**7439-92-1**	**1.20**		**0.164**
Manganese	**7439-96-5**	**17.3**		**1.45**
Molybdenum	**7439-98-7**	**3.49**	QM-07	**0.275**
Nickel	**7440-02-0**	**2.07**		**0.499**
Selenium	**7782-49-2**	**0.176**	LJ, QX, SRD-01	**0.00686**
Thallium	**7440-28-0**	**0.00150**		**4.51E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0405**
Zinc	7440-66-6	16.7	U	58.8

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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: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-083024-HM
Matrix: Air
Lab ID: 4090925-08
Sample Volume: 1972.293 m³
Filter ID:
Sampled: 08/30/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 06:21

Comments: Q9555411 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0490**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.103**		**0.00773**
Barium	**7440-39-3**	**1.95**	B	**0.883**
Beryllium	**7440-41-7**	**0.0161**		**0.00264**
Cadmium	7440-43-9	0.0153	U	0.0611
Chromium	**7440-47-3**	**1.99**		**1.82**
Cobalt	**7440-48-4**	**0.282**	QB-01	**0.0360**
Copper	**7440-50-8**	**79.6**		**2.17**
Lead	7439-92-1	0.155	U	0.177
Manganese	**7439-96-5**	**7.20**		**1.56**
Molybdenum	**7439-98-7**	**2.59**		**0.296**
Nickel	**7440-02-0**	**1.16**		**0.538**
Selenium	**7782-49-2**	**0.141**	LJ, QX	**0.00739**
Thallium	**7440-28-0**	**9.20E-4**		**4.86E-4**
Vanadium	**7440-62-2**	**0.584**		**0.0436**
Zinc	7440-66-6	6.92	U	63.4

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-083024-HM
Matrix: Air
Lab ID: 4090925-09
Sample Volume: 1667.1 m³
Filter ID:
Sampled: 08/30/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 06:36

Comments: Q9555408 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.213**	SL	**0.0377**
Arsenic	**7440-38-2**	**0.310**		**0.00914**
Barium	**7440-39-3**	**8.19**	B	**1.04**
Beryllium	**7440-41-7**	**0.00920**		**0.00312**
Cadmium	7440-43-9	0.0342	U	0.0723
Chromium	**7440-47-3**	**5.16**		**2.16**
Cobalt	**7440-48-4**	**0.561**	QB-01	**0.0426**
Copper	**7440-50-8**	**30.4**		**2.57**
Lead	**7439-92-1**	**0.729**		**0.209**
Manganese	**7439-96-5**	**11.2**		**1.84**
Molybdenum	**7439-98-7**	**1.30**		**0.350**
Nickel	**7440-02-0**	**10.8**		**0.636**
Selenium	**7782-49-2**	**0.125**	LJ, QX	**0.00874**
Thallium	**7440-28-0**	**0.00113**		**5.75E-4**
Vanadium	**7440-62-2**	**0.835**		**0.0516**
Zinc	7440-66-6	17.9	U	75.0

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-083124-HM
Matrix: Air
Lab ID: 4090925-10
Sample Volume: 1891.35 m³
Filter ID:
Sampled: 08/31/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 06:51

Comments: Q9555407 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0591**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.265**		**0.00806**
Barium	**7440-39-3**	**2.56**	B	**0.920**
Beryllium	**7440-41-7**	**0.00500**		**0.00275**
Cadmium	7440-43-9	0.0211	U	0.0637
Chromium	**7440-47-3**	**1.98**		**1.90**
Cobalt	**7440-48-4**	**0.133**	QB-01	**0.0375**
Copper	**7440-50-8**	**29.0**		**2.26**
Lead	**7439-92-1**	**0.610**		**0.184**
Manganese	**7439-96-5**	**3.97**		**1.63**
Molybdenum	**7439-98-7**	**1.31**		**0.309**
Nickel	**7440-02-0**	**0.928**		**0.561**
Selenium	**7782-49-2**	**0.192**	LJ, QX	**0.00771**
Thallium	**7440-28-0**	**6.19E-4**		**5.07E-4**
Vanadium	**7440-62-2**	**0.528**		**0.0455**
Zinc	7440-66-6	15.1	U	66.1

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-083124-HM
Matrix: Air
Lab ID: 4090925-11
Sample Volume: 1961.557 m³
Filter ID:
Sampled: 08/31/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 07:05

Comments: Q9555404 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0561**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.301**		**0.00777**
Barium	**7440-39-3**	**1.72**	B	**0.888**
Beryllium	**7440-41-7**	**0.00354**		**0.00265**
Cadmium	7440-43-9	0.0210	U	0.0615
Chromium	7440-47-3	1.56	U	1.83
Cobalt	**7440-48-4**	**0.0899**	QB-01	**0.0362**
Copper	**7440-50-8**	**23.2**		**2.18**
Lead	**7439-92-1**	**0.360**		**0.178**
Manganese	**7439-96-5**	**2.54**		**1.57**
Molybdenum	**7439-98-7**	**0.990**		**0.298**
Nickel	**7440-02-0**	**0.554**		**0.541**
Selenium	**7782-49-2**	**0.195**	LJ, QX	**0.00743**
Thallium	**7440-28-0**	**5.99E-4**		**4.89E-4**
Vanadium	**7440-62-2**	**0.467**		**0.0439**
Zinc	7440-66-6	7.53	U	63.7

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-083124-HM
Matrix: Air
Lab ID: 4090925-12
Sample Volume: 1930.289 m³
Filter ID:
Sampled: 08/31/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 08:13

Comments: Q9555403 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0478**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.109**		**0.00790**
Barium	**7440-39-3**	**2.49**	B	**0.902**
Beryllium	**7440-41-7**	**0.0108**		**0.00270**
Cadmium	7440-43-9	0.0484	U	0.0625
Chromium	**7440-47-3**	**1.99**		**1.86**
Cobalt	**7440-48-4**	**0.226**	QB-01	**0.0367**
Copper	**7440-50-8**	**46.8**		**2.22**
Lead	**7439-92-1**	**0.410**		**0.180**
Manganese	**7439-96-5**	**5.39**		**1.59**
Molybdenum	**7439-98-7**	**1.74**		**0.303**
Nickel	**7440-02-0**	**1.45**		**0.550**
Selenium	**7782-49-2**	**0.177**	LJ, QX	**0.00755**
Thallium	**7440-28-0**	**8.62E-4**		**4.96E-4**
Vanadium	**7440-62-2**	**0.618**		**0.0446**
Zinc	7440-66-6	17.8	U	64.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-083124-HM
Matrix: Air
Lab ID: 4090925-13
Sample Volume: 1756.238 m³
Filter ID:
Sampled: 08/31/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 08:49

