

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

December 12 through December 18, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from December 12 through December 18, 2024, at the community locations listed below and shown on **Figure 1**.

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

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 "PM₁₀". Monitoring for PM₁₀ was conducted 24 hours a day, 7 days a week from December 12 through December 18 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM₁₀, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), 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 PM₁₀ concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station except for instances of equipment faults and maintenance, as described below:

- Because of an equipment fault, the air monitoring period was interrupted at the following stations as described below:
 - Air monitoring was interrupted at Opukea Townhomes (AM-05) for one hour on December 12, resulting in the collection of 23 hours of PM₁₀ data
 - On December 17 air monitoring was interrupted at WW Pump Station #4 (AM-02) for one hour, resulting in the collection of 23 hours of PM₁₀ data

- Because of Equipment maintenance, the air monitoring period was interrupted at Lahaina Intermediate School (AM-03) for 1 hour on December 12, resulting in the collection of 23 hours of PM₁₀ data
- Because of a power failure, the air monitoring period was interrupted at Opukea Townhomes (AM-05) for three hours on December 18, resulting in the collection of 21 hours of PM₁₀ data

The equipment fault on December 12 and 17 was the result of a disruption during one sampling interval within the 24-hour sampling period. The error code provided by the equipment (256) indicated the first sample cycle was less than one hour, which can be caused by many different factors. This disruption resulted in a shortened monitoring duration which reduced the time weighted average (TWA) calculation to 23-hours for that day.

None of the PM₁₀ monitoring results exceeded the 150 µg/m³ screening level established in the CAMSP, as shown in **Table 1**.

Air Sampling Results

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

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.0 miles per hour and were generally from a 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:

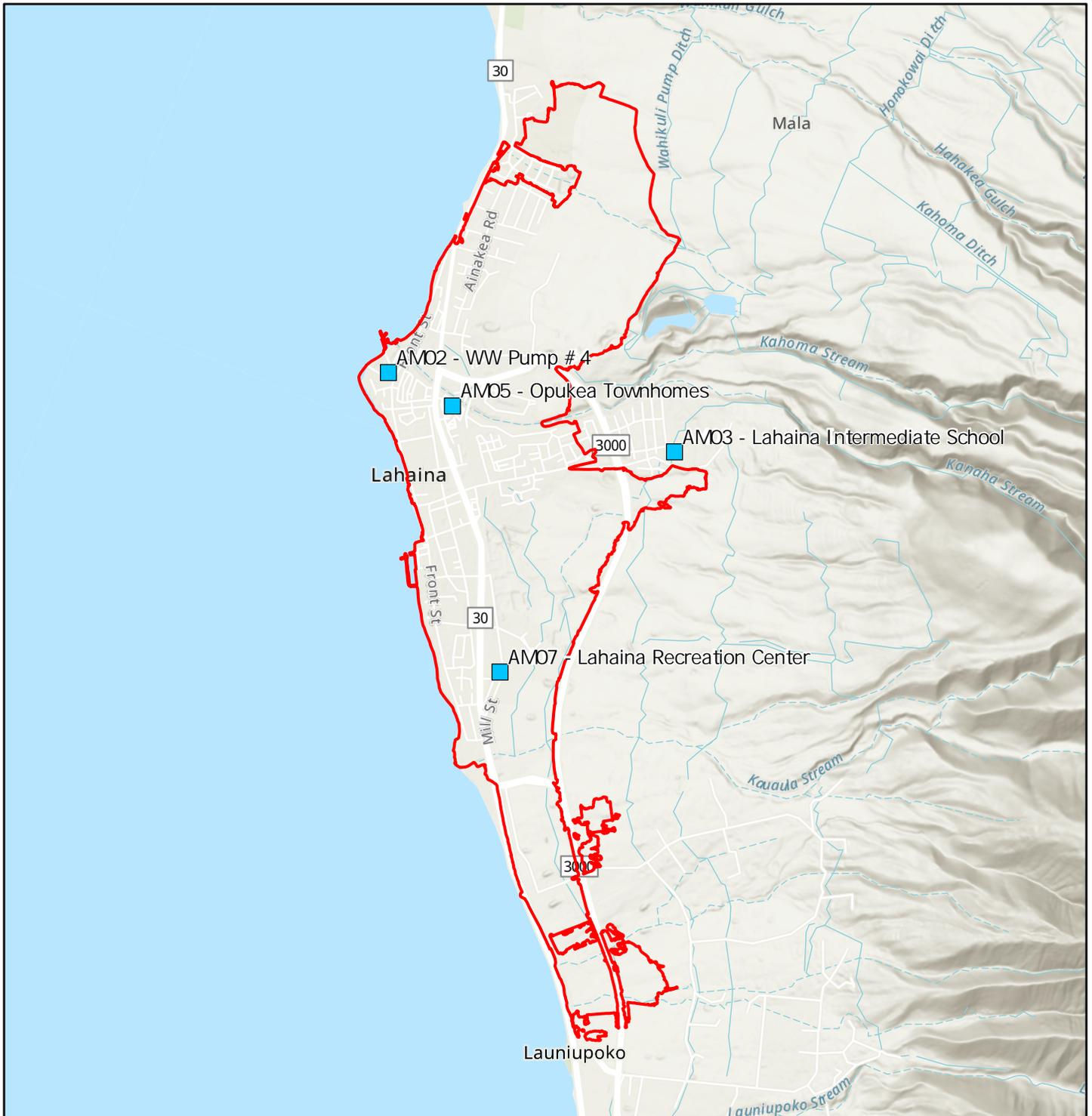
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM₁₀ by Use of a High Volume (HV) Sampler

- 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

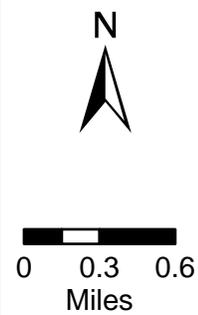


Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM₁₀
Maui Wildfires, Lahaina
December 12 through December 18, 2024

Screening Level		TWA Results 150 (µg/m ³)
12/12/2024	Opukea Townhomes (AM-05)	9.5*
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	8.9**
	Lahaina Recreation Center (AM-07)	14
12/13/2024	Opukea Townhomes (AM-05)	9.9
	WW Pump Station #4 (AM-02)	9.6
	Lahaina Intermediate School (AM-03)	9.1
	Lahaina Recreation Center (AM-07)	11
12/14/2024	Opukea Townhomes (AM-05)	11
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	8.7
	Lahaina Recreation Center (AM-07)	8.5
12/15/2024	Opukea Townhomes (AM-05)	7.3
	WW Pump Station #4 (AM-02)	4.7
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Recreation Center (AM-07)	6.5
12/16/2024	Opukea Townhomes (AM-05)	7.8
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	8.0
	Lahaina Recreation Center (AM-07)	8.0
12/17/2024	Opukea Townhomes (AM-05)	7.9
	WW Pump Station #4 (AM-02)	9.9*
	Lahaina Intermediate School (AM-03)	5.8
	Lahaina Recreation Center (AM-07)	10
12/18/2024	Opukea Townhomes (AM-05)	13***
	WW Pump Station #4 (AM-02)	7.0
	Lahaina Intermediate School (AM-03)	7.2
	Lahaina Recreation Center (AM-07)	12

Notes:

µg/m³ = micrograms per cubic meter

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

* Data provided are from a reduced (23-hr) TWA calculation because of an equipment fault

** Data provided are from a reduced (23-hr) TWA calculation because of equipment maintenance

***Data provided are from a reduced (21-hr) TWA calculation because of power failure

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
December 12 through December 18, 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																
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	
12/12/2024	Opukea Townhomes (AM-05)	<0.0024	0.000171	0.00139	0.0169	0.0000792	0.0000897	0.00900	0.00249	0.0451	0.00210	0.0831	0.00215	0.00503	0.000463	0.00000615	0.00790	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000145	0.000492	0.00875	0.0000319	ND	0.00572	0.00118	0.0417	0.00138	0.0311	0.00165	0.00317	0.000291	0.00000173	0.00364	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000651	0.000308	0.00610	0.0000519	ND	0.00531	0.000925	0.0625	0.000600	0.0217	0.00293	0.00258	0.000285	0.00000137	0.00252	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000181	0.00181	0.0145	0.0000840	0.000107	0.0108	0.00279	0.0277	0.00199	0.0887	0.00115	0.00555	0.000516	0.00000430	0.00721	ND
12/13/2024	Opukea Townhomes (AM-05)	<0.0024	0.000136	0.000250	0.00553	0.0000140	ND	0.00328	0.000465	0.0464	0.000605	0.0134	0.00228	0.00146	0.000280	0.00000127	0.00148	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000194	0.000366	0.00787	0.0000206	ND	0.00357	0.000741	0.0395	0.000926	0.0197	0.00158	0.00214	0.000305	0.00000128	0.00238	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000735	0.000188	0.00407	0.0000260	ND	0.00316	0.000442	0.0874	0.000414	0.0109	0.00344	0.00153	0.000282	0.00000109	0.00128	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000142	0.000626	0.00684	0.0000319	ND	0.00446	0.000967	0.0252	0.00265	0.0305	0.00158	0.00247	0.000365	0.00000198	0.00275	ND
12/14/2024	Opukea Townhomes (AM-05)	<0.0024	0.000103	0.000208	0.00441	0.00000891	ND	0.00239	0.000283	0.0647	0.000603	0.00875	0.00377	0.00109	0.000292	0.00000126	0.00105	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000209	0.000354	0.00559	0.0000108	ND	0.00212	0.000312	0.0285	0.000936	0.00983	0.00179	0.00109	0.000289	0.00000131	0.00117	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000486	0.000111	0.00235	0.0000102	ND	0.00234	0.000198	0.0405	0.000306	0.00511	0.00231	0.00150	0.000210	0.000000938	0.000563	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000135	0.000381	0.00566	0.0000267	ND	0.00378	0.000652	0.0217	0.000529	0.0224	0.00132	0.00200	0.000348	0.00000172	0.00182	ND
12/15/2024	Opukea Townhomes (AM-05)	<0.0024	0.000110	0.000175	0.00460	0.00000846	ND	0.00263	0.000290	0.0547	0.000523	0.00899	0.00332	0.00143	0.000223	0.000000946	0.00108	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000212	0.000224	0.00561	0.0000116	ND	0.00200	0.000316	0.0346	0.000815	0.0102	0.00255	0.00114	0.000217	0.000000874	0.00119	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000388	0.0000980	0.00227	0.0000101	ND	ND	0.000213	0.0353	0.000239	0.00588	0.00218	0.000983	0.000189	0.000000641	0.000743	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000108	0.000595	0.00822	0.0000617	ND	0.00517	0.00116	0.0198	0.000963	0.0443	0.00110	0.00282	0.000380	0.00000217	0.00317	ND
12/16/2024	Opukea Townhomes (AM-05)	<0.0024	0.000123	0.000310	0.00563	0.0000143	ND	0.00269	0.000470	0.0685	0.000964	0.0144	0.00493	0.00152	0.000221	0.00000120	0.00165	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000298	0.000439	0.0105	0.0000241	ND	0.00409	0.000863	0.0307	0.00138	0.0231	0.00190	0.00261	0.000246	0.00000125	0.00291	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000482	0.000148	0.00391	0.0000201	ND	0.00290	0.000409	0.0461	0.000503	0.0101	0.00243	0.00156	0.000183	0.000000858	0.00133	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000145	0.000528	0.00772	0.0000451	ND	0.00561	0.00130	0.0275	0.000642	0.0412	0.00158	0.00295	0.000338	0.00000191	0.00352	ND
12/17/2024	Opukea Townhomes (AM-05)	<0.0024	0.000174	0.000238	0.00671	0.0000171	ND	0.00419	0.000644	0.0520	0.000858	0.0177	0.00421	0.00215	0.000233	0.00000123	0.00238	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000298	0.000369	0.0114	0.0000259	ND	0.00478	0.00105	0.0399	0.000838	0.0259	0.00254	0.00311	0.000274	0.00000143	0.00349	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000637	0.000200	0.00477	0.0000234	ND	0.00358	0.000642	0.0500	0.000302	0.0149	0.00270	0.00215	0.000193	0.000000934	0.00196	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000209	0.000977	0.0102	0.0000503	ND	0.00773	0.00177	0.0318	0.000895	0.0583	0.00174	0.00409	0.000382	0.00000261	0.00461	0.0961
12/18/2024	Opukea Townhomes (AM-05)	<0.0024	0.000161	0.000297	0.00663	0.0000184	ND	0.00295	0.000554	0.0718	0.000725	0.0182	0.00484	0.00174	0.000246	0.00000117	0.00205	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000176	0.000281	0.00590	0.0000137	ND	0.00228	0.000396	0.0391	0.00100	0.0126	0.00225	0.00147	0.000227	0.000000957	0.00164	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000118	0.000181	0.00432	0.0000237	ND	0.00324	0.000579	0.0422	0.000309	0.0134	0.00224	0.00199	0.000243	0.000000944	0.00167	ND
	Lahaina Recreation Center (AM-07)	<0.0024	0.000176	0.000685	0.0113	0.0000678	ND	0.00699	0.00183	0.0291	0.00214	0.0657	0.00169	0.00423	0.000427	0.00000308	0.00514	0.187
95% Upper Confidence Limit ²		NA	0.000180	0.000570	0.00847	0.0000390	NA	0.00509	0.00114	0.0491	0.00120	0.0356	0.00281	0.00278	0.000320	0.00000200	0.00334	NA

Notes:

¹ Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented.