Comments: Q9555400 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.160**	SL	**0.0358**
Arsenic	**7440-38-2**	**0.312**		**0.00868**
Barium	**7440-39-3**	**4.77**	B	**0.991**
Beryllium	**7440-41-7**	**0.00663**		**0.00296**
Cadmium	**7440-43-9**	**0.105**		**0.0686**
Chromium	**7440-47-3**	**5.93**		**2.05**
Cobalt	**7440-48-4**	**0.288**	QB-01	**0.0404**
Copper	**7440-50-8**	**55.5**		**2.44**
Lead	**7439-92-1**	**0.917**		**0.198**
Manganese	**7439-96-5**	**7.17**		**1.75**
Molybdenum	**7439-98-7**	**2.33**		**0.333**
Nickel	**7440-02-0**	**3.96**		**0.604**
Selenium	**7782-49-2**	**0.172**	LJ, QX	**0.00830**
Thallium	**7440-28-0**	**0.00150**		**5.46E-4**
Vanadium	**7440-62-2**	**0.731**		**0.0490**
Zinc	7440-66-6	21.3	U	71.1

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-083124-HM
Matrix: Air
Lab ID: 4090925-14
Sample Volume: 1891.35 m³
Filter ID:
Sampled: 08/31/24 00:00
Received: 09/09/24 10:05
Analysis Date: 09/11/24 09:05

Comments: Q9537650 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00990	SL, U	0.0332
Arsenic	**7440-38-2**	**0.00938**	FB-01	**0.00806**
Barium	**7440-39-3**	**0.922**	B, FB-01	**0.920**
Beryllium	7440-41-7	5.20E-4	U	0.00275
Cadmium	7440-43-9	0.00872	U	0.0637
Chromium	7440-47-3	1.45	U	1.90
Cobalt	7440-48-4	0.0249	QB-01, U	0.0375
Copper	7440-50-8	0.727	U	2.26
Lead	7439-92-1	0.0649	U	0.184
Manganese	7439-96-5	0.292	U	1.63
Molybdenum	7439-98-7	0.237	U	0.309
Nickel	7440-02-0	0.289	U	0.561
Selenium	7782-49-2	5.06E-4	LJ, QX, U	0.00771
Thallium	7440-28-0	2.34E-4	U	5.07E-4
Vanadium	7440-62-2	0.0242	U	0.0455
Zinc	7440-66-6	2.64	U	66.1

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090124-HM
Matrix: Air
Lab ID: 4090925-15
Sample Volume: 2068.327 m³
Filter ID:
Sampled: 09/01/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 09:19

Comments: Q9555399 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0404**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.160**		**0.00737**
Barium	**7440-39-3**	**1.75**	B	**0.842**
Beryllium	**7440-41-7**	**0.00303**		**0.00252**
Cadmium	7440-43-9	0.0138	U	0.0583
Chromium	7440-47-3	1.44	U	1.74
Cobalt	**7440-48-4**	**0.0820**	QB-01	**0.0343**
Copper	**7440-50-8**	**24.3**		**2.07**
Lead	**7439-92-1**	**0.487**		**0.168**
Manganese	**7439-96-5**	**2.24**		**1.49**
Molybdenum	**7439-98-7**	**1.10**		**0.282**
Nickel	**7440-02-0**	**0.586**		**0.513**
Selenium	**7782-49-2**	**0.158**	LJ, QX	**0.00705**
Thallium	**7440-28-0**	**7.79E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**0.619**		**0.0416**
Zinc	7440-66-6	6.71	U	60.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090124-HM
Matrix: Air
Lab ID: 4090925-16
Sample Volume: 2007.82 m³
Filter ID:
Sampled: 09/01/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 09:48

Comments: Q9555398 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0808**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.220**		**0.00759**
Barium	**7440-39-3**	**3.23**	B	**0.867**
Beryllium	**7440-41-7**	**0.00563**		**0.00259**
Cadmium	7440-43-9	0.0142	U	0.0600
Chromium	7440-47-3	1.75	U	1.79
Cobalt	**7440-48-4**	**0.145**	QB-01	**0.0353**
Copper	**7440-50-8**	**21.9**		**2.13**
Lead	**7439-92-1**	**0.664**		**0.173**
Manganese	**7439-96-5**	**4.91**		**1.53**
Molybdenum	**7439-98-7**	**1.01**		**0.291**
Nickel	**7440-02-0**	**0.786**		**0.528**
Selenium	**7782-49-2**	**0.224**	LJ, QX	**0.00726**
Thallium	**7440-28-0**	**0.00106**		**4.77E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0429**
Zinc	7440-66-6	11.5	U	62.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090124-HM
Matrix: Air
Lab ID: 4090925-17
Sample Volume: 1916.365 m³
Filter ID:
Sampled: 09/01/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 10:03

Comments: Q9555397 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0317	SL, U	0.0328
Arsenic	**7440-38-2**	**0.100**		**0.00796**
Barium	**7440-39-3**	**1.82**	B	**0.908**
Beryllium	**7440-41-7**	**0.0110**		**0.00272**
Cadmium	7440-43-9	0.0137	U	0.0629
Chromium	**7440-47-3**	**2.73**		**1.88**
Cobalt	**7440-48-4**	**0.252**	QB-01	**0.0370**
Copper	**7440-50-8**	**45.4**		**2.23**
Lead	**7439-92-1**	**0.230**		**0.182**
Manganese	**7439-96-5**	**5.43**		**1.60**
Molybdenum	**7439-98-7**	**1.51**		**0.305**
Nickel	**7440-02-0**	**1.49**		**0.554**
Selenium	**7782-49-2**	**0.171**	LJ, QX	**0.00761**
Thallium	**7440-28-0**	**9.91E-4**		**5.00E-4**
Vanadium	**7440-62-2**	**0.737**		**0.0449**
Zinc	7440-66-6	6.44	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: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090124-HM
Matrix: Air
Lab ID: 4090925-18
Sample Volume: 1593.756 m³
Filter ID:
Sampled: 09/01/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 10:17

Comments: Q9555396 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0394**
Arsenic	**7440-38-2**	**0.180**		**0.00957**
Barium	**7440-39-3**	**4.28**	B	**1.09**
Beryllium	**7440-41-7**	**0.00365**		**0.00327**
Cadmium	**7440-43-9**	**0.0772**		**0.0756**
Chromium	**7440-47-3**	**2.90**		**2.26**
Cobalt	**7440-48-4**	**0.161**	QB-01	**0.0445**
Copper	**7440-50-8**	**46.1**		**2.68**
Lead	**7439-92-1**	**0.729**		**0.218**
Manganese	**7439-96-5**	**3.58**		**1.93**
Molybdenum	**7439-98-7**	**1.76**		**0.366**
Nickel	**7440-02-0**	**1.04**		**0.666**
Selenium	**7782-49-2**	**0.165**	LJ, QX	**0.00915**
Thallium	**7440-28-0**	**8.84E-4**		**6.01E-4**
Vanadium	**7440-62-2**	**0.662**		**0.0540**
Zinc	7440-66-6	15.3	U	78.4