² 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

* Laboratory data provided in nanograms per cubic meter, however data presented has been converted to micrograms per cubic meter so data was comparable to the Site Screening Action Levels presented in the CAMSP

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
December 12, through December 18, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
12/12/2024	AM-02	WW Pump Station #4	1.0	S	80	61	762.3
12/12/2024	AM-03	Lahaina Intermediate School	1.2	SSE	79	57	752.9
12/12/2024	AM-05	Opukea Townhomes	1.2	SE	80	57	761.8
12/12/2024	AM-07	Lahaina Recreational Center	1.4	SSE	79	60	761.5
12/13/2024	AM-02	WW Pump Station #4	0.7	SSE	79	71	762.8
12/13/2024	AM-03	Lahaina Intermediate School	0.9	ESE	78	67	753.3
12/13/2024	AM-05	Opukea Townhomes	1.0	SE	80	65	762.2
12/13/2024	AM-07	Lahaina Recreational Center	1.2	SE	78	71	762.0
12/14/2024	AM-02	WW Pump Station #4	0.9	SSE	78	66	762.9
12/14/2024	AM-03	Lahaina Intermediate School	1.0	ESE	77	63	753.4
12/14/2024	AM-05	Opukea Townhomes	1.1	SE	79	61	762.3
12/14/2024	AM-07	Lahaina Recreational Center	1.4	SE	76	66	762.2
12/15/2024	AM-02	WW Pump Station #4	0.8	SSE	77	70	762.0
12/15/2024	AM-03	Lahaina Intermediate School	1.2	SE	76	67	752.5
12/15/2024	AM-05	Opukea Townhomes	1.2	ESE	78	64	761.4
12/15/2024	AM-07	Lahaina Recreational Center	1.5	SE	76	70	761.2
12/16/2024	AM-02	WW Pump Station #4	0.7	SSE	76	69	761.4
12/16/2024	AM-03	Lahaina Intermediate School	1.0	ESE	76	64	751.9
12/16/2024	AM-05	Opukea Townhomes	0.9	ESE	78	63	760.8
12/16/2024	AM-07	Lahaina Recreational Center	1.2	SE	75	70	760.6
12/17/2024	AM-02	WW Pump Station #4	0.7	SSW	77	72	761.7
12/17/2024	AM-03	Lahaina Intermediate School	1.0	SE	77	64	752.1
12/17/2024	AM-05	Opukea Townhomes	0.8	ENE	78	65	761.1
12/17/2024	AM-07	Lahaina Recreational Center	1.2	SSE	76	68	760.8
12/18/2024	AM-02	WW Pump Station #4	0.7	SSW	78	73	762.9
12/18/2024	AM-03	Lahaina Intermediate School	1.3	SE	78	65	753.3
12/18/2024	AM-05	Opukea Townhomes	0.8	ESE	78	66	762.3
12/18/2024	AM-07	Lahaina Recreational Center	1.3	SSW	77	70	762.0

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

Appendix 1



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

EMSL Order: 04342
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM05-121224-AB **Sample Description:** DL692807

EMSL Sample Number: 000004342-0001 **Sample Matrix:** Air
 Magnification used for fiber counting: 20,000 **Volume (L):** 7231.5
 Aspect ratio for fiber definition: 3:1 **Area of original collection filter (mm²):** 385
 Minimum Length (µm): ≥ 0.5 **Grid Opening Area (mm²):** 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) **Grid Openings Analyzed:** 5
 Minimum Level of analysis (chrysotile): CD **Analyst:** P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.



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EMSL Order ID: 000004342
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: 000004342-0001			Customer Sample: MFL-AM05-121224-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	H3	None Detected									
B1	D9	None Detected									
B1	B1	None Detected									
B2	G1	None Detected									
B2	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: 04342
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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Phone: (703) 489-2674
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Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM02-121224-AB **Sample Description:** DL692797

EMSL Sample Number: 000004342-0002 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 6780.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 5
 Target Analytical Sensitivity (Structures/cc): 0.001

Analytical Sensitivity (Structures/cc): 0.0009 Limit of Detection (Structures/cc): 0.0027

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	

Comment

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EMSL Order ID: 000004342
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: 000004342-0002			Customer Sample: MFL-AM02-121224-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	J3	None Detected									
B5	G5	None Detected									
B5	B7	None Detected									
B6	G8	None Detected									
B6	C10	None Detected									

Abbreviations used:
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Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM03-121224-AB **Sample Description:** DL692772

EMSL Sample Number: 000004342-0003 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7094.8
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 3
 Target Analytical Sensitivity (Structures/cc): 0.001

Analytical Sensitivity (Structures/cc): 0.0008 Limit of Detection (Structures/cc): 0.0024

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: **000004342**
 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: 000004342-0003			Customer Sample: MFL-AM03-121224-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	C2	None Detected									
C1	E8	None Detected									
C1	G6	None Detected									
C2	I9	None Detected									
C2	E8	None Detected									

Abbreviations used:
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM07-121224-AB **Sample Description:** DL692767

EMSL Sample Number: 000004342-0004 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7138.3
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 8
 Target Analytical Sensitivity (Structures/cc): 0.001

Analytical Sensitivity (Structures/cc): 0.0008 Limit of Detection (Structures/cc): 0.0024

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: **000004342**
 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: 000004342-0004			Customer Sample: MFL-AM07-121224-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J9	None Detected									
C5	F7	None Detected									
C5	E4	None Detected									
C6	D7	None Detected									
C6	I4	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: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-FB01-121224-AB **Sample Description:** DL692796

EMSL Sample Number: 000004342-0005 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 (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

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EMSL Order ID: 000004342

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:		000004342-0005		Customer Sample:		MFL-FB01-121224-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	A6	None Detected									
D1	C8	None Detected									
D1	E10	None Detected									
D1	G7	None Detected									
D1	I5	None Detected									
D2	J9	None Detected									
D2	H5	None Detected									
D2	E7	None Detected									
D2	D2	None Detected									
D2	B5	None Detected									

Abbreviations used:
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Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM05-121324-AB **Sample Description:** DL692800

EMSL Sample Number: 000004342-0006 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7240.9
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 000004342
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: 000004342-0006			Customer Sample: MFL-AM05-121324-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	D10	None Detected									
D5	H7	None Detected									
D6	J2	None Detected									
D6	D2	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: 04342
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: 12/23/2024 09:30 AM
Analysis Date: 12/30/2024
Report Date: 12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM02-121324-AB	Sample Description:	DL692804
EMSL Sample Number:	000004342-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6820.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0009	Limit of Detection (Structures/cc):	0.0027

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	

Comment

Approved Signatory

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EMSL Order ID: 000004342
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: 000004342-0007			Customer Sample: MFL-AM02-121324-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	H3	None Detected									
E1	D7	None Detected									
E1	C4	None Detected									
E2	C7	None Detected									
E2	I9	None Detected									

Abbreviations used:
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Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/30/2024
Report Date: 12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM03-121324-AB	Sample Description:	DL692794
EMSL Sample Number:	000004342-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7244.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 000004342
 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: 000004342-0008			Customer Sample: MFL-AM03-121324-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	B7	None Detected									
E5	E8	None Detected									
E5	I5	None Detected									
E6	H4	None Detected									
E6	B7	None Detected									

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



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Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/30/2024
Report Date: 12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM07-121324-AB	Sample Description:	DL692802
EMSL Sample Number:	000004342-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7262.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 000004342
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: 000004342-0009			Customer Sample: MFL-AM07-121324-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	I9	None Detected									
F1	F8	None Detected									
F1	C6	None Detected									
F2	A5	None Detected									
F2	F7	None Detected									

Abbreviations used:
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Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-FB01-121324-AB **Sample Description:** DL692764

EMSL Sample Number: 000004342-0010 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 (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

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EMSL Order ID: **000004342**
 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:		000004342-0010		Customer Sample:		MFL-FB01-121324-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A10	None Detected									
F5	C7	None Detected									
F5	E8	None Detected									
F5	G9	None Detected									
F5	I5	None Detected									
F6	J1	None Detected									
F6	H4	None Detected									
F6	F3	None Detected									
F6	D5	None Detected									
F6	B3	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: 12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM05-121424-AB	Sample Description:	DL692787
EMSL Sample Number:	000004342-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7129.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0008	Limit of Detection (Structures/cc):	0.0024

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 000004342
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: 000004342-0011		Customer Sample: MFL-AM05-121424-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	I5	None Detected									
G1	D5	None Detected									
G1	B7	None Detected									
G2	G6	None Detected									
G2	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 PO: 1207085
Project ID: N/A

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Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM02-121424-AB **Sample Description:** DL692780

EMSL Sample Number: 000004342-0012 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7035.7
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 3
 Target Analytical Sensitivity (Structures/cc): 0.001

Analytical Sensitivity (Structures/cc): 0.0008 Limit of Detection (Structures/cc): 0.0024

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 000004342
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: 000004342-0012		Customer Sample: MFL-AM02-121424-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	I7	None Detected									
G5	F8	None Detected									
G5	E1	None Detected									
G6	A9	None Detected									
G6	H7	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: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM03-121424-AB **Sample Description:** DL692762

EMSL Sample Number: 000004342-0013 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7270.6
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 000004342
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: 000004342-0013			Customer Sample: MFL-AM03-121424-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	H8	None Detected									
H1	F3	None Detected									
H1	C5	None Detected									
H2	I8	None Detected									
H2	G5	None Detected									

Abbreviations used:
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM07-121424-AB **Sample Description:** DL692771

EMSL Sample Number: 000004342-0014 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7040.5
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 000004342
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: 000004342-0014			Customer Sample: MFL-AM07-121424-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	H5	None Detected									
H5	F7	None Detected									
H5	D5	None Detected									
H6	A5	None Detected									
H6	G9	None Detected									

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



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Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-FB01-121424-AB **Sample Description:** DL692778

EMSL Sample Number: 000004342-0015 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 (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

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EMSL Order ID: **000004342**
 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:		000004342-0015		Customer Sample:		MFL-FB01-121424-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	A6	None Detected									
I1	C9	None Detected									
I1	E7	None Detected									
I1	G5	None Detected									
I1	I4	None Detected									
I3	A5	None Detected									
I3	C8	None Detected									
I3	E10	None Detected									
I3	G9	None Detected									
I3	I7	None Detected									

Abbreviations used:
 XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM05-121524-AB **Sample Description:** DL692815

EMSL Sample Number: 000004342-0016 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 (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 000004342
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: 000004342-0016			Customer Sample: MFL-AM05-121524-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	J5	None Detected									
I5	G8	None Detected									
I5	E8	None Detected									
I5	H6	None Detected									
I5	D4	None Detected									

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



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EMSL Order: 04342
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: 12/23/2024 09:30 AM
Analysis Date: 12/30/2024
Report Date: 12/31/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM02-121524-AB	Sample Description:	DL692777
EMSL Sample Number:	000004342-0017	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6701.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	0.0009	Limit of Detection (Structures/cc):	0.0027

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	

Comment

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EMSL Order ID: 000004342
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: 000004342-0017			Customer Sample: MFL-AM02-121524-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	A4	None Detected									
J1	D5	None Detected									
J1	G2	None Detected									
J2	I7	None Detected									
J2	F4	None Detected									

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



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Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM03-121524-AB **Sample Description:** DL692776

EMSL Sample Number: 000004342-0018 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7217.6
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 000004342
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: 000004342-0018			Customer Sample: MFL-AM03-121524-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	I8	None Detected									
J5	E7	None Detected									
J5	C3	None Detected									
J6	B9	None Detected									
J6	H7	None Detected									

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



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Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM07-121524-AB **Sample Description:** DL692766

EMSL Sample Number: 000004342-0019 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7201.9
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: P. Harrison
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 8
 Target Analytical Sensitivity (Structures/cc): 0.001

Analytical Sensitivity (Structures/cc): 0.0008 Limit of Detection (Structures/cc): 0.0024

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: **04342-001**
 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: 04342-0019			Customer Sample: MFL-AM07-121524-AB								
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	I4	None Detected									
K1	G3	None Detected									
K1	F1	None Detected									
K2	A7	None Detected									
K2	G9	None Detected									

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



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Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/30/2024
Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-FB01-121524-AB **Sample Description:** DL692768

EMSL Sample Number: 000004342-0020 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 (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

Approved Signatory

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EMSL Order ID: **000004342**
 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: 000004342-0020		Customer Sample: MFL-FB01-121524-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	A9	None Detected									
K5	C10	None Detected									
K5	E7	None Detected									
K5	G8	None Detected									
K5	I5	None Detected									
K6	A6	None Detected									
K6	C7	None Detected									
K6	E9	None Detected									
K6	G7	None Detected									
K6	I6	None Detected									

Abbreviations used:
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 XCGBLD - Crosses Countable Grid Bar Length Doubled



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Report Date: 12/31/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number:	Lab Blank	Sample Description: Lab Blank
EMSL Sample Number:	000004342-0021	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: P. Harrison
Minimum Level of analysis (amphibole):	ADX	
Estimated Particulate Loading on Filter %:	1	
Target Analytical Sensitivity (Structures/cc):	0.001	
Analytical Sensitivity (Structures/cc):	N/A	Limit of Detection (Structures/cc): N/A

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

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

EMSL Order ID: 000004342

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: 000004342-0021		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	A10	None Detected									
A1	C8	None Detected									
A1	E7	None Detected									
A1	G4	None Detected									
A1	I6	None Detected									
A2	A5	None Detected									
A2	C2	None Detected									
A2	E1	None Detected									
A2	G4	None Detected									
A2	I3	None Detected									

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



Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

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

PHONE: (800) 220-3675

EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

[Empty box for Order Number / Lab Use Only]

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

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

RECEIVED
EMSL
CINNAMINSON, NJ
24 DEC 23 9:52

Project Information

Project Name/No: **MQUI 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: *[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 3-8 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%)

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

Other Test (please specify)

*Please call with your project-specific requirements.

kp
12-23-24

EO 12-28-24

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-AM05-121224-AB	DL692807	7,231.527	12/12/24 1103
MFL-AM02-121224-AB	DL692797	6,779.988	12/12/24 1118
MPL-AM03-121224-AB	DL692772	7,094.783	12/12/24 1256
MFL-AM07-121224-AB	DL692767	7,138.346	12/12/24 1317
MFL-FB01-121224-AB	DL692796	0	12/12/24 1200
MFL-AM05-121324-AB	DL692800	7,240.949	12/13/24 1059
MFL-AM02-121324-AB	DL692804	6,820.510	12/13/24 1125
MFL-AM03-121324-AB	DL692794	7,244.492	12/13/24 1256

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

All samples received acceptable for analysis. (20) *[Signature]*

Method of Shipment: **fedex** Sample Condition Upon Receipt:

Relinquished by: **Shaina Epstein** Date/Time: **12/12/24 1100** Received by: *[Signature]* Date/Time: **12/13/24 9:30A**

Relinquished by: Date/Time: Received by: Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021 AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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

Stage 1 Data Verification Checklist – Asbestos
HDOH CAB – Ambient Community Air Sampling – Lahaina
Task Order No. 23141

Reviewed by:

Kierra Johnson 01/02/2025 and Shanna Vasser 01/03/2025

Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ

Collection date(s): 12/12/2024 – 12/15/2024

Report No: 04-342

- √ 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.



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<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order: 04343
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM05-121624-AB **Sample Description:** DL692783

EMSL Sample Number: 000004343-0001 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7115.7
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.



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

EMSL Order ID: **04-343-00**
 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:		04-343-0001		Customer Sample:		MFL-AM05-121624-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	B6	None Detected									
B2	G4	None Detected									
B2	J6	None Detected									
B3	F4	None Detected									
B3	B5	None Detected									

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



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<http://www.EMSL.com> / cinnaaslab@EMSL.com

EMSL Order: 04343
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM02-121624-AB **Sample Description:** DL692784

EMSL Sample Number: 000004343-0002 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7188.4
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 7
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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

EMSL Order ID: **000004343**
 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: 000004343-0002			Customer Sample: MFL-AM02-121624-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	E2	None Detected									
B5	H5	None Detected									
B6	G7	None Detected									
B6	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: 04343
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: MFL-AM03-121624-AB **Sample Description:** DL692763

EMSL Sample Number: 000004343-0003 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7195.5
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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

EMSL Order ID: 000004343

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: 000004343-0003		Customer Sample: MFL-AM03-121624-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	B7	None Detected									
C2	D10	None Detected									
C2	G8	None Detected									
C4	B7	None Detected									
C4	H6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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EMSL Order: 04343
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: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM07-121624-AB	Sample Description:	DL692785
EMSL Sample Number:	000004343-0004	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7174.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX		

Estimated Particulate Loading on Filter %: 9
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: 000004343

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: 000004343-0004		Customer Sample: MFL-AM07-121624-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	B7	None Detected									
C5	D10	None Detected									
C5	G8	None Detected									
C6	B7	None Detected									
C6	H6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Customer PO: 1207085
Project ID: N/A

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Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-121624-AB	Sample Description:	DL692774
EMSL Sample Number:	000004343-0005	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

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EMSL Order ID: 000004343

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: 000004343-0005		Customer Sample: MFL-FB01-121624-AB									
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	I4	None Detected									
D2	G8	None Detected									
D2	E9	None Detected									
D2	D5	None Detected									
D2	A7	None Detected									
D3	B3	None Detected									
D3	D2	None Detected									
D3	F3	None Detected									
D3	H4	None Detected									
D3	J6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Customer PO: 1207085
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Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM05-121724-AB **Sample Description:** DL692775

EMSL Sample Number: 000004343-0006 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7200.4
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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EMSL Order ID: **000004343**
 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: 000004343-0006			Customer Sample: MFL-AM05-121724-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	D6	None Detected									
D5	G7	None Detected									
D5	C7	None Detected									
D6	F6	None Detected									
D6	I7	None Detected									

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



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Customer PO: 1207085
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Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-AM02-121724-AB	Sample Description:	DL692770
EMSL Sample Number:	000004343-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	6659.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	9		
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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Amphibole	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total All Structures	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Actinolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Amosite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Anthophyllite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Crocidolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Tremolite	ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Other Minerals	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0027	Not Applicable - 0.0027	

Comment

Approved Signatory

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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:		000004343-0007		Customer Sample:		MFL-AM02-121724-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E3	D4	None Detected									
E3	F3	None Detected									
E3	I7	None Detected									
E4	E7	None Detected									
E4	I4	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Customer PO: 1207085
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Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: MFL-AM03-121724-AB **Sample Description:** DL692769

EMSL Sample Number: 000004343-0008 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7139.7
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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 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: 000004343-0008			Customer Sample: MFL-AM03-121724-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	C4	None Detected									
E5	E7	None Detected									
E5	I4	None Detected									
E6	B4	None Detected									
E6	G6	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: 12/30/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM07-121724-AB **Sample Description:** DL692779

EMSL Sample Number: 000004343-0009 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7260.0
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 10
 Target Analytical Sensitivity (Structures/cc): 0.001

Analytical Sensitivity (Structures/cc): 0.0008 Limit of Detection (Structures/cc): 0.0024

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

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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EMSL Order ID: 000004343

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:		000004343-0009		Customer Sample:		MFL-AM07-121724-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					
F3	C7	None Detected									
F3	E5	None Detected									
F3	I8	None Detected									
F4	F8	None Detected									
F4	I6	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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Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number:	MFL-FB01-121724-AB	Sample Description:	DL692803
EMSL Sample Number:	000004343-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

Approved Signatory

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EMSL Order ID: 000004343

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: 000004343-0010		Customer Sample: MFL-FB01-121724-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	I5	None Detected									
F5	G7	None Detected									
F5	E9	None Detected									
F5	C6	None Detected									
F5	A7	None Detected									
F6	J7	None Detected									
F6	G5	None Detected									
F6	E3	None Detected									
F6	C4	None Detected									
F6	A6	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Customer PO: 1207085
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Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: MFL-AM05-121824-AB **Sample Description:** DL692810

EMSL Sample Number: 000004343-0011 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7225.1
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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Client: Tetra Tech

Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID:		000004343-0011		Customer Sample:		MFL-AM05-121824-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					
G3	B3	None Detected									
G3	E7	None Detected									
G3	H4	None Detected									
G4	D4	None Detected									
G4	H5	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM02-121824-AB **Sample Description:** DL692799

EMSL Sample Number: 000004343-0012 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7103.5
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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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:		000004343-0012		Customer Sample:		MFL-AM02-121824-AB					
Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	B4	None Detected									
G6	E5	None Detected									
G6	I8	None Detected									
G7	H3	None Detected									
G7	D3	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

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number:	MFL-AM03-121824-AB	Sample Description:	DL692788
EMSL Sample Number:	000004343-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	7208.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

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Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID:		000004343-0013		Customer Sample:		MFL-AM03-121824-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					
H3	H5	None Detected									
H3	E4	None Detected									
H3	C7	None Detected									
H4	G7	None Detected									
H4	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: 12/30/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number: MFL-AM07-121824-AB **Sample Description:** DL692786

EMSL Sample Number: 000004343-0014 Sample Matrix: Air
 Magnification used for fiber counting: 20,000 Volume (L): 7189.2
 Aspect ratio for fiber definition: 3:1 Area of original collection filter (mm²): 385
 Minimum Length (µm): ≥ 0.5 Grid Opening Area (mm²): 0.0130
 Chi² Test for Random Distribution on Filter: N/A (N/A) Grid Openings Analyzed: 5
 Minimum Level of analysis (chrysotile): CD Analyst: A. Burke
 Minimum Level of analysis (amphibole): ADX

Estimated Particulate Loading on Filter %: 1
 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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Amphibole (PCMe)	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	
Total All Structures (PCMe)	-	0	0	< 46.00	< 0.0024	Not Applicable - 0.0024	

Comment

Approved Signatory

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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: 000004343

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:		000004343-0014		Customer Sample:		MFL-AM07-121824-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					
H7	H7	None Detected									
H7	E5	None Detected									
H7	B3	None Detected									
H8	D5	None Detected									
H8	H5	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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<http://www.EMSL.com> / cinnaaslab@EMSL.com

EMSL Order: 04343
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-FB01-121824-AB	Sample Description:	DL698361
EMSL Sample Number:	000004343-0015	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974

<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order ID: 000004343

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: 000004343-0015		Customer Sample: MFL-FB01-121824-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					
I3	A7	None Detected									
I3	C8	None Detected									
I3	F7	None Detected									
I3	G5	None Detected									
I3	J6	None Detected									
I4	A5	None Detected									
I4	D4	None Detected									
I4	F3	None Detected									
I4	G6	None Detected									
I4	I5	None Detected									

Abbreviations used:

XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled

XCGBLD - Crosses Countable Grid Bar Length Doubled



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<http://www.EMSL.com> / cinnaaslab@EMSL.com

EMSL Order: 04343
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	MFL-LB01-121824-AB	Sample Description:	DL697994
EMSL Sample Number:	000004343-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L):	0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²):	0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD	Analyst:	A. Burke
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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

Approved Signatory

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

EMSL Order ID: **000004343**
 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: 000004343-0016		Customer Sample: MFL-LB01-121824-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	J5	None Detected									
I5	H2	None Detected									
I5	F4	None Detected									
I5	C3	None Detected									
I5	B6	None Detected									
I6	I5	None Detected									
I6	H4	None Detected									
I6	E6	None Detected									
I6	C5	None Detected									
I6	B8	None Detected									

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



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EMSL Order: 04343
Customer ID: TTDC42
Customer PO: 1207085
Project ID: N/A

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

Phone: (703) 489-2674
Fax: N/A
Received Date: 12/23/2024 09:30 AM
Analysis Date: 12/26/2024
Report Date: 12/30/2024

Project: Maui Fires Lahaina

**ISO 10312 Determination of Asbestos Fibers
 Direct Transfer Transmission Electron Microscopy**

Customer Sample Number:	Lab Blank	Sample Description: Lab Blank
EMSL Sample Number:	000004343-0017	Sample Matrix: Air
Magnification used for fiber counting:	20,000	Volume (L): 0.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm ²): 385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm ²): 0.0130
Chi ² Test for Random Distribution on Filter:	N/A (N/A)	Grid Openings Analyzed: 10
Minimum Level of analysis (chrysotile):	CD	Analyst: A. Burke
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		Density (S/mm ²)	Concentration (S/cc)	95 % Confidence Interval (S/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile	CD	0	0	< 23.00			
Total Amphibole	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures	-	0	0	< 23.00			

PCM EQUIVALENT (PCMe) Fibers (>5 microns in length with >3:1 Aspect Ratio)							
	Minimum ID Level	Fibers Detected		Density (F/mm ²)	Concentration (F/cc)	95 % Confidence Interval (F/cc)	
		Primary	Total			Lower	Upper
Total Chrysotile (PCMe)	CD	0	0	< 23.00			
Total Amphibole (PCMe)	ADX	0	0	< 23.00			
Actinolite	ADX	0	0	< 23.00			
Amosite	ADX	0	0	< 23.00			
Anthophyllite	ADX	0	0	< 23.00			
Crocidolite	ADX	0	0	< 23.00			
Tremolite	ADX	0	0	< 23.00			
Total Asbestos Structures (PCMe)	CD/ADX	0	0	< 23.00			
Other Minerals	-	0	0	< 23.00			
Total All Structures (PCMe)	-	0	0	< 23.00			

Comment

Approved Signatory

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<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order ID: **000004343**
 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: 000004343-0017			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	C7	None Detected									
A1	E9	None Detected									
A1	G8	None Detected									
A1	H5	None Detected									
A1	I3	None Detected									
A2	J8	None Detected									
A2	H4	None Detected									
A2	F4	None Detected									
A2	C7	None Detected									
A2	A9	None Detected									

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



Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

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

PHONE: (800) 220-3675

EMAIL: CinnAslab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

[Empty box for Order Number / Lab Use Only]

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

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

RECEIVED
CINNAMINSON NJ
DEC 23 AM 9:52

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: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-Taxable)
Sampled By Name: Shaina Epstein	Sampled By Signature: <i>[Signature]</i> No. of Samples In Shipment: 16

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 <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> NIOSH 7400 w/ 8hr. TWA PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) <input type="checkbox"/> POINT COUNT <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) POINT COUNT w/ GRAVIMETRIC <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1,000 (<0.1%) <input type="checkbox"/> NIOSH 9002 (<1%) <input type="checkbox"/> NYS 198.1 (Friable - NY) <input type="checkbox"/> NYS 198.6 NOB (Non-Friable - NY) <input type="checkbox"/> NYS 198.8 (Vermiculite SM-V)	TEM - Air <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input checked="" type="checkbox"/> ISO 10312* TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (Non-Friable-NY) <input type="checkbox"/> TEM EPA 600/R-93/116 w Milling Prep (0.1%)	TEM - Settled Dust <input type="checkbox"/> Microvac - ASTM D5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Qualitative via Filtration Prep <input type="checkbox"/> Qualitative via Drop Mount Prep Soil - Rock - Vermiculite (reporting limit)* <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep
--	--	--

Other Test (please specify)

LP 12-23-24

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)
1	MFL-AM05-121624-AB DL692783	7,115.667	12/16/24 1056
2	MFL-AM02-121624-AB DL692784	7,188.418	12/16/24 1112
3	MFL-AM03-121624-AB DL692763	7,195.525	12/16/24 1255
4	MFL-AM07-121624-AB DL692785	7,174.589	12/16/24 1315
5	MFL-FB01-121624-AB DL692774	0	12/16/24 1200
6	MFL-AM05-121724-AB DL692775	7,200.354	12/17/24 1057
7	MFL-AM02-121724-AB DL692770	6,659.810	12/17/24 1114
8	MFL-AM03-121724-AB DL692769 DL692769	7,139.670	12/17/24 1257

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

All samples received acceptable for analysis.