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-090324-HM
Matrix: Air
Lab ID: 4090925-19
Sample Volume: 2068.327 m³
Filter ID:
Sampled: 09/03/24 00:00
Received: 09/09/24 10:05
Analysis Date: 09/11/24 10:32

Comments: Q9537649 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00683	SL, U	0.0304
Arsenic	**7440-38-2**	**0.00864**	FB-01	**0.00737**
Barium	7440-39-3	0.651	B, U	0.842
Beryllium	7440-41-7	6.90E-4	U	0.00252
Cadmium	7440-43-9	0.00772	U	0.0583
Chromium	7440-47-3	1.34	U	1.74
Cobalt	7440-48-4	0.0263	QB-01, U	0.0343
Copper	7440-50-8	0.599	U	2.07
Lead	7439-92-1	0.0580	U	0.168
Manganese	7439-96-5	0.273	U	1.49
Molybdenum	7439-98-7	0.213	U	0.282
Nickel	7440-02-0	0.255	U	0.513
Selenium	7782-49-2	0.00284	LJ, QX, U	0.00705
Thallium	7440-28-0	1.30E-4	U	4.63E-4
Vanadium	7440-62-2	0.0289	U	0.0416
Zinc	7440-66-6	2.73	U	60.4

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-090324-HM
Matrix: Air
Lab ID: 4090925-20
Sample Volume: 2068.327 m³
Filter ID:
Sampled: 09/03/24 00:00
Received: 09/09/24 10:05
Analysis Date: 09/11/24 11:33

Comments: Q9537642 - Lot blank from box 110 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00786	SL, U	0.0304
Arsenic	**7440-38-2**	**0.0111**		**0.00737**
Barium	7440-39-3	0.720	B, U	0.842
Beryllium	7440-41-7	8.47E-4	U	0.00252
Cadmium	7440-43-9	0.00925	U	0.0583
Chromium	7440-47-3	1.38	U	1.74
Cobalt	7440-48-4	0.0313	QB-01, U	0.0343
Copper	**7440-50-8**	**2.16**		**2.07**
Lead	7439-92-1	0.0790	U	0.168
Manganese	7439-96-5	0.371	U	1.49
Molybdenum	7439-98-7	0.272	U	0.282
Nickel	7440-02-0	0.389	U	0.513
Selenium	7782-49-2	0.00395	LJ, QX, U	0.00705
Thallium	7440-28-0	2.02E-4	U	4.63E-4
Vanadium	7440-62-2	0.0278	U	0.0416
Zinc	7440-66-6	4.27	U	60.4

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM05-090424-HM
Matrix: Air
Lab ID: 4090925-21
Sample Volume: 1959.43 m³
Filter ID:
Sampled: 09/04/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 11:48

Comments: Q9537648 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.318**	SL	**0.0321**
Arsenic	**7440-38-2**	**1.26**		**0.00778**
Barium	**7440-39-3**	**7.12**	B	**0.888**
Beryllium	**7440-41-7**	**0.0163**		**0.00266**
Cadmium	7440-43-9	0.0456	U	0.0615
Chromium	**7440-47-3**	**3.29**		**1.84**
Cobalt	**7440-48-4**	**0.579**	QB-01	**0.0362**
Copper	**7440-50-8**	**35.9**		**2.18**
Lead	**7439-92-1**	**1.84**		**0.178**
Manganese	**7439-96-5**	**18.5**		**1.57**
Molybdenum	**7439-98-7**	**1.48**		**0.298**
Nickel	**7440-02-0**	**1.77**		**0.541**
Selenium	**7782-49-2**	**0.211**	LJ, QX	**0.00744**
Thallium	**7440-28-0**	**0.00199**		**4.89E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0439**
Zinc	7440-66-6	31.8	U	63.8

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-090424-HM
Matrix: Air
Lab ID: 4090925-22
Sample Volume: 2047.883 m³
Filter ID:
Sampled: 09/04/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 12:05

Comments: Q9537647 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.127**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.241**		**0.00744**
Barium	**7440-39-3**	**4.08**	B	**0.850**
Beryllium	**7440-41-7**	**0.0105**		**0.00254**
Cadmium	7440-43-9	0.0133	U	0.0589
Chromium	**7440-47-3**	**2.63**		**1.76**
Cobalt	**7440-48-4**	**0.414**	QB-01	**0.0346**
Copper	**7440-50-8**	**21.9**		**2.09**
Lead	**7439-92-1**	**0.439**		**0.170**
Manganese	**7439-96-5**	**10.3**		**1.50**
Molybdenum	**7439-98-7**	**1.00**		**0.285**
Nickel	**7440-02-0**	**1.26**		**0.518**
Selenium	**7782-49-2**	**0.208**	LJ, QX	**0.00712**
Thallium	**7440-28-0**	**9.04E-4**		**4.68E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0420**
Zinc	7440-66-6	9.45	U	61.0

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-090424-HM
Matrix: Air
Lab ID: 4090925-23
Sample Volume: 1983.423 m³
Filter ID:
Sampled: 09/04/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 12:20

Comments: Q9537646 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0404**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.168**		**0.00769**
Barium	**7440-39-3**	**3.18**	B	**0.878**
Beryllium	**7440-41-7**	**0.0212**		**0.00262**
Cadmium	7440-43-9	0.0120	U	0.0608
Chromium	**7440-47-3**	**2.85**		**1.81**
Cobalt	**7440-48-4**	**0.364**	QB-01	**0.0358**
Copper	**7440-50-8**	**36.9**		**2.16**
Lead	**7439-92-1**	**0.272**		**0.176**
Manganese	**7439-96-5**	**9.51**		**1.55**
Molybdenum	**7439-98-7**	**1.46**		**0.294**
Nickel	**7440-02-0**	**1.33**		**0.535**
Selenium	**7782-49-2**	**0.188**	LJ, QX	**0.00735**
Thallium	**7440-28-0**	**9.32E-4**		**4.83E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0434**
Zinc	7440-66-6	8.44	U	63.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM06-090424-HM
Matrix: Air
Lab ID: 4090925-24
Sample Volume: 1702.289 m³
Filter ID:
Sampled: 09/04/24 23:59
Received: 09/09/24 10:05
Analysis Date: 09/11/24 01:31