Method of Shipment: FedEx	Sample Condition Upon Receipt:
Relinquished by: <i>[Signature]</i> Date/Time: 12/19/24 1100	Received by: <i>[Signature]</i> Date/Time: 12/23/24 9:30 AM
Relinquished by: <i>[Signature]</i> Date/Time:	Received by: <i>[Signature]</i> Date/Time:

Controlled Document - COC-05 Asbestos R16 10/28/2021 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 01/02/2024 and Shanna Vasser 01/03/2025

Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ

Collection date(s): 12/16/2024 – 12/18/2024

Report No: 04-343

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

Discrepancies: None.

Notes: None.



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

January 02, 2025

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 12/23/24 13:03.

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

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.



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: 01/02/25 14:26

SUBMITTED: 12/23/24

AQS SITE CODE:

SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

<u>SampleName</u>	<u>LabNumber</u>	<u>Matrix</u>	<u>Sampled</u>	<u>Received</u>
MFL-AM05-121224-HM	4122328-01	Air	12/12/24 23:59	12/23/24 13:03
MFL-AM02-121224-HM	4122328-02	Air	12/12/24 23:59	12/23/24 13:03
MFL-AM03-121224-HM	4122328-03	Air	12/12/24 23:59	12/23/24 13:03
MFL-AM07-121224-HM	4122328-04	Air	12/12/24 23:59	12/23/24 13:03
MFL-FB01-121224-HM	4122328-05	Air	12/12/24 00:00	12/23/24 13:03
MFL-AM05-121324-HM	4122328-06	Air	12/13/24 23:59	12/23/24 13:03
MFL-AM02-121324-HM	4122328-07	Air	12/13/24 23:59	12/23/24 13:03
MFL-AM03-121324-HM	4122328-08	Air	12/13/24 23:59	12/23/24 13:03
MFL-AM07-121324-HM/MS/I	4122328-09	Air	12/13/24 23:59	12/23/24 13:03
MFL-AM05-121424-HM	4122328-10	Air	12/14/24 23:59	12/23/24 13:03
MFL-AM02-121424-HM	4122328-11	Air	12/14/24 23:59	12/23/24 13:03
MFL-AM03-121424-HM	4122328-12	Air	12/14/24 23:59	12/23/24 13:03
MFL-AM07-121424-HM	4122328-13	Air	12/14/24 23:59	12/23/24 13:03
MFL-FB01-121424-HM	4122328-14	Air	12/14/24 00:00	12/23/24 13:03
MFL-AM05-121524-HM	4122328-15	Air	12/15/24 23:59	12/23/24 13:03
MFL-AM02-121524-HM	4122328-16	Air	12/15/24 23:59	12/23/24 13:03
MFL-AM03-121524-HM	4122328-17	Air	12/15/24 23:59	12/23/24 13:03
MFL-AM07-121524-HM	4122328-18	Air	12/15/24 23:59	12/23/24 13:03
MFL-AM05-121624-HM	4122328-19	Air	12/16/24 23:59	12/23/24 13:03
MFL-AM02-121624-HM	4122328-20	Air	12/16/24 23:59	12/23/24 13:03
MFL-AM03-121624-HM	4122328-21	Air	12/16/24 23:59	12/23/24 13:03



CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
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 Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber

FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:

PHONE: (703) 885-5495	FAX:			SITE CODE:	Lahaina fires
MFL-AM07-121624-HM	4122328-22	Air	12/16/24 23:59	12/23/24 13:03	
MFL-FB01-121624-HM	4122328-23	Air	12/16/24 00:00	12/23/24 13:03	
MFL-AM05-121724-HM/MS/I	4122328-24	Air	12/17/24 23:59	12/23/24 13:03	
MFL-AM02-121724-HM	4122328-25	Air	12/17/24 23:59	12/23/24 13:03	
MFL-AM03-121724-HM	4122328-26	Air	12/17/24 23:59	12/23/24 13:03	
MFL-AM07-121724-HM	4122328-27	Air	12/17/24 23:59	12/23/24 13:03	
MFL-AM05-121824-HM	4122328-28	Air	12/18/24 23:59	12/23/24 13:03	
MFL-AM02-121824-HM	4122328-29	Air	12/18/24 23:59	12/23/24 13:03	
MFL-AM03-121824-HM	4122328-30	Air	12/18/24 23:59	12/23/24 13:03	
MFL-AM07-121824-HM	4122328-31	Air	12/18/24 23:59	12/23/24 13:03	
MFL-FB01-121824-HM	4122328-32	Air	12/18/24 00:00	12/23/24 13:03	
MFL-LB01-121824-HM	4122328-33	Air	12/18/24 00:00	12/23/24 13:03	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-121224-HM **Lab ID:** 4122328-01 **Sampled:** 12/12/24 23:59
Matrix: Air **Sample Volume:** 2013.415 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/26/24 23:45
Comments: Q8504521 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.171	SL	0.0312	
Arsenic	7440-38-2	1.39		0.00757	
Barium	7440-39-3	16.9	QB-01	0.865	
Beryllium	7440-41-7	0.0792		0.00259	
Cadmium	7440-43-9	0.0897		0.0599	
Chromium	7440-47-3	9.00	QB-01	1.79	
Cobalt	7440-48-4	2.49		0.0352	
Copper	7440-50-8	45.1		2.13	
Lead	7439-92-1	2.10		0.173	
Manganese	7439-96-5	83.1		1.53	
Molybdenum	7439-98-7	2.15	QB-01	0.290	
Nickel	7440-02-0	5.03	QB-01	0.527	
Selenium	7782-49-2	0.463		0.00724	
Thallium	7440-28-0	0.00615		4.76E-4	
Vanadium	7440-62-2	7.90		0.0427	
Zinc	7440-66-6	30.1	U	62.1	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-121224-HM **Lab ID:** 4122328-02 **Sampled:** 12/12/24 23:59
Matrix: Air **Sample Volume:** 2177.04 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 00:04
Comments: Q8504520 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.145	SL	0.0288	
Arsenic	7440-38-2	0.492		0.00700	
Barium	7440-39-3	8.75	QB-01	0.800	
Beryllium	7440-41-7	0.0319		0.00239	
Cadmium	7440-43-9	0.0309	U	0.0554	
Chromium	7440-47-3	5.72	QB-01	1.65	
Cobalt	7440-48-4	1.18		0.0326	
Copper	7440-50-8	41.7		1.97	
Lead	7439-92-1	1.38		0.160	
Manganese	7439-96-5	31.1		1.41	
Molybdenum	7439-98-7	1.65	QB-01	0.268	
Nickel	7440-02-0	3.17	QB-01	0.487	
Selenium	7782-49-2	0.291		0.00670	
Thallium	7440-28-0	0.00173		4.40E-4	
Vanadium	7440-62-2	3.64		0.0395	
Zinc	7440-66-6	20.7	U	57.4	



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 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-121224-HM **Lab ID:** 4122328-03 **Sampled:** 12/12/24 23:59
Matrix: Air **Sample Volume:** 1766.653 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 00:42
Comments: Q8504519 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.0651	SL	0.0355
Arsenic	7440-38-2	0.308		0.00863
Barium	7440-39-3	6.10	QB-01	0.985
Beryllium	7440-41-7	0.0519		0.00295
Cadmium	7440-43-9	0.0308	U	0.0682
Chromium	7440-47-3	5.31	QB-01	2.04
Cobalt	7440-48-4	0.925		0.0402
Copper	7440-50-8	62.5		2.42
Lead	7439-92-1	0.600		0.197
Manganese	7439-96-5	21.7		1.74
Molybdenum	7439-98-7	2.93	QB-01	0.331
Nickel	7440-02-0	2.58	QB-01	0.600
Selenium	7782-49-2	0.285		0.00825
Thallium	7440-28-0	0.00137		5.42E-4
Vanadium	7440-62-2	2.52		0.0487
Zinc	7440-66-6	12.1	U	70.7



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM07-121224-HM **Lab ID:** 4122328-04 **Sampled:** 12/12/24 23:59
Matrix: Air **Sample Volume:** 1658.939 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 00:59
Comments: Q8504517 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.181	SL	0.0379	
Arsenic	7440-38-2	1.81		0.00919	
Barium	7440-39-3	14.5	QB-01	1.05	
Beryllium	7440-41-7	0.0840		0.00314	
Cadmium	7440-43-9	0.107		0.0727	
Chromium	7440-47-3	10.8	QB-01	2.17	
Cobalt	7440-48-4	2.79		0.0428	
Copper	7440-50-8	27.7		2.58	
Lead	7439-92-1	1.99		0.210	
Manganese	7439-96-5	88.7		1.85	
Molybdenum	7439-98-7	1.15	QB-01	0.352	
Nickel	7440-02-0	5.55	QB-01	0.639	
Selenium	7782-49-2	0.516		0.00879	
Thallium	7440-28-0	0.00430		5.78E-4	
Vanadium	7440-62-2	7.21		0.0519	
Zinc	7440-66-6	28.8	U	75.3	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-121224-HM **Lab ID:** 4122328-05 **Sampled:** 12/12/24 00:00
Matrix: Air **Sample Volume:** 2013.415 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 01:17
Comments: Q8504514 FB - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.0547	FB-01, SL	0.0312
Arsenic	7440-38-2	0.0154	FB-01	0.00757
Barium	7440-39-3	1.37	FB-01, QB-01	0.865
Beryllium	7440-41-7	0.00142	U	0.00259
Cadmium	7440-43-9	0.00275	U	0.0599
Chromium	7440-47-3	1.19	QB-01, U	1.79
Cobalt	7440-48-4	0.0352	FB-01	0.0352
Copper	7440-50-8	2.35	FB-01	2.13
Lead	7439-92-1	0.145	U	0.173
Manganese	7439-96-5	0.847	U	1.53
Molybdenum	7439-98-7	0.221	QB-01, U	0.290
Nickel	7440-02-0	0.568	FB-01, QB-01	0.527
Selenium	7782-49-2	0.00483	U	0.00724
Thallium	7440-28-0	1.47E-4	U	4.76E-4
Vanadium	7440-62-2	0.0848	FB-01	0.0427
Zinc	7440-66-6	5.54	U	62.1



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-121324-HM **Lab ID:** 4122328-06 **Sampled:** 12/13/24 23:59
Matrix: Air **Sample Volume:** 1942.715 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 01:31
Comments: Q8504516 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.136	SL	0.0323	
Arsenic	7440-38-2	0.250		0.00785	
Barium	7440-39-3	5.53	QB-01	0.896	
Beryllium	7440-41-7	0.0140		0.00268	
Cadmium	7440-43-9	0.0143	U	0.0621	
Chromium	7440-47-3	3.28	QB-01	1.85	
Cobalt	7440-48-4	0.465		0.0365	
Copper	7440-50-8	46.4		2.20	
Lead	7439-92-1	0.605		0.179	
Manganese	7439-96-5	13.4		1.58	
Molybdenum	7439-98-7	2.28	QB-01	0.301	
Nickel	7440-02-0	1.46	QB-01	0.546	
Selenium	7782-49-2	0.280		0.00750	
Thallium	7440-28-0	0.00127		4.93E-4	
Vanadium	7440-62-2	1.48		0.0443	
Zinc	7440-66-6	12.3	U	64.3	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-121324-HM **Lab ID:** 4122328-07 **Sampled:** 12/13/24 23:59
Matrix: Air **Sample Volume:** 2125.832 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 01:46
Comments: Q8504515 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.194	SL	0.0295	
Arsenic	7440-38-2	0.366		0.00717	
Barium	7440-39-3	7.87	QB-01	0.819	
Beryllium	7440-41-7	0.0206		0.00245	
Cadmium	7440-43-9	0.0161	U	0.0567	
Chromium	7440-47-3	3.57	QB-01	1.69	
Cobalt	7440-48-4	0.741		0.0334	
Copper	7440-50-8	39.5		2.01	
Lead	7439-92-1	0.926		0.164	
Manganese	7439-96-5	19.7		1.45	
Molybdenum	7439-98-7	1.58	QB-01	0.275	
Nickel	7440-02-0	2.14	QB-01	0.499	
Selenium	7782-49-2	0.305		0.00686	
Thallium	7440-28-0	0.00128		4.51E-4	
Vanadium	7440-62-2	2.38		0.0405	
Zinc	7440-66-6	14.6	U	58.8	