Comments: Q9537641 - MS/MSD - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.230**	SL	**0.0369**
Arsenic	**7440-38-2**	**0.261**		**0.00896**
Barium	**7440-39-3**	**5.16**	B	**1.02**
Beryllium	**7440-41-7**	**0.00868**		**0.00306**
Cadmium	7440-43-9	0.0283	U	0.0708
Chromium	**7440-47-3**	**3.97**		**2.11**
Cobalt	**7440-48-4**	**0.306**	QB-01	**0.0417**
Copper	**7440-50-8**	**48.1**	D-F, QM-07	**2.51**
Lead	**7439-92-1**	**0.884**		**0.205**
Manganese	**7439-96-5**	**9.45**	QM-07	**1.81**
Molybdenum	**7439-98-7**	**1.54**	QM-07	**0.343**
Nickel	**7440-02-0**	**2.20**	QM-07	**0.623**
Selenium	**7782-49-2**	**0.171**	LJ, QX	**0.00856**
Thallium	**7440-28-0**	**0.00107**		**5.63E-4**
Vanadium	**7440-62-2**	**0.998**		**0.0506**
Zinc	7440-66-6	24.7	U	73.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
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 2409042 - B4I1005										
Calibration Blank (2409042-CCB1)				Prepared & Analyzed: 09/10/24						
Antimony	0.885		ng/l							
Arsenic	-1.89		ng/l							U
Barium	0.174		ng/l							
Beryllium	-0.520		ng/l							U
Cadmium	-0.0326		ng/l							U
Chromium	-0.120		ng/l							U
Cobalt	-0.0832		ng/l							U
Copper	68.5		ng/l							
Lead	9.48		ng/l							
Manganese	3.17		ng/l							
Molybdenum	28.8		ng/l							
Nickel	1.82		ng/l							
Selenium	11.1		ng/l							LJ, QX
Thallium	1.21		ng/l							
Vanadium	-66.1		ng/l							U
Zinc	-10.2		ng/l							U
Calibration Blank (2409042-CCB2)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.529		ng/l							
Arsenic	-1.29		ng/l							U
Barium	1.76		ng/l							
Beryllium	-0.798		ng/l							U
Cadmium	0.0156		ng/l							
Chromium	0.377		ng/l							
Cobalt	0.221		ng/l							
Copper	55.6		ng/l							
Lead	3.19		ng/l							
Manganese	5.97		ng/l							
Molybdenum	6.51		ng/l							
Nickel	3.32		ng/l							
Selenium	2.61		ng/l							LJ, QX
Thallium	1.22		ng/l							
Vanadium	-64.5		ng/l							U
Zinc	-16.8		ng/l							U
Calibration Blank (2409042-CCB3)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.645		ng/l							
Arsenic	-0.202		ng/l							U
Barium	1.04		ng/l							
Beryllium	-1.08		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
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 2409042 - B4I1005										
Calibration Blank (2409042-CCB3) Contin				Prepared: 09/10/24 Analyzed: 09/11/24						
Cadmium	0.00908		ng/l							
Chromium	1.58		ng/l							
Cobalt	0.0271		ng/l							
Copper	34.8		ng/l							
Lead	2.63		ng/l							
Manganese	5.87		ng/l							
Molybdenum	7.11		ng/l							
Nickel	0.392		ng/l							
Selenium	11.6		ng/l							LJ, QX
Thallium	1.15		ng/l							
Vanadium	-67.6		ng/l							U
Zinc	-26.9		ng/l							U
Calibration Blank (2409042-CCB4)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.503		ng/l							
Arsenic	-3.58		ng/l							U
Barium	0.518		ng/l							
Beryllium	-1.53		ng/l							U
Cadmium	-0.0677		ng/l							U
Chromium	1.08		ng/l							
Cobalt	0.0858		ng/l							
Copper	26.8		ng/l							
Lead	1.59		ng/l							
Manganese	1.36		ng/l							
Molybdenum	4.48		ng/l							
Nickel	2.23		ng/l							
Selenium	18.1		ng/l							LJ, QX
Thallium	0.871		ng/l							
Vanadium	-69.7		ng/l							U
Zinc	-41.5		ng/l							U
Calibration Blank (2409042-CCB5)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.431		ng/l							
Arsenic	-1.94		ng/l							U
Barium	0.319		ng/l							
Beryllium	-1.69		ng/l							U
Cadmium	0.0467		ng/l							
Chromium	1.84		ng/l							
Cobalt	0.0559		ng/l							
Copper	29.2		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
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 2409042 - B4I1005										
Calibration Blank (2409042-CCB5) Contin				Prepared: 09/10/24 Analyzed: 09/11/24						
Lead	1.94		ng/l							
Manganese	5.00		ng/l							
Molybdenum	9.20		ng/l							
Nickel	3.40		ng/l							
Selenium	4.42		ng/l							LJ, QX
Thallium	1.36		ng/l							
Vanadium	-71.3		ng/l							U
Zinc	-27.1		ng/l							U
Calibration Blank (2409042-CCB6)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.139		ng/l							
Arsenic	-3.34		ng/l							U
Barium	0.825		ng/l							
Beryllium	-1.84		ng/l							U
Cadmium	-0.0568		ng/l							U
Chromium	2.30		ng/l							
Cobalt	0.0823		ng/l							
Copper	26.5		ng/l							
Lead	1.47		ng/l							
Manganese	2.50		ng/l							
Molybdenum	6.40		ng/l							
Nickel	4.30		ng/l							
Selenium	13.8		ng/l							LJ, QX
Thallium	0.980		ng/l							
Vanadium	-76.3		ng/l							U
Zinc	-20.1		ng/l							U
Calibration Check (2409042-CCV1)				Prepared & Analyzed: 09/10/24						
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	230000		ng/l	240000		95.8	90-110			
Cobalt	49300		ng/l	50000		98.6	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.7	90-110			
Lead	197000		ng/l	200000		98.4	90-110			
Manganese	498000		ng/l	500000		99.5	90-110			
Molybdenum	48700		ng/l	50000		97.5	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			

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

FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
SUBMITTED: 09/09/24
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 2409042 - B4I1005										
Calibration Check (2409042-CCV1) Contin				Prepared & Analyzed: 09/10/24						
Selenium	20100		ng/l	20000		100	90-110			LJ, QX
Thallium	493		ng/l	500.00		98.5	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2409042-CCV2)				Prepared & Analyzed: 09/10/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5240		ng/l	5000.0		105	90-110			
Cadmium	19500		ng/l	20000		97.5	90-110			
Chromium	222000		ng/l	240000		92.3	90-110			
Cobalt	47300		ng/l	50000		94.6	90-110			
Copper	1.88E6		ng/l	2.0000E6		94.0	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	498000		ng/l	500000		99.5	90-110			
Molybdenum	46800		ng/l	50000		93.6	90-110			
Nickel	113000		ng/l	120000		94.5	90-110			
Selenium	21200		ng/l	20000		106	90-110			LJ, QX
Thallium	480		ng/l	500.00		96.1	90-110			
Vanadium	19000		ng/l	20000		94.9	90-110			
Zinc	501000		ng/l	500000		100	90-110			
Calibration Check (2409042-CCV3)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4960		ng/l	5000.0		99.3	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	229000		ng/l	240000		95.5	90-110			
Cobalt	48800		ng/l	50000		97.7	90-110			
Copper	1.95E6		ng/l	2.0000E6		97.7	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	496000		ng/l	500000		99.2	90-110			
Molybdenum	49100		ng/l	50000		98.2	90-110			
Nickel	117000		ng/l	120000		97.8	90-110			
Selenium	20400		ng/l	20000		102	90-110			LJ, QX
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	19500		ng/l	20000		97.7	90-110			
Zinc	513000		ng/l	500000		103	90-110			

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REPORTED: 09/17/24 14:28
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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 2409042 - B4I1005										
Calibration Check (2409042-CCV4)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	5290		ng/l	5000.0		106	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	233000		ng/l	240000		97.2	90-110			
Cobalt	49900		ng/l	50000		99.8	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.6	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		99.6	90-110			
Selenium	20400		ng/l	20000		102	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2409042-CCV5)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	237000		ng/l	240000		98.6	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	493		ng/l	500.00		98.5	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2409042-CCV6)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	215000		ng/l	200000		108	90-110			
Beryllium	4940		ng/l	5000.0		98.8	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Calibration Check (2409042-CCV6) Contin				Prepared: 09/10/24 Analyzed: 09/11/24						
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	53300		ng/l	50000		107	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	534000		ng/l	500000		107	90-110			
High Cal Check (2409042-HCV1)				Prepared & Analyzed: 09/10/24						
Antimony	40200		ng/l	40000		101	95-105			
Arsenic	39800		ng/l	40000		99.5	95-105			
Barium	396000		ng/l	400000		98.9	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	40200		ng/l	40000		100	95-105			
Chromium	471000		ng/l	480000		98.1	95-105			
Cobalt	98600		ng/l	100000		98.6	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.7	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	994000		ng/l	1.0000E6		99.4	95-105			
Molybdenum	99300		ng/l	100000		99.3	95-105			
Nickel	236000		ng/l	240000		98.4	95-105			
Selenium	39900		ng/l	40000		99.8	95-105			LJ, QX
Thallium	995		ng/l	1000.0		99.5	95-105			
Vanadium	39600		ng/l	40000		99.0	95-105			
Zinc	991000		ng/l	1.0000E6		99.1	95-105			
Initial Cal Blank (2409042-ICB1)				Prepared & Analyzed: 09/10/24						
Antimony	0.284		ng/l							
Arsenic	-2.18		ng/l							U
Barium	0.932		ng/l							
Beryllium	-0.455		ng/l							U
Cadmium	-0.134		ng/l							U
Chromium	0.629		ng/l							
Cobalt	-0.00324		ng/l							U
Copper	59.5		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Initial Cal Blank (2409042-ICB1) Continu				Prepared & Analyzed: 09/10/24						
Lead	5.06		ng/l							
Manganese	4.93		ng/l							
Molybdenum	11.5		ng/l							
Nickel	0.386		ng/l							
Selenium	4.06		ng/l							LJ, QX
Thallium	1.07		ng/l							
Vanadium	-64.0		ng/l							U
Zinc	-17.8		ng/l							U
Initial Cal Check (2409042-ICV1)				Prepared & Analyzed: 09/10/24						
Antimony	19600		ng/l	20000		97.9	90-110			
Arsenic	19400		ng/l	20000		97.1	90-110			
Barium	194000		ng/l	200000		97.2	90-110			
Beryllium	4810		ng/l	5000.0		96.2	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	233000		ng/l	240000		97.2	90-110			
Cobalt	47600		ng/l	50000		95.2	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.3	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Interference Check A (2409042-IFA1)				Prepared & Analyzed: 09/10/24						
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	306000		ng/l	300000		102	80-120			
Nickel	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2409042 - B4I1005										
Interference Check A (2409042-IFA1) Co				Prepared & Analyzed: 09/10/24						
Selenium	0.00		ng/l				80-120			LJ, QX, 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
Interference Check B (2409042-IFB1)				Prepared & Analyzed: 09/10/24						
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	201000		ng/l	200000		101	80-120			
Beryllium	4920		ng/l	5000.0		98.3	80-120			
Cadmium	19700		ng/l	20000		98.6	80-120			
Chromium	224000		ng/l	240000		93.5	80-120			
Cobalt	48200		ng/l	50000		96.4	80-120			
Copper	1.86E6		ng/l	2.0000E6		92.8	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	503000		ng/l	500000		101	80-120			
Molybdenum	367000		ng/l	350000		105	80-120			
Nickel	113000		ng/l	120000		94.2	80-120			
Selenium	19500		ng/l	20000		97.6	80-120			LJ, QX
Thallium	523		ng/l	500.00		105	80-120			
Vanadium	19300		ng/l	20000		96.3	80-120			
Zinc	472000		ng/l	500000		94.5	80-120			
Batch B4I1005 - ICP-MS Extraction										
Blank (B4I1005-BLK1)				Prepared & Analyzed: 09/10/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							B, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							QB-01, U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							LJ, QX, U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Blank (B4I1005-BLK1) Continued				Prepared & Analyzed: 09/10/24						
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4I1005-BS1)				Prepared & Analyzed: 09/10/24						
Antimony	0.663	0.0386	ng/m³ Air	1.3829		48.0	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		99.1	80-120			
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			B
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.32	0.0436	ng/m³ Air	1.3829		95.2	80-120			QB-01
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.3	0.214	ng/m³ Air	13.829		96.5	80-120			
Manganese	8.52	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		114	80-120			
Nickel	2.96	0.652	ng/m³ Air	2.7658		107	80-120			
Selenium	2.78	0.00896	ng/m³ Air	2.7658		101	80-120			LJ, QX
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.5	80-120			
Vanadium	2.68	0.0529	ng/m³ Air	2.7658		97.0	80-120			
Zinc	89.7	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4I1005-BS2)				Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.619	0.0386	ng/m³ Air	1.3829		44.8	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		99.0	80-120			
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			B
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.32	0.0436	ng/m³ Air	1.3829		95.4	80-120			QB-01
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.3	0.214	ng/m³ Air	13.829		96.5	80-120			
Manganese	8.54	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		113	80-120			
Nickel	2.99	0.652	ng/m³ Air	2.7658		108	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.7	80-120			LJ, QX
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		98.8	80-120			
Vanadium	2.67	0.0529	ng/m³ Air	2.7658		96.6	80-120			
Zinc	88.9	76.8	ng/m³ Air	82.975		107	80-120			
Duplicate (B4I1005-DUP1)		**Source: 4090925-07**		Prepared & Analyzed: 09/10/24						
Antimony	0.125	0.0296	ng/m³ Air		0.113			10.1	10	SL
Arsenic	0.389	0.00717	ng/m³ Air		0.385			1.04	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Duplicate (B4I1005-DUP1) Continued			**Source: 4090925-07**		Prepared & Analyzed: 09/10/24					
Barium	5.12	0.819	ng/m³ Air		4.68			8.96	10	B
Beryllium	0.0164	0.00245	ng/m³ Air		0.0173			5.23	10	
Cadmium	ND	0.0567	ng/m³ Air		ND				10	U
Chromium	3.43	1.69	ng/m³ Air		3.27			4.80	10	
Cobalt	0.667	0.0334	ng/m³ Air		0.623			6.79	10	QB-01
Copper	60.4	2.01	ng/m³ Air		55.1			9.22	10	
Lead	1.13	0.164	ng/m³ Air		1.20			5.58	10	
Manganese	18.6	1.45	ng/m³ Air		17.3			7.27	10	
Molybdenum	3.51	0.275	ng/m³ Air		3.49			0.443	10	
Nickel	2.09	0.499	ng/m³ Air		2.07			0.871	10	
Selenium	0.191	0.00686	ng/m³ Air		0.176			8.49	10	LJ, QX
Thallium	0.00158	4.51E-4	ng/m³ Air		0.00150			4.75	10	
Vanadium	1.91	0.0405	ng/m³ Air		1.84			4.07	10	
Zinc	ND	58.8	ng/m³ Air		ND				10	U
Duplicate (B4I1005-DUP2)			**Source: 4090925-24**		Prepared: 09/10/24 Analyzed: 09/11/24					
Antimony	0.198	0.0369	ng/m³ Air		0.230			14.7	10	SL
Arsenic	0.255	0.00896	ng/m³ Air		0.261			2.45	10	
Barium	4.85	1.02	ng/m³ Air		5.16			6.25	10	B
Beryllium	0.00764	0.00306	ng/m³ Air		0.00868			12.7	10	
Cadmium	ND	0.0708	ng/m³ Air		ND				10	U
Chromium	3.53	2.11	ng/m³ Air		3.97			11.8	10	
Cobalt	0.277	0.0417	ng/m³ Air		0.306			9.89	10	QB-01
Copper	38.5	2.51	ng/m³ Air		48.1			22.3	10	D-F
Lead	0.645	0.205	ng/m³ Air		0.884			31.3	10	
Manganese	8.33	1.81	ng/m³ Air		9.45			12.6	10	
Molybdenum	1.31	0.343	ng/m³ Air		1.54			16.1	10	
Nickel	1.86	0.623	ng/m³ Air		2.20			16.4	10	
Selenium	0.157	0.00856	ng/m³ Air		0.171			8.31	10	LJ, QX
Thallium	9.38E-4	5.63E-4	ng/m³ Air		0.00107			12.8	10	
Vanadium	0.912	0.0506	ng/m³ Air		0.998			8.97	10	
Zinc	ND	73.4	ng/m³ Air		ND				10	U
Duplicate (B4I1005-DUP3)			**Source: 4090925-12**		Prepared: 09/10/24 Analyzed: 09/11/24					
Antimony	0.0467	0.0325	ng/m³ Air		0.0478			2.31	10	SL
Arsenic	0.111	0.00790	ng/m³ Air		0.109			1.74	10	
Barium	2.50	0.902	ng/m³ Air		2.49			0.394	10	B
Beryllium	0.0113	0.00270	ng/m³ Air		0.0108			4.21	10	
Cadmium	ND	0.0625	ng/m³ Air		ND				10	U
Chromium	1.97	1.86	ng/m³ Air		1.99			0.869	10	