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Description: MFL-AM03-121324-HM **Lab ID:** 4122328-08 **Sampled:** 12/13/24 23:59
Matrix: Air **Sample Volume:** 1723.256 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 02:01
Comments: Q8504513 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0735	SL	0.0364	
Arsenic	7440-38-2	0.188		0.00885	
Barium	7440-39-3	4.07	QB-01	1.01	
Beryllium	7440-41-7	0.0260		0.00302	
Cadmium	7440-43-9	0.0104	U	0.0700	
Chromium	7440-47-3	3.16	QB-01	2.09	
Cobalt	7440-48-4	0.442		0.0412	
Copper	7440-50-8	87.4		2.48	
Lead	7439-92-1	0.414		0.202	
Manganese	7439-96-5	10.9		1.78	
Molybdenum	7439-98-7	3.44	QB-01	0.339	
Nickel	7440-02-0	1.53	QB-01	0.616	
Selenium	7782-49-2	0.282		0.00846	
Thallium	7440-28-0	0.00109		5.56E-4	
Vanadium	7440-62-2	1.28		0.0499	
Zinc	7440-66-6	9.52	U	72.5	



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Description: MFL-AM07-121324-HM/MS/MS **Lab ID:** 4122328-09 **Sampled:** 12/13/24 23:59
Matrix: Air **Sample Volume:** 1693.022 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/26/24 17:03
Comments: Q8504512 MS/MSD- Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.142	SL	0.0371	
Arsenic	7440-38-2	0.626		0.00900	
Barium	7440-39-3	6.84	QB-01	1.03	
Beryllium	7440-41-7	0.0319		0.00308	
Cadmium	7440-43-9	0.0178	U	0.0712	
Chromium	7440-47-3	4.46	QB-01	2.12	
Cobalt	7440-48-4	0.967		0.0419	
Copper	7440-50-8	25.2		2.53	
Lead	7439-92-1	2.65	D-F	0.206	
Manganese	7439-96-5	30.5		1.82	
Molybdenum	7439-98-7	1.58	QB-01	0.345	
Nickel	7440-02-0	2.47	QB-01	0.627	
Selenium	7782-49-2	0.365		0.00861	
Thallium	7440-28-0	0.00198		5.66E-4	
Vanadium	7440-62-2	2.75		0.0508	
Zinc	7440-66-6	15.0	U	73.8	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
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Description: MFL-AM05-121424-HM **Lab ID:** 4122328-10 **Sampled:** 12/14/24 23:59
Matrix: Air **Sample Volume:** 1844.471 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 02:15
Comments: Q8504539 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.103	SL	0.0340	
Arsenic	7440-38-2	0.208		0.00827	
Barium	7440-39-3	4.41	QB-01	0.944	
Beryllium	7440-41-7	0.00891		0.00282	
Cadmium	7440-43-9	0.0505	U	0.0654	
Chromium	7440-47-3	2.39	QB-01	1.95	
Cobalt	7440-48-4	0.283		0.0385	
Copper	7440-50-8	64.7		2.32	
Lead	7439-92-1	0.603		0.189	
Manganese	7439-96-5	8.75		1.67	
Molybdenum	7439-98-7	3.77	QB-01	0.317	
Nickel	7440-02-0	1.09	QB-01	0.575	
Selenium	7782-49-2	0.292		0.00790	
Thallium	7440-28-0	0.00126		5.20E-4	
Vanadium	7440-62-2	1.05		0.0467	
Zinc	7440-66-6	10.3	U	67.7	



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 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-121424-HM **Lab ID:** 4122328-11 **Sampled:** 12/14/24 23:59
Matrix: Air **Sample Volume:** 2070.827 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 03:25
Comments: Q8504537 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.209	SL	0.0303	
Arsenic	7440-38-2	0.354		0.00736	
Barium	7440-39-3	5.59	QB-01	0.841	
Beryllium	7440-41-7	0.0108		0.00251	
Cadmium	7440-43-9	0.0135	U	0.0582	
Chromium	7440-47-3	2.12	QB-01	1.74	
Cobalt	7440-48-4	0.312		0.0343	
Copper	7440-50-8	28.5		2.07	
Lead	7439-92-1	0.936		0.168	
Manganese	7439-96-5	9.83		1.48	
Molybdenum	7439-98-7	1.79	QB-01	0.282	
Nickel	7440-02-0	1.09	QB-01	0.512	
Selenium	7782-49-2	0.289		0.00704	
Thallium	7440-28-0	0.00131		4.63E-4	
Vanadium	7440-62-2	1.17		0.0416	
Zinc	7440-66-6	14.3	U	60.3	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
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Description: MFL-AM03-121424-HM **Lab ID:** 4122328-12 **Sampled:** 12/14/24 23:59
Matrix: Air **Sample Volume:** 1785.383 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 03:41
Comments: Q8504533 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0486	SL	0.0352	
Arsenic	7440-38-2	0.111		0.00854	
Barium	7440-39-3	2.35	QB-01	0.975	
Beryllium	7440-41-7	0.0102		0.00292	
Cadmium	7440-43-9	0.0204	U	0.0675	
Chromium	7440-47-3	2.34	QB-01	2.01	
Cobalt	7440-48-4	0.198		0.0397	
Copper	7440-50-8	40.5		2.40	
Lead	7439-92-1	0.306		0.195	
Manganese	7439-96-5	5.11		1.72	
Molybdenum	7439-98-7	2.31	QB-01	0.327	
Nickel	7440-02-0	1.50	QB-01	0.594	
Selenium	7782-49-2	0.210		0.00817	
Thallium	7440-28-0	9.38E-4		5.37E-4	
Vanadium	7440-62-2	0.563		0.0482	
Zinc	7440-66-6	11.3	U	70.0	



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 AQS SITE CODE:
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Description: MFL-AM07-121424-HM **Lab ID:** 4122328-13 **Sampled:** 12/14/24 23:59
Matrix: Air **Sample Volume:** 1469.802 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 03:55
Comments: Q8504534 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.135	SL	0.0427	
Arsenic	7440-38-2	0.381		0.0104	
Barium	7440-39-3	5.66	QB-01	1.18	
Beryllium	7440-41-7	0.0267		0.00354	
Cadmium	7440-43-9	0.0154	U	0.0820	
Chromium	7440-47-3	3.78	QB-01	2.45	
Cobalt	7440-48-4	0.652		0.0483	
Copper	7440-50-8	21.7		2.91	
Lead	7439-92-1	0.529		0.237	
Manganese	7439-96-5	22.4		2.09	
Molybdenum	7439-98-7	1.32	QB-01	0.397	
Nickel	7440-02-0	2.00	QB-01	0.722	
Selenium	7782-49-2	0.348		0.00992	
Thallium	7440-28-0	0.00172		6.52E-4	
Vanadium	7440-62-2	1.82		0.0586	
Zinc	7440-66-6	11.6	U	85.0	



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 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-121424-HM **Lab ID:** 4122328-14 **Sampled:** 12/14/24 00:00
Matrix: Air **Sample Volume:** 1844.471 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 04:10
Comments: Q8504527 FB - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>
Antimony	7440-36-0	0.0170	SL, U	0.0340
Arsenic	7440-38-2	0.00345	U	0.00827
Barium	7440-39-3	0.983	FB-01, QB-01	0.944
Beryllium	7440-41-7	6.12E-4	U	0.00282
Cadmium	7440-43-9	0.00171	U	0.0654
Chromium	7440-47-3	1.08	QB-01, U	1.95
Cobalt	7440-48-4	0.0120	U	0.0385
Copper	7440-50-8	0.318	U	2.32
Lead	7439-92-1	0.0399	U	0.189
Manganese	7439-96-5	0.234	U	1.67
Molybdenum	7439-98-7	0.167	QB-01, U	0.317
Nickel	7440-02-0	0.421	QB-01, U	0.575
Selenium	7782-49-2	0.00120	U	0.00790
Thallium	7440-28-0	9.26E-5	U	5.20E-4
Vanadium	7440-62-2	0.0177	U	0.0467
Zinc	7440-66-6	2.27	U	67.7



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Description: MFL-AM05-121524-HM **Lab ID:** 4122328-15 **Sampled:** 12/15/24 23:59
Matrix: Air **Sample Volume:** 1883.101 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 04:23
Comments: Q8504530 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.110	SL	0.0334	
Arsenic	7440-38-2	0.175		0.00810	
Barium	7440-39-3	4.60	QB-01	0.924	
Beryllium	7440-41-7	0.00846		0.00276	
Cadmium	7440-43-9	0.0126	U	0.0640	
Chromium	7440-47-3	2.63	QB-01	1.91	
Cobalt	7440-48-4	0.290		0.0377	
Copper	7440-50-8	54.7		2.27	
Lead	7439-92-1	0.523		0.185	
Manganese	7439-96-5	8.99		1.63	
Molybdenum	7439-98-7	3.32	QB-01	0.310	
Nickel	7440-02-0	1.43	QB-01	0.563	
Selenium	7782-49-2	0.223		0.00774	
Thallium	7440-28-0	9.46E-4		5.09E-4	
Vanadium	7440-62-2	1.08		0.0457	
Zinc	7440-66-6	13.6	U	66.4	



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 AQS SITE CODE:
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Description: MFL-AM02-121524-HM **Lab ID:** 4122328-16 **Sampled:** 12/15/24 23:59
Matrix: Air **Sample Volume:** 2125.112 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 04:38
Comments: Q8504529 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.212	SL	0.0296	
Arsenic	7440-38-2	0.224		0.00717	
Barium	7440-39-3	5.61	QB-01	0.819	
Beryllium	7440-41-7	0.0116		0.00245	
Cadmium	7440-43-9	0.00874	U	0.0567	
Chromium	7440-47-3	2.00	QB-01	1.69	
Cobalt	7440-48-4	0.316		0.0334	
Copper	7440-50-8	34.6		2.01	
Lead	7439-92-1	0.815		0.164	
Manganese	7439-96-5	10.2		1.45	
Molybdenum	7439-98-7	2.55	QB-01	0.275	
Nickel	7440-02-0	1.14	QB-01	0.499	
Selenium	7782-49-2	0.217		0.00686	
Thallium	7440-28-0	8.74E-4		4.51E-4	
Vanadium	7440-62-2	1.19		0.0405	
Zinc	7440-66-6	15.3	U	58.8	



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 AQS SITE CODE:
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Description: MFL-AM03-121524-HM **Lab ID:** 4122328-17 **Sampled:** 12/15/24 23:59
Matrix: Air **Sample Volume:** 1983.89 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 04:52
Comments: Q8504526 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0388	SL	0.0317	
Arsenic	7440-38-2	0.0980		0.00768	
Barium	7440-39-3	2.27	QB-01	0.878	
Beryllium	7440-41-7	0.0101		0.00262	
Cadmium	7440-43-9	0.00962	U	0.0608	
Chromium	7440-47-3	1.76	QB-01, U	1.81	
Cobalt	7440-48-4	0.213		0.0358	
Copper	7440-50-8	35.3		2.16	
Lead	7439-92-1	0.239		0.176	
Manganese	7439-96-5	5.88		1.55	
Molybdenum	7439-98-7	2.18	QB-01	0.294	
Nickel	7440-02-0	0.983	QB-01	0.535	
Selenium	7782-49-2	0.189		0.00735	
Thallium	7440-28-0	6.41E-4		4.83E-4	
Vanadium	7440-62-2	0.743		0.0434	
Zinc	7440-66-6	6.00	U	63.0	



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 SUBMITTED: 12/23/24
 AQS SITE CODE:
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Description: MFL-AM07-121524-HM **Lab ID:** 4122328-18 **Sampled:** 12/15/24 23:59
Matrix: Air **Sample Volume:** 1510.178 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 05:07
Comments: Q8504525 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.108	SL	0.0416	
Arsenic	7440-38-2	0.595		0.0101	
Barium	7440-39-3	8.22	QB-01	1.15	
Beryllium	7440-41-7	0.0617		0.00345	
Cadmium	7440-43-9	0.0189	U	0.0798	
Chromium	7440-47-3	5.17	QB-01	2.38	
Cobalt	7440-48-4	1.16		0.0470	
Copper	7440-50-8	19.8		2.83	
Lead	7439-92-1	0.963		0.231	
Manganese	7439-96-5	44.3		2.04	
Molybdenum	7439-98-7	1.10	QB-01	0.387	
Nickel	7440-02-0	2.82	QB-01	0.702	
Selenium	7782-49-2	0.380		0.00965	
Thallium	7440-28-0	0.00217		6.35E-4	
Vanadium	7440-62-2	3.17		0.0570	
Zinc	7440-66-6	13.6	U	82.7	



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Description: MFL-AM05-121624-HM **Lab ID:** 4122328-19 **Sampled:** 12/16/24 23:59
Matrix: Air **Sample Volume:** 1823.44 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 05:22
Comments: Q8504523 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.123	SL	0.0344	
Arsenic	7440-38-2	0.310		0.00836	
Barium	7440-39-3	5.63	QB-01	0.955	
Beryllium	7440-41-7	0.0143		0.00286	
Cadmium	7440-43-9	0.0238	U	0.0661	
Chromium	7440-47-3	2.69	QB-01	1.97	
Cobalt	7440-48-4	0.470		0.0389	
Copper	7440-50-8	68.5		2.35	
Lead	7439-92-1	0.964		0.191	
Manganese	7439-96-5	14.4		1.69	
Molybdenum	7439-98-7	4.93	QB-01	0.320	
Nickel	7440-02-0	1.52	QB-01	0.582	
Selenium	7782-49-2	0.221		0.00799	
Thallium	7440-28-0	0.00120		5.26E-4	
Vanadium	7440-62-2	1.65		0.0472	
Zinc	7440-66-6	25.2	U	68.5	



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Description: MFL-AM02-121624-HM **Lab ID:** 4122328-20 **Sampled:** 12/16/24 23:59
Matrix: Air **Sample Volume:** 2131.341 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 05:36
Comments: Q8504550 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.298	SL	0.0295	
Arsenic	7440-38-2	0.439		0.00715	
Barium	7440-39-3	10.5	QB-01	0.817	
Beryllium	7440-41-7	0.0241		0.00244	
Cadmium	7440-43-9	0.0183	U	0.0566	
Chromium	7440-47-3	4.09	QB-01	1.69	
Cobalt	7440-48-4	0.863		0.0333	
Copper	7440-50-8	30.7		2.01	
Lead	7439-92-1	1.38		0.163	
Manganese	7439-96-5	23.1		1.44	
Molybdenum	7439-98-7	1.90	QB-01	0.274	
Nickel	7440-02-0	2.61	QB-01	0.498	
Selenium	7782-49-2	0.246		0.00684	
Thallium	7440-28-0	0.00125		4.50E-4	
Vanadium	7440-62-2	2.91		0.0404	
Zinc	7440-66-6	23.1	U	58.6	



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Description: MFL-AM03-121624-HM **Lab ID:** 4122328-21 **Sampled:** 12/16/24 23:59
Matrix: Air **Sample Volume:** 1973.13 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 06:46
Comments: Q8504549 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0482	SL	0.0318	
Arsenic	7440-38-2	0.148		0.00773	
Barium	7440-39-3	3.91	QB-01	0.882	
Beryllium	7440-41-7	0.0201		0.00264	
Cadmium	7440-43-9	0.00909	U	0.0611	
Chromium	7440-47-3	2.90	QB-01	1.82	
Cobalt	7440-48-4	0.409		0.0360	
Copper	7440-50-8	46.1		2.17	
Lead	7439-92-1	0.503		0.176	
Manganese	7439-96-5	10.1		1.56	
Molybdenum	7439-98-7	2.43	QB-01	0.296	
Nickel	7440-02-0	1.56	QB-01	0.538	
Selenium	7782-49-2	0.183		0.00739	
Thallium	7440-28-0	8.58E-4		4.86E-4	
Vanadium	7440-62-2	1.33		0.0436	
Zinc	7440-66-6	11.7	U	63.3	



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 AQS SITE CODE:
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Description: MFL-AM07-121624-HM **Lab ID:** 4122328-22 **Sampled:** 12/16/24 23:59
Matrix: Air **Sample Volume:** 1450.009 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 07:02
Comments: Q8504547 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.145	SL	0.0433	
Arsenic	7440-38-2	0.528		0.0105	
Barium	7440-39-3	7.72	QB-01	1.20	
Beryllium	7440-41-7	0.0451		0.00359	
Cadmium	7440-43-9	0.0195	U	0.0831	
Chromium	7440-47-3	5.61	QB-01	2.48	
Cobalt	7440-48-4	1.30		0.0489	
Copper	7440-50-8	27.5		2.95	
Lead	7439-92-1	0.642		0.240	
Manganese	7439-96-5	41.2		2.12	
Molybdenum	7439-98-7	1.58	QB-01	0.403	
Nickel	7440-02-0	2.95	QB-01	0.732	
Selenium	7782-49-2	0.338		0.0101	
Thallium	7440-28-0	0.00191		6.61E-4	
Vanadium	7440-62-2	3.52		0.0594	
Zinc	7440-66-6	12.8	U	86.2	



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

FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-121624-HM **Lab ID:** 4122328-23 **Sampled:** 12/16/24 00:00
Matrix: Air **Sample Volume:** 1823.44 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 07:20
Comments: Q8504543 FB - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0188	SL, U	0.0344	
Arsenic	7440-38-2	0.0210	FB-01	0.00836	
Barium	7440-39-3	1.72	FB-01, QB-01	0.955	
Beryllium	7440-41-7	6.71E-4	U	0.00286	
Cadmium	7440-43-9	0.00109	U	0.0661	
Chromium	7440-47-3	1.12	QB-01, U	1.97	
Cobalt	7440-48-4	0.0175	U	0.0389	
Copper	7440-50-8	0.471	U	2.35	
Lead	7439-92-1	0.0450	U	0.191	
Manganese	7439-96-5	0.377	U	1.69	
Molybdenum	7439-98-7	0.172	QB-01, U	0.320	
Nickel	7440-02-0	0.421	QB-01, U	0.582	
Selenium	7782-49-2	4.89E-4	U	0.00799	
Thallium	7440-28-0	1.42E-4	U	5.26E-4	
Vanadium	7440-62-2	0.0329	U	0.0472	
Zinc	7440-66-6	3.28	U	68.5	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-121724-HM/MS/MS **Lab ID:** 4122328-24 **Sampled:** 12/17/24 23:59
Matrix: Air **Sample Volume:** 1844.017 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/26/24 21:01
Comments: Q8504546 MS/MSD - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.174	SL	0.0341	
Arsenic	7440-38-2	0.238		0.00827	
Barium	7440-39-3	6.71	QB-01	0.944	
Beryllium	7440-41-7	0.0171		0.00282	
Cadmium	7440-43-9	0.0131	U	0.0654	
Chromium	7440-47-3	4.19	QB-01	1.95	
Cobalt	7440-48-4	0.644		0.0385	
Copper	7440-50-8	52.0	QM-07	2.32	
Lead	7439-92-1	0.858		0.189	
Manganese	7439-96-5	17.7		1.67	
Molybdenum	7439-98-7	4.21	QB-01, QM-07	0.317	
Nickel	7440-02-0	2.15	QB-01	0.575	
Selenium	7782-49-2	0.233		0.00791	
Thallium	7440-28-0	0.00123		5.20E-4	
Vanadium	7440-62-2	2.38		0.0467	
Zinc	7440-66-6	15.9	U	67.8	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-121724-HM **Lab ID:** 4122328-25 **Sampled:** 12/17/24 23:59
Matrix: Air **Sample Volume:** 2130.451 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 07:34
Comments: Q8504545 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.298	SL	0.0295	
Arsenic	7440-38-2	0.369		0.00716	
Barium	7440-39-3	11.4	QB-01	0.817	
Beryllium	7440-41-7	0.0259		0.00244	
Cadmium	7440-43-9	0.0133	U	0.0566	
Chromium	7440-47-3	4.78	QB-01	1.69	
Cobalt	7440-48-4	1.05		0.0333	
Copper	7440-50-8	39.9		2.01	
Lead	7439-92-1	0.838		0.163	
Manganese	7439-96-5	25.9		1.44	
Molybdenum	7439-98-7	2.54	QB-01	0.274	
Nickel	7440-02-0	3.11	QB-01	0.498	
Selenium	7782-49-2	0.274		0.00684	
Thallium	7440-28-0	0.00143		4.50E-4	
Vanadium	7440-62-2	3.49		0.0404	
Zinc	7440-66-6	20.5	U	58.7	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-121724-HM **Lab ID:** 4122328-26 **Sampled:** 12/17/24 23:59
Matrix: Air **Sample Volume:** 1980.579 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 07:52
Comments: Q8504544 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0637	SL	0.0317	
Arsenic	7440-38-2	0.200		0.00770	
Barium	7440-39-3	4.77	QB-01	0.879	
Beryllium	7440-41-7	0.0234		0.00263	
Cadmium	7440-43-9	0.00956	U	0.0609	
Chromium	7440-47-3	3.58	QB-01	1.82	
Cobalt	7440-48-4	0.642		0.0358	
Copper	7440-50-8	50.0		2.16	
Lead	7439-92-1	0.302		0.176	
Manganese	7439-96-5	14.9		1.55	
Molybdenum	7439-98-7	2.70	QB-01	0.295	
Nickel	7440-02-0	2.15	QB-01	0.536	
Selenium	7782-49-2	0.193		0.00736	
Thallium	7440-28-0	9.34E-4		4.84E-4	
Vanadium	7440-62-2	1.96		0.0435	
Zinc	7440-66-6	8.46	U	63.1	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM07-121724-HM **Lab ID:** 4122328-27 **Sampled:** 12/17/24 23:59
Matrix: Air **Sample Volume:** 1401.502 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 08:06
Comments: Q8504542 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.209	SL	0.0448	
Arsenic	7440-38-2	0.977		0.0109	
Barium	7440-39-3	10.2	QB-01	1.24	
Beryllium	7440-41-7	0.0503		0.00371	
Cadmium	7440-43-9	0.0233	U	0.0860	
Chromium	7440-47-3	7.73	QB-01	2.57	
Cobalt	7440-48-4	1.77		0.0506	
Copper	7440-50-8	31.8		3.05	
Lead	7439-92-1	0.895		0.248	
Manganese	7439-96-5	58.3		2.19	
Molybdenum	7439-98-7	1.74	QB-01	0.417	
Nickel	7440-02-0	4.09	QB-01	0.757	
Selenium	7782-49-2	0.382		0.0104	
Thallium	7440-28-0	0.00261		6.84E-4	
Vanadium	7440-62-2	4.61		0.0614	
Zinc	7440-66-6	96.1		89.2	



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 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM05-121824-HM **Lab ID:** 4122328-28 **Sampled:** 12/18/24 23:59
Matrix: Air **Sample Volume:** 1817.209 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 08:21
Comments: Q8504541 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.161	SL	0.0346	
Arsenic	7440-38-2	0.297		0.00839	
Barium	7440-39-3	6.63	QB-01	0.958	
Beryllium	7440-41-7	0.0184		0.00287	
Cadmium	7440-43-9	0.0158	U	0.0663	
Chromium	7440-47-3	2.95	QB-01	1.98	
Cobalt	7440-48-4	0.554		0.0390	
Copper	7440-50-8	71.8		2.35	
Lead	7439-92-1	0.725		0.192	
Manganese	7439-96-5	18.2		1.69	
Molybdenum	7439-98-7	4.84	QB-01	0.321	
Nickel	7440-02-0	1.74	QB-01	0.584	
Selenium	7782-49-2	0.246		0.00802	
Thallium	7440-28-0	0.00117		5.27E-4	
Vanadium	7440-62-2	2.05		0.0474	
Zinc	7440-66-6	19.4	U	68.8	



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 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM02-121824-HM **Lab ID:** 4122328-29 **Sampled:** 12/18/24 23:59
Matrix: Air **Sample Volume:** 2125.118 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 08:35
Comments: Q8504540 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.176	SL	0.0296	
Arsenic	7440-38-2	0.281		0.00717	
Barium	7440-39-3	5.90	QB-01	0.819	
Beryllium	7440-41-7	0.0137		0.00245	
Cadmium	7440-43-9	0.0141	U	0.0567	
Chromium	7440-47-3	2.28	QB-01	1.69	
Cobalt	7440-48-4	0.396		0.0334	
Copper	7440-50-8	39.1		2.01	
Lead	7439-92-1	1.00		0.164	
Manganese	7439-96-5	12.6		1.45	
Molybdenum	7439-98-7	2.25	QB-01	0.275	
Nickel	7440-02-0	1.47	QB-01	0.499	
Selenium	7782-49-2	0.227		0.00686	
Thallium	7440-28-0	9.57E-4		4.51E-4	
Vanadium	7440-62-2	1.64		0.0405	
Zinc	7440-66-6	19.2	U	58.8	



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 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-AM03-121824-HM **Lab ID:** 4122328-30 **Sampled:** 12/18/24 23:59
Matrix: Air **Sample Volume:** 1979.752 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 08:51
Comments: Q8529583 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.118	SL	0.0317	
Arsenic	7440-38-2	0.181		0.00770	
Barium	7440-39-3	4.32	QB-01	0.879	
Beryllium	7440-41-7	0.0237		0.00263	
Cadmium	7440-43-9	0.0121	U	0.0609	
Chromium	7440-47-3	3.24	QB-01	1.82	
Cobalt	7440-48-4	0.579		0.0358	
Copper	7440-50-8	42.2		2.16	
Lead	7439-92-1	0.309		0.176	
Manganese	7439-96-5	13.4		1.55	
Molybdenum	7439-98-7	2.24	QB-01	0.295	
Nickel	7440-02-0	1.99	QB-01	0.536	
Selenium	7782-49-2	0.243		0.00736	
Thallium	7440-28-0	9.44E-4		4.84E-4	
Vanadium	7440-62-2	1.67		0.0435	
Zinc	7440-66-6	9.50	U	63.1	