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FILE #: 4205.00.003.001
REPORTED: 09/17/24 14:28
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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 B4I1005 - ICP-MS Extraction										
Duplicate (B4I1005-DUP3) Continued		**Source: 4090925-12**		Prepared: 09/10/24 Analyzed: 09/11/24						
Cobalt	0.225	0.0367	ng/m³ Air		0.226			0.333	10	QB-01
Copper	47.0	2.22	ng/m³ Air		46.8			0.292	10	
Lead	0.410	0.180	ng/m³ Air		0.410			0.0937	10	
Manganese	5.39	1.59	ng/m³ Air		5.39			0.0494	10	
Molybdenum	1.75	0.303	ng/m³ Air		1.74			0.173	10	
Nickel	1.45	0.550	ng/m³ Air		1.45			0.333	10	
Selenium	0.185	0.00755	ng/m³ Air		0.177			4.52	10	LJ, QX
Thallium	8.47E-4	4.96E-4	ng/m³ Air		8.62E-4			1.76	10	
Vanadium	0.614	0.0446	ng/m³ Air		0.618			0.600	10	
Zinc	ND	64.7	ng/m³ Air		ND				10	U
Duplicate (B4I1005-DUP4)		**Source: 4090925-15**		Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.0420	0.0304	ng/m³ Air		0.0404			3.86	10	SL
Arsenic	0.156	0.00737	ng/m³ Air		0.160			2.28	10	
Barium	1.77	0.842	ng/m³ Air		1.75			1.30	10	B
Beryllium	0.00298	0.00252	ng/m³ Air		0.00303			1.67	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	ND	1.74	ng/m³ Air		ND				10	U
Cobalt	0.0818	0.0343	ng/m³ Air		0.0820			0.281	10	QB-01
Copper	24.4	2.07	ng/m³ Air		24.3			0.621	10	
Lead	0.490	0.168	ng/m³ Air		0.487			0.634	10	
Manganese	2.24	1.49	ng/m³ Air		2.24			0.0896	10	
Molybdenum	1.10	0.282	ng/m³ Air		1.10			0.719	10	
Nickel	0.593	0.513	ng/m³ Air		0.586			1.09	10	
Selenium	0.162	0.00705	ng/m³ Air		0.158			2.37	10	LJ, QX
Thallium	7.56E-4	4.63E-4	ng/m³ Air		7.79E-4			2.94	10	
Vanadium	0.620	0.0416	ng/m³ Air		0.619			0.130	10	
Zinc	ND	60.4	ng/m³ Air		ND				10	U
Matrix Spike (B4I1005-MS1)		**Source: 4090925-07**		Prepared & Analyzed: 09/10/24						
Antimony	0.635	0.0296	ng/m³ Air	1.0587	0.113	49.3	80-120			SL
Arsenic	2.37	0.00717	ng/m³ Air	2.1175	0.385	93.7	80-120			
Barium	25.9	0.819	ng/m³ Air	21.175	4.68	100	80-120			B
Beryllium	1.05	0.00245	ng/m³ Air	1.0587	0.0173	97.7	80-120			
Cadmium	1.05	0.0567	ng/m³ Air	1.0587	ND	98.7	80-120			
Chromium	13.1	1.69	ng/m³ Air	10.587	3.27	92.7	80-120			
Cobalt	1.55	0.0334	ng/m³ Air	1.0587	0.623	88.0	80-120			QB-01
Copper	78.8	2.01	ng/m³ Air	21.175	55.1	112	80-120			
Lead	11.1	0.164	ng/m³ Air	10.587	1.20	93.9	80-120			
Manganese	23.4	1.45	ng/m³ Air	6.3525	17.3	96.3	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 B4I1005 - ICP-MS Extraction										
Matrix Spike (B4I1005-MS1) Continued		**Source: 4090925-07**			Prepared & Analyzed: 09/10/24					
Molybdenum	4.34	0.275	ng/m³ Air	1.0587	3.49	80.6	80-120			
Nickel	3.87	0.499	ng/m³ Air	2.1175	2.07	84.9	80-120			
Selenium	2.23	0.00686	ng/m³ Air	2.1175	0.176	96.8	80-120			LJ, QX
Thallium	0.100	4.51E-4	ng/m³ Air	0.10587	0.00150	93.2	80-120			
Vanadium	3.77	0.0405	ng/m³ Air	2.1175	1.84	91.1	80-120			
Zinc	80.8	58.8	ng/m³ Air	63.525	ND	127	80-120			
Matrix Spike (B4I1005-MS2)		**Source: 4090925-24**			Prepared: 09/10/24 Analyzed: 09/11/24					
Antimony	0.824	0.0369	ng/m³ Air	1.3218	0.230	44.9	80-120			SL
Arsenic	2.86	0.00896	ng/m³ Air	2.6435	0.261	98.5	80-120			
Barium	31.8	1.02	ng/m³ Air	26.435	5.16	101	80-120			B
Beryllium	1.30	0.00306	ng/m³ Air	1.3218	0.00868	97.8	80-120			
Cadmium	1.34	0.0708	ng/m³ Air	1.3218	ND	102	80-120			
Chromium	15.7	2.11	ng/m³ Air	13.218	3.97	88.7	80-120			
Cobalt	1.51	0.0417	ng/m³ Air	1.3218	0.306	90.9	80-120			QB-01
Copper	68.9	2.51	ng/m³ Air	26.435	48.1	78.4	80-120			QM-07
Lead	13.8	0.205	ng/m³ Air	13.218	0.884	97.8	80-120			
Manganese	16.1	1.81	ng/m³ Air	7.9305	9.45	83.7	80-120			
Molybdenum	2.45	0.343	ng/m³ Air	1.3218	1.54	68.5	80-120			QM-07
Nickel	3.89	0.623	ng/m³ Air	2.6435	2.20	64.0	80-120			QM-07
Selenium	2.77	0.00856	ng/m³ Air	2.6435	0.171	98.4	80-120			LJ, QX