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 SUBMITTED: 12/23/24
 AQS SITE CODE:
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Description: MFL-AM07-121824-HM **Lab ID:** 4122328-31 **Sampled:** 12/18/24 23:59
Matrix: Air **Sample Volume:** 1529.562 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 10:13
Comments: Q8529582 - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.176	SL	0.0411	
Arsenic	7440-38-2	0.685		0.00997	
Barium	7440-39-3	11.3	QB-01	1.14	
Beryllium	7440-41-7	0.0678		0.00340	
Cadmium	7440-43-9	0.0335	U	0.0788	
Chromium	7440-47-3	6.99	QB-01	2.35	
Cobalt	7440-48-4	1.83		0.0464	
Copper	7440-50-8	29.1		2.80	
Lead	7439-92-1	2.14		0.228	
Manganese	7439-96-5	65.7		2.01	
Molybdenum	7439-98-7	1.69	QB-01	0.382	
Nickel	7440-02-0	4.23	QB-01	0.694	
Selenium	7782-49-2	0.427		0.00953	
Thallium	7440-28-0	0.00308		6.27E-4	
Vanadium	7440-62-2	5.14		0.0563	
Zinc	7440-66-6	187		81.7	



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 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-FB01-121824-HM **Lab ID:** 4122328-32 **Sampled:** 12/18/24 00:00
Matrix: Air **Sample Volume:** 1817.209 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 10:32
Comments: Q8529593 FB - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0312	SL, U	0.0346	
Arsenic	7440-38-2	0.00982	FB-01	0.00839	
Barium	7440-39-3	1.42	FB-01, QB-01	0.958	
Beryllium	7440-41-7	7.16E-4	U	0.00287	
Cadmium	7440-43-9	0.00148	U	0.0663	
Chromium	7440-47-3	1.00	QB-01, U	1.98	
Cobalt	7440-48-4	0.0279	U	0.0390	
Copper	7440-50-8	1.60	U	2.35	
Lead	7439-92-1	0.0664	U	0.192	
Manganese	7439-96-5	0.544	U	1.69	
Molybdenum	7439-98-7	0.232	QB-01, U	0.321	
Nickel	7440-02-0	0.456	QB-01, U	0.584	
Selenium	7782-49-2	0.00515	U	0.00802	
Thallium	7440-28-0	1.28E-4	U	5.27E-4	
Vanadium	7440-62-2	0.0619	FB-01	0.0474	
Zinc	7440-66-6	3.51	U	68.8	



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FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Description: MFL-LB01-121824-HM **Lab ID:** 4122328-33 **Sampled:** 12/18/24 00:00
Matrix: Air **Sample Volume:** 1817.209 m³ **Received:** 12/23/24 13:03
Filter ID: **Analysis Date:** 12/27/24 10:46
Comments: Q8529599 LB - Received in Good condition

Inorganics by Compendium Method IO-3.5

<u>Analyte</u>	<u>CAS Number</u>	<u>Results</u>		<u>MDL</u>	
		<u>ng/m³ Air</u>	<u>Flag</u>	<u>ng/m³ Air</u>	
Antimony	7440-36-0	0.0217	SL, U	0.0346	
Arsenic	7440-38-2	0.00535	U	0.00839	
Barium	7440-39-3	1.04	QB-01	0.958	
Beryllium	7440-41-7	5.29E-4	U	0.00287	
Cadmium	7440-43-9	7.72E-4	U	0.0663	
Chromium	7440-47-3	0.944	QB-01, U	1.98	
Cobalt	7440-48-4	0.0161	U	0.0390	
Copper	7440-50-8	1.50	U	2.35	
Lead	7439-92-1	0.0385	U	0.192	
Manganese	7439-96-5	0.378	U	1.69	
Molybdenum	7439-98-7	0.169	QB-01, U	0.321	
Nickel	7440-02-0	0.431	QB-01, U	0.584	
Selenium	7782-49-2	0.00237	U	0.00802	
Thallium	7440-28-0	1.46E-4	U	5.27E-4	
Vanadium	7440-62-2	0.0301	U	0.0474	
Zinc	7440-66-6	3.04	U	68.8	



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FILE #: 4205.00.003.001
REPORTED: 01/02/25 14:26
SUBMITTED: 12/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Calibration Blank (2412068-CCB1)

Prepared & Analyzed: 12/26/24

Antimony	0.321		ng/l							
Arsenic	-8.78		ng/l							U
Barium	-94.9		ng/l							U
Beryllium	-0.687		ng/l							U
Cadmium	0.180		ng/l							
Chromium	1.76		ng/l							
Cobalt	0.318		ng/l							
Copper	21.9		ng/l							
Lead	1.63		ng/l							
Manganese	1.01		ng/l							
Molybdenum	26.3		ng/l							
Nickel	-1.83		ng/l							U
Selenium	-1.40		ng/l							U
Thallium	1.14		ng/l							
Vanadium	-61.0		ng/l							U
Zinc	-223		ng/l							U

Calibration Blank (2412068-CCB2)

Prepared & Analyzed: 12/26/24

Antimony	0.330		ng/l							
Arsenic	-11.0		ng/l							U
Barium	-79.3		ng/l							U
Beryllium	-0.887		ng/l							U
Cadmium	0.0913		ng/l							
Chromium	-0.478		ng/l							U
Cobalt	-0.0736		ng/l							U
Copper	-1.81		ng/l							U
Lead	1.42		ng/l							
Manganese	0.800		ng/l							
Molybdenum	6.81		ng/l							
Nickel	-2.52		ng/l							U
Selenium	-12.3		ng/l							U
Thallium	1.05		ng/l							
Vanadium	-66.2		ng/l							U
Zinc	-199		ng/l							U

Calibration Blank (2412068-CCB3)

Prepared & Analyzed: 12/26/24

Antimony	0.132		ng/l							
Arsenic	-8.38		ng/l							U
Barium	-101		ng/l							U
Beryllium	-0.954		ng/l							U

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FILE #: 4205.00.003.001
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Calibration Blank (2412068-CCB3) Contin

Prepared & Analyzed: 12/26/24

Cadmium	0.0437		ng/l							
Chromium	-0.733		ng/l							U
Cobalt	-0.0917		ng/l							U
Copper	-12.4		ng/l							U
Lead	0.805		ng/l							
Manganese	-2.37		ng/l							U
Molybdenum	5.81		ng/l							
Nickel	-3.88		ng/l							U
Selenium	-1.17		ng/l							U
Thallium	0.890		ng/l							
Vanadium	-70.4		ng/l							U
Zinc	-224		ng/l							U

Calibration Blank (2412068-CCB4)

Prepared: 12/26/24 Analyzed: 12/27/24

Antimony	0.395		ng/l							
Arsenic	-4.13		ng/l							U
Barium	-104		ng/l							U
Beryllium	-1.04		ng/l							U
Cadmium	0.0963		ng/l							
Chromium	-0.638		ng/l							U
Cobalt	0.0396		ng/l							
Copper	-6.45		ng/l							U
Lead	0.651		ng/l							
Manganese	-1.47		ng/l							U
Molybdenum	6.27		ng/l							
Nickel	-1.45		ng/l							U
Selenium	-6.25		ng/l							U
Thallium	0.829		ng/l							
Vanadium	-72.4		ng/l							U
Zinc	-207		ng/l							U

Calibration Blank (2412068-CCB5)

Prepared: 12/26/24 Analyzed: 12/27/24

Antimony	0.258		ng/l							
Arsenic	-1.50		ng/l							U
Barium	-103		ng/l							U
Beryllium	-1.37		ng/l							U
Cadmium	0.0675		ng/l							
Chromium	-0.516		ng/l							U
Cobalt	-0.0543		ng/l							U
Copper	-6.07		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Calibration Blank (2412068-CCB5) Contin

Prepared: 12/26/24 Analyzed: 12/27/24

Lead	0.994		ng/l							
Manganese	-2.46		ng/l							U
Molybdenum	6.11		ng/l							
Nickel	-0.632		ng/l							U
Selenium	2.50		ng/l							
Thallium	1.11		ng/l							
Vanadium	-71.3		ng/l							U
Zinc	-208		ng/l							U

Calibration Blank (2412068-CCB6)

Prepared: 12/26/24 Analyzed: 12/27/24

Antimony	0.0883		ng/l							
Arsenic	0.351		ng/l							
Barium	-100		ng/l							U
Beryllium	-1.59		ng/l							U
Cadmium	0.131		ng/l							
Chromium	-0.216		ng/l							U
Cobalt	0.0749		ng/l							
Copper	2.00		ng/l							
Lead	1.68		ng/l							
Manganese	0.0395		ng/l							
Molybdenum	6.26		ng/l							
Nickel	-1.68		ng/l							U
Selenium	-7.51		ng/l							U
Thallium	0.878		ng/l							
Vanadium	-74.9		ng/l							U
Zinc	-188		ng/l							U

Calibration Blank (2412068-CCB7)

Prepared: 12/26/24 Analyzed: 12/27/24

Antimony	0.233		ng/l							
Arsenic	-4.80		ng/l							U
Barium	-111		ng/l							U
Beryllium	-1.55		ng/l							U
Cadmium	0.0264		ng/l							
Chromium	-0.706		ng/l							U
Cobalt	-0.195		ng/l							U
Copper	-7.22		ng/l							U
Lead	1.33		ng/l							
Manganese	-2.09		ng/l							U
Molybdenum	4.96		ng/l							
Nickel	-2.70		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Calibration Blank (2412068-CCB7) Contin

Prepared: 12/26/24 Analyzed: 12/27/24

Selenium	-7.17		ng/l							U
Thallium	0.916		ng/l							
Vanadium	-68.8		ng/l							U
Zinc	-195		ng/l							U

Calibration Check (2412068-CCV1)

Prepared & Analyzed: 12/26/24

Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	492		ng/l	500.00		98.3	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	529000		ng/l	500000		106	90-110			

Calibration Check (2412068-CCV2)

Prepared & Analyzed: 12/26/24

Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	5240		ng/l	5000.0		105	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	495000		ng/l	500000		99.1	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Thallium	484		ng/l	500.00		96.9	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	526000		ng/l	500000		105	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Calibration Check (2412068-CCV3)

Prepared & Analyzed: 12/26/24

Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	241000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	489		ng/l	500.00		97.8	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			

Calibration Check (2412068-CCV4)

Prepared: 12/26/24 Analyzed: 12/27/24

Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	21300		ng/l	20000		106	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	52300		ng/l	50000		105	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	496		ng/l	500.00		99.3	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	539000		ng/l	500000		108	90-110			

Calibration Check (2412068-CCV5)

Prepared: 12/26/24 Analyzed: 12/27/24

Antimony	21300		ng/l	20000		106	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	5220		ng/l	5000.0		104	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Calibration Check (2412068-CCV5) Contin

Prepared: 12/26/24 Analyzed: 12/27/24

Cadmium	21500		ng/l	20000		108	90-110			
Chromium	251000		ng/l	240000		104	90-110			
Cobalt	53100		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	520000		ng/l	500000		104	90-110			
Molybdenum	53800		ng/l	50000		108	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	493		ng/l	500.00		98.7	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	548000		ng/l	500000		110	90-110			

Calibration Check (2412068-CCV6)

Prepared: 12/26/24 Analyzed: 12/27/24

Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			
Cadmium	21500		ng/l	20000		108	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	53000		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	208000		ng/l	200000		104	90-110			
Manganese	519000		ng/l	500000		104	90-110			
Molybdenum	53100		ng/l	50000		106	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	546000		ng/l	500000		109	90-110			

Calibration Check (2412068-CCV7)

Prepared: 12/26/24 Analyzed: 12/27/24

Antimony	21400		ng/l	20000		107	90-110			
Arsenic	21100		ng/l	20000		105	90-110			
Barium	209000		ng/l	200000		105	90-110			
Beryllium	4840		ng/l	5000.0		96.8	90-110			
Cadmium	21600		ng/l	20000		108	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Calibration Check (2412068-CCV7) Contin

Prepared: 12/26/24 Analyzed: 12/27/24

Lead	209000		ng/l	200000		104	90-110			
Manganese	520000		ng/l	500000		104	90-110			
Molybdenum	54100		ng/l	50000		108	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20800		ng/l	20000		104	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	548000		ng/l	500000		110	90-110			

High Cal Check (2412068-HCV1)

Prepared & Analyzed: 12/26/24

Antimony	40100		ng/l	40000		100	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	399000		ng/l	400000		99.7	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39900		ng/l	40000		99.8	95-105			
Chromium	472000		ng/l	480000		98.4	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.92E6		ng/l	4.0000E6		97.9	95-105			
Lead	402000		ng/l	400000		100	95-105			
Manganese	987000		ng/l	1.0000E6		98.7	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	234000		ng/l	240000		97.5	95-105			
Selenium	39900		ng/l	40000		99.7	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	39900		ng/l	40000		99.9	95-105			
Zinc	973000		ng/l	1.0000E6		97.3	95-105			

Initial Cal Blank (2412068-ICB1)

Prepared & Analyzed: 12/26/24

Antimony	0.483		ng/l							
Arsenic	-12.2		ng/l							U
Barium	-114		ng/l							U
Beryllium	-0.629		ng/l							U
Cadmium	0.103		ng/l							
Chromium	2.64		ng/l							
Cobalt	-0.275		ng/l							U
Copper	-3.15		ng/l							U
Lead	0.403		ng/l							
Manganese	-0.873		ng/l							U
Molybdenum	8.81		ng/l							
Nickel	-5.17		ng/l							U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Initial Cal Blank (2412068-ICB1) Continuum