Thallium	0.129	5.63E-4	ng/m³ Air	0.13218	0.00107	97.0	80-120			
Vanadium	3.46	0.0506	ng/m³ Air	2.6435	0.998	93.2	80-120			
Zinc	100	73.4	ng/m³ Air	79.305	ND	127	80-120			
Matrix Spike Dup (B4I1005-MSD1)		**Source: 4090925-07**			Prepared & Analyzed: 09/10/24					
Antimony	0.690	0.0296	ng/m³ Air	1.0587	0.113	54.5	80-120	8.40	20	SL
Arsenic	2.31	0.00717	ng/m³ Air	2.1175	0.385	91.1	80-120	2.39	20	
Barium	26.6	0.819	ng/m³ Air	21.175	4.68	103	80-120	2.79	20	B
Beryllium	1.04	0.00245	ng/m³ Air	1.0587	0.0173	96.8	80-120	0.876	20	
Cadmium	1.03	0.0567	ng/m³ Air	1.0587	ND	97.1	80-120	1.68	20	
Chromium	12.8	1.69	ng/m³ Air	10.587	3.27	89.7	80-120	2.44	20	
Cobalt	1.53	0.0334	ng/m³ Air	1.0587	0.623	85.8	80-120	1.50	20	QB-01
Copper	76.1	2.01	ng/m³ Air	21.175	55.1	99.0	80-120	3.54	20	
Lead	11.2	0.164	ng/m³ Air	10.587	1.20	94.0	80-120	0.0963	20	
Manganese	23.3	1.45	ng/m³ Air	6.3525	17.3	94.8	80-120	0.397	20	
Molybdenum	4.28	0.275	ng/m³ Air	1.0587	3.49	74.7	80-120	1.44	20	QM-07
Nickel	3.79	0.499	ng/m³ Air	2.1175	2.07	81.3	80-120	1.98	20	
Selenium	2.23	0.00686	ng/m³ Air	2.1175	0.176	97.1	80-120	0.291	20	LJ, QX
Thallium	0.101	4.51E-4	ng/m³ Air	0.10587	0.00150	93.7	80-120	0.494	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Matrix Spike Dup (B4I1005-MSD1) Contir		**Source: 4090925-07**			Prepared & Analyzed: 09/10/24					
Vanadium	3.68	0.0405	ng/m³ Air	2.1175	1.84	87.1	80-120	2.24	20	
Zinc	79.3	58.8	ng/m³ Air	63.525	ND	125	80-120	1.84	20	
Matrix Spike Dup (B4I1005-MSD2)		**Source: 4090925-24**			Prepared: 09/10/24		Analyzed: 09/11/24			
Antimony	0.797	0.0369	ng/m³ Air	1.3218	0.230	42.9	80-120	3.32	20	SL
Arsenic	2.82	0.00896	ng/m³ Air	2.6435	0.261	96.6	80-120	1.71	20	
Barium	31.4	1.02	ng/m³ Air	26.435	5.16	99.4	80-120	1.16	20	B
Beryllium	1.31	0.00306	ng/m³ Air	1.3218	0.00868	98.6	80-120	0.768	20	
Cadmium	1.33	0.0708	ng/m³ Air	1.3218	ND	100	80-120	1.19	20	
Chromium	15.5	2.11	ng/m³ Air	13.218	3.97	87.5	80-120	1.08	20	
Cobalt	1.48	0.0417	ng/m³ Air	1.3218	0.306	88.6	80-120	2.11	20	QB-01
Copper	56.4	2.51	ng/m³ Air	26.435	48.1	31.3	80-120	19.9	20	QM-07
Lead	13.6	0.205	ng/m³ Air	13.218	0.884	96.1	80-120	1.66	20	
Manganese	15.7	1.81	ng/m³ Air	7.9305	9.45	78.4	80-120	2.64	20	QM-07
Molybdenum	2.24	0.343	ng/m³ Air	1.3218	1.54	53.3	80-120	8.57	20	QM-07
Nickel	3.54	0.623	ng/m³ Air	2.6435	2.20	50.6	80-120	9.51	20	QM-07
Selenium	2.69	0.00856	ng/m³ Air	2.6435	0.171	95.4	80-120	2.89	20	LJ, QX
Thallium	0.131	5.63E-4	ng/m³ Air	0.13218	0.00107	98.3	80-120	1.32	20	
Vanadium	3.46	0.0506	ng/m³ Air	2.6435	0.998	93.1	80-120	0.0270	20	
Zinc	93.5	73.4	ng/m³ Air	79.305	ND	118	80-120	7.02	20	
Post Spike (B4I1005-PS1)		**Source: 4090925-07**			Prepared & Analyzed: 09/10/24					
Antimony	0.324	0.0296	ng/m³ Air	0.21175	0.113	99.5	75-125			SL
Arsenic	1.41	0.00717	ng/m³ Air	1.0587	0.385	96.4	75-125			
Barium	6.87	0.819	ng/m³ Air	2.1175	4.68	104	75-125			B
Beryllium	0.228	0.00245	ng/m³ Air	0.21175	0.0173	99.5	75-125			
Cadmium	0.132	0.0567	ng/m³ Air	0.10587	ND	125	75-125			
Chromium	4.27	1.69	ng/m³ Air	1.0587	3.27	93.8	75-125			
Cobalt	0.819	0.0334	ng/m³ Air	0.21175	0.623	92.2	75-125			QB-01
Copper	64.9	2.01	ng/m³ Air	10.587	55.1	92.8	75-125			
Lead	22.4	0.164	ng/m³ Air	21.175	1.20	100	75-125			
Manganese	19.9	1.45	ng/m³ Air	2.1175	17.3	123	75-125			
Molybdenum	4.39	0.275	ng/m³ Air	1.0587	3.49	85.0	75-125			
Nickel	4.07	0.499	ng/m³ Air	2.1175	2.07	94.3	75-125			
Selenium	1.25	0.00686	ng/m³ Air	1.0587	0.176	102	75-125			LJ, QX
Thallium	0.0528	4.51E-4	ng/m³ Air	5.2937E-2	0.00150	97.0	75-125			
Vanadium	2.81	0.0405	ng/m³ Air	1.0587	1.84	92.2	75-125			
Zinc	ND	58.8	ng/m³ Air	21.175	ND		75-125			U
Post Spike (B4I1005-PS2)		**Source: 4090925-24**			Prepared: 09/10/24		Analyzed: 09/11/24			
Antimony	0.492	0.0369	ng/m³ Air	0.26435	0.230	99.3	75-125			SL

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Post Spike (B4I1005-PS2) Continued		**Source: 4090925-24**		Prepared: 09/10/24 Analyzed: 09/11/24						
Arsenic	1.55	0.00896	ng/m³ Air	1.3218	0.261	97.4	75-125			
Barium	7.70	1.02	ng/m³ Air	2.6435	5.16	96.0	75-125			B
Beryllium	0.269	0.00306	ng/m³ Air	0.26435	0.00868	98.4	75-125			
Cadmium	0.163	0.0708	ng/m³ Air	0.13218	ND	124	75-125			
Chromium	5.33	2.11	ng/m³ Air	1.3218	3.97	103	75-125			
Cobalt	0.563	0.0417	ng/m³ Air	0.26435	0.306	97.1	75-125			QB-01
Copper	62.8	2.51	ng/m³ Air	13.218	48.1	111	75-125			
Lead	27.8	0.205	ng/m³ Air	26.435	0.884	102	75-125			
Manganese	12.2	1.81	ng/m³ Air	2.6435	9.45	105	75-125			
Molybdenum	2.87	0.343	ng/m³ Air	1.3218	1.54	100	75-125			
Nickel	4.84	0.623	ng/m³ Air	2.6435	2.20	100	75-125			
Selenium	1.50	0.00856	ng/m³ Air	1.3218	0.171	100	75-125			LJ, QX
Thallium	0.0673	5.63E-4	ng/m³ Air	6.6087E-2	0.00107	100	75-125			
Vanadium	2.30	0.0506	ng/m³ Air	1.3218	0.998	98.2	75-125			
Zinc	ND	73.4	ng/m³ Air	26.435	ND		75-125			U
Dilution Check (B4I1005-SRL1)		**Source: 4090925-07**		Prepared & Analyzed: 09/10/24						
Antimony	ND	0.148	ng/m³ Air		ND				10	SL, U
Arsenic	0.389	0.0359	ng/m³ Air		0.385			1.01	10	
Barium	4.77	4.10	ng/m³ Air		4.68			1.91	10	B
Beryllium	0.0166	0.0122	ng/m³ Air		0.0173			4.18	10	
Cadmium	ND	0.284	ng/m³ Air		ND				10	U
Chromium	ND	8.46	ng/m³ Air		ND				10	U
Cobalt	0.624	0.167	ng/m³ Air		0.623			0.166	10	QB-01
Copper	55.8	10.1	ng/m³ Air		55.1			1.20	10	
Lead	1.18	0.819	ng/m³ Air		1.20			1.53	10	
Manganese	17.6	7.23	ng/m³ Air		17.3			1.54	10	
Molybdenum	3.45	1.37	ng/m³ Air		3.49			1.01	10	
Nickel	ND	2.50	ng/m³ Air		ND				10	U
Selenium	0.201	0.0343	ng/m³ Air		0.176			13.5	10	LJ, QX, SRD-01
Thallium	0.00361	0.00225	ng/m³ Air		ND			82.3	10	
Vanadium	1.85	0.202	ng/m³ Air		1.84			0.570	10	
Zinc	ND	294	ng/m³ Air		ND				10	U
Dilution Check (B4I1005-SRL2)		**Source: 4090925-24**		Prepared: 09/10/24 Analyzed: 09/11/24						
Antimony	0.222	0.184	ng/m³ Air		0.230			3.38	10	SL
Arsenic	0.257	0.0448	ng/m³ Air		0.261			1.74	10	
Barium	5.12	5.11	ng/m³ Air		5.16			0.784	10	B
Beryllium	ND	0.0153	ng/m³ Air		ND				10	U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4I1005 - ICP-MS Extraction										
Dilution Check (B4I1005-SRL2) Continued				**Source: 4090925-24**		Prepared: 09/10/24 Analyzed: 09/11/24				
Cadmium	ND	0.354	ng/m³ Air		ND				10	U
Chromium	ND	10.6	ng/m³ Air		ND				10	U
Cobalt	0.310	0.208	ng/m³ Air		0.306			1.20	10	QB-01
Copper	50.7	12.6	ng/m³ Air		48.1			5.30	10	
Lead	ND	1.02	ng/m³ Air		ND				10	U
Manganese	9.51	9.03	ng/m³ Air		9.45			0.590	10	
Molybdenum	ND	1.72	ng/m³ Air		ND				10	U
Nickel	ND	3.12	ng/m³ Air		ND				10	U
Selenium	0.207	0.0428	ng/m³ Air		0.171			19.1	10	LJ, QX
Thallium	ND	0.00281	ng/m³ Air		ND				10	U
Vanadium	0.986	0.253	ng/m³ Air		0.998			1.19	10	
Zinc	ND	367	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-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
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 09/19/2024 and Shanna Vasser 09/20/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 08/29/2024 – 09/04/2024
Report No: 4090925

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-082924-HM, for arsenic and barium in MFL-FB01-083124-HM, and for arsenic in MFL-FB01-090324-HM.

Notes:

1. The EDD was revised on September 19, 2024 to include the results for sample MFL-AM02-090124-HM.