Prepared & Analyzed: 12/26/24

Selenium	6.50		ng/l							
Thallium	0.966		ng/l							
Vanadium	-59.3		ng/l							U
Zinc	-203		ng/l							U

Initial Cal Check (2412068-ICV1)

Prepared & Analyzed: 12/26/24

Antimony	19600		ng/l	20000		98.2	90-110			
Arsenic	19600		ng/l	20000		98.0	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4980		ng/l	5000.0		99.7	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	237000		ng/l	240000		98.7	90-110			
Cobalt	48600		ng/l	50000		97.1	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	484000		ng/l	500000		96.7	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	119000		ng/l	120000		98.9	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	530000		ng/l	500000		106	90-110			

Interference Check A (2412068-IFA1)

Prepared & Analyzed: 12/26/24

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	313000		ng/l	300000		104	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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

FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2412068 - B4L2405

Interference Check B (2412068-IFB1)

Prepared & Analyzed: 12/26/24

Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20500		ng/l	20000		102	80-120			
Barium	200000		ng/l	200000		100	80-120			
Beryllium	4780		ng/l	5000.0		95.5	80-120			
Cadmium	19900		ng/l	20000		99.3	80-120			
Chromium	244000		ng/l	240000		102	80-120			
Cobalt	53800		ng/l	50000		108	80-120			
Copper	1.98E6		ng/l	2.0000E6		98.8	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	520000		ng/l	500000		104	80-120			
Molybdenum	368000		ng/l	350000		105	80-120			
Nickel	122000		ng/l	120000		101	80-120			
Selenium	18900		ng/l	20000		94.7	80-120			
Thallium	526		ng/l	500.00		105	80-120			
Vanadium	19900		ng/l	20000		99.5	80-120			
Zinc	497000		ng/l	500000		99.4	80-120			

Batch B4L2405 - ICP-MS Extraction

Blank (B4L2405-BLK1)

Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	ND	0.0386	ng/m ³ Air							SL, U
Arsenic	ND	0.00937	ng/m ³ Air							U
Barium	ND	1.07	ng/m ³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m ³ Air							U
Cadmium	ND	0.0741	ng/m ³ Air							U
Chromium	ND	2.21	ng/m ³ Air							QB-01, U
Cobalt	ND	0.0436	ng/m ³ Air							U
Copper	ND	2.63	ng/m ³ Air							U
Lead	ND	0.214	ng/m ³ Air							U
Manganese	ND	1.89	ng/m ³ Air							U
Molybdenum	ND	0.359	ng/m ³ Air							QB-01, U
Nickel	ND	0.652	ng/m ³ Air							QB-01, U
Selenium	ND	0.00896	ng/m ³ Air							U
Thallium	ND	5.89E-4	ng/m ³ Air							U
Vanadium	ND	0.0529	ng/m ³ Air							U
Zinc	ND	76.8	ng/m ³ Air							U

LCS (B4L2405-BS1)

Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.779	0.0386	ng/m ³ Air	1.3829		56.3	80-120			SL
Arsenic	2.74	0.00937	ng/m ³ Air	2.7658		98.9	80-120			
Barium	28.3	1.07	ng/m ³ Air	27.658		102	80-120			QB-01

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4L2405 - ICP-MS Extraction

LCS (B4L2405-BS1) Continued

Prepared: 12/24/24 Analyzed: 12/26/24

Beryllium	1.38	0.00320	ng/m ³ Air	1.3829		99.6	80-120			
Cadmium	1.43	0.0741	ng/m ³ Air	1.3829		103	80-120			
Chromium	16.6	2.21	ng/m ³ Air	13.829		120	80-120			QB-01
Cobalt	1.39	0.0436	ng/m ³ Air	1.3829		100	80-120			
Copper	29.9	2.63	ng/m ³ Air	27.658		108	80-120			
Lead	13.9	0.214	ng/m ³ Air	13.829		100	80-120			
Manganese	8.63	1.89	ng/m ³ Air	8.2975		104	80-120			
Molybdenum	1.70	0.359	ng/m ³ Air	1.3829		123	80-120			QB-01
Nickel	3.32	0.652	ng/m ³ Air	2.7658		120	80-120			QB-01
Selenium	2.73	0.00896	ng/m ³ Air	2.7658		98.8	80-120			
Thallium	0.141	5.89E-4	ng/m ³ Air	0.13829		102	80-120			
Vanadium	2.84	0.0529	ng/m ³ Air	2.7658		103	80-120			
Zinc	93.1	76.8	ng/m ³ Air	82.975		112	80-120			

LCS (B4L2405-BS2)

Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.785	0.0386	ng/m ³ Air	1.3829		56.7	80-120			SL
Arsenic	2.73	0.00937	ng/m ³ Air	2.7658		98.8	80-120			
Barium	28.6	1.07	ng/m ³ Air	27.658		104	80-120			QB-01
Beryllium	1.38	0.00320	ng/m ³ Air	1.3829		99.7	80-120			
Cadmium	1.44	0.0741	ng/m ³ Air	1.3829		104	80-120			
Chromium	16.2	2.21	ng/m ³ Air	13.829		117	80-120			QB-01
Cobalt	1.37	0.0436	ng/m ³ Air	1.3829		98.7	80-120			
Copper	29.6	2.63	ng/m ³ Air	27.658		107	80-120			
Lead	13.9	0.214	ng/m ³ Air	13.829		101	80-120			
Manganese	8.48	1.89	ng/m ³ Air	8.2975		102	80-120			
Molybdenum	1.68	0.359	ng/m ³ Air	1.3829		121	80-120			QB-01
Nickel	3.17	0.652	ng/m ³ Air	2.7658		115	80-120			QB-01
Selenium	2.77	0.00896	ng/m ³ Air	2.7658		100	80-120			
Thallium	0.140	5.89E-4	ng/m ³ Air	0.13829		101	80-120			
Vanadium	2.82	0.0529	ng/m ³ Air	2.7658		102	80-120			
Zinc	92.7	76.8	ng/m ³ Air	82.975		112	80-120			

Duplicate (B4L2405-DUP1)

Source: 4122328-09

Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.144	0.0371	ng/m ³ Air		0.142		1.72	10		SL
Arsenic	0.626	0.00900	ng/m ³ Air		0.626		0.0772	10		
Barium	6.67	1.03	ng/m ³ Air		6.84		2.37	10		QB-01
Beryllium	0.0313	0.00308	ng/m ³ Air		0.0319		1.68	10		
Cadmium	ND	0.0712	ng/m ³ Air		ND			10		U
Chromium	4.53	2.12	ng/m ³ Air		4.46		1.48	10		QB-01
Cobalt	0.961	0.0419	ng/m ³ Air		0.967		0.625	10		

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4L2405 - ICP-MS Extraction

Duplicate (B4L2405-DUP1) Continued **Source: 4122328-09** Prepared: 12/24/24 Analyzed: 12/26/24

Copper	26.3	2.53	ng/m ³ Air		25.2			4.12	10	
Lead	1.87	0.206	ng/m ³ Air		2.65			34.4	10	D-F
Manganese	29.9	1.82	ng/m ³ Air		30.5			2.02	10	
Molybdenum	1.58	0.345	ng/m ³ Air		1.58			0.327	10	QB-01
Nickel	2.85	0.627	ng/m ³ Air		2.47			14.3	10	QB-01
Selenium	0.348	0.00861	ng/m ³ Air		0.365			4.92	10	
Thallium	0.00190	5.66E-4	ng/m ³ Air		0.00198			3.96	10	
Vanadium	2.70	0.0508	ng/m ³ Air		2.75			1.98	10	
Zinc	ND	73.8	ng/m ³ Air		ND				10	U

Duplicate (B4L2405-DUP2) **Source: 4122328-24** Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.173	0.0341	ng/m ³ Air		0.174			0.410	10	SL
Arsenic	0.239	0.00827	ng/m ³ Air		0.238			0.182	10	
Barium	6.99	0.944	ng/m ³ Air		6.71			4.10	10	QB-01
Beryllium	0.0173	0.00282	ng/m ³ Air		0.0171			1.41	10	
Cadmium	ND	0.0654	ng/m ³ Air		ND				10	U
Chromium	3.55	1.95	ng/m ³ Air		4.19			16.6	10	QB-01
Cobalt	0.649	0.0385	ng/m ³ Air		0.644			0.786	10	
Copper	50.9	2.32	ng/m ³ Air		52.0			2.15	10	
Lead	0.711	0.189	ng/m ³ Air		0.858			18.8	10	
Manganese	17.8	1.67	ng/m ³ Air		17.7			0.598	10	
Molybdenum	4.14	0.317	ng/m ³ Air		4.21			1.69	10	QB-01
Nickel	2.17	0.575	ng/m ³ Air		2.15			1.10	10	QB-01
Selenium	0.240	0.00791	ng/m ³ Air		0.233			2.76	10	
Thallium	0.00114	5.20E-4	ng/m ³ Air		0.00123			7.55	10	
Vanadium	2.36	0.0467	ng/m ³ Air		2.38			0.709	10	
Zinc	ND	67.8	ng/m ³ Air		ND				10	U

Duplicate (B4L2405-DUP3) **Source: 4122328-02** Prepared: 12/24/24 Analyzed: 12/27/24

Antimony	0.149	0.0288	ng/m ³ Air		0.145			2.28	10	SL
Arsenic	0.491	0.00700	ng/m ³ Air		0.492			0.0723	10	
Barium	8.80	0.800	ng/m ³ Air		8.75			0.643	10	QB-01
Beryllium	0.0318	0.00239	ng/m ³ Air		0.0319			0.00728	10	
Cadmium	ND	0.0554	ng/m ³ Air		ND				10	U
Chromium	5.77	1.65	ng/m ³ Air		5.72			1.02	10	QB-01
Cobalt	1.18	0.0326	ng/m ³ Air		1.18			0.735	10	
Copper	42.3	1.97	ng/m ³ Air		41.7			1.28	10	
Lead	1.40	0.160	ng/m ³ Air		1.38			1.37	10	
Manganese	31.3	1.41	ng/m ³ Air		31.1			0.564	10	
Molybdenum	1.65	0.268	ng/m ³ Air		1.65			0.359	10	QB-01

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4L2405 - ICP-MS Extraction

Duplicate (B4L2405-DUP3) Continued Source: 4122328-02 Prepared: 12/24/24 Analyzed: 12/27/24

Nickel	3.19	0.487	ng/m ³ Air		3.17			0.818	10	QB-01
Selenium	0.276	0.00670	ng/m ³ Air		0.291			5.24	10	
Thallium	0.00173	4.40E-4	ng/m ³ Air		0.00173			0.410	10	
Vanadium	3.66	0.0395	ng/m ³ Air		3.64			0.602	10	
Zinc	ND	57.4	ng/m ³ Air		ND				10	U

Duplicate (B4L2405-DUP4) Source: 4122328-30 Prepared: 12/24/24 Analyzed: 12/27/24

Antimony	0.117	0.0317	ng/m ³ Air		0.118			0.425	10	SL
Arsenic	0.181	0.00770	ng/m ³ Air		0.181			0.0688	10	
Barium	4.31	0.879	ng/m ³ Air		4.32			0.213	10	QB-01
Beryllium	0.0234	0.00263	ng/m ³ Air		0.0237			1.35	10	
Cadmium	ND	0.0609	ng/m ³ Air		ND				10	U
Chromium	3.23	1.82	ng/m ³ Air		3.24			0.308	10	QB-01
Cobalt	0.576	0.0358	ng/m ³ Air		0.579			0.604	10	
Copper	42.2	2.16	ng/m ³ Air		42.2			0.0970	10	
Lead	0.308	0.176	ng/m ³ Air		0.309			0.395	10	
Manganese	13.3	1.55	ng/m ³ Air		13.4			0.186	10	
Molybdenum	2.26	0.295	ng/m ³ Air		2.24			0.835	10	QB-01
Nickel	1.97	0.536	ng/m ³ Air		1.99			0.844	10	QB-01
Selenium	0.240	0.00736	ng/m ³ Air		0.243			1.28	10	
Thallium	9.84E-4	4.84E-4	ng/m ³ Air		9.44E-4			4.16	10	
Vanadium	1.66	0.0435	ng/m ³ Air		1.67			0.652	10	
Zinc	ND	63.1	ng/m ³ Air		ND				10	U

Matrix Spike (B4L2405-MS1) Source: 4122328-09 Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.785	0.0371	ng/m ³ Air	1.3290	0.142	48.4	80-120			SL
Arsenic	3.13	0.00900	ng/m ³ Air	2.6580	0.626	94.2	80-120			
Barium	33.1	1.03	ng/m ³ Air	26.580	6.84	98.7	80-120			QB-01
Beryllium	1.36	0.00308	ng/m ³ Air	1.3290	0.0319	99.9	80-120			
Cadmium	1.36	0.0712	ng/m ³ Air	1.3290	ND	103	80-120			
Chromium	18.4	2.12	ng/m ³ Air	13.290	4.46	105	80-120			QB-01
Cobalt	2.31	0.0419	ng/m ³ Air	1.3290	0.967	101	80-120			
Copper	51.7	2.53	ng/m ³ Air	26.580	25.2	99.7	80-120			
Lead	15.1	0.206	ng/m ³ Air	13.290	2.65	93.7	80-120			
Manganese	38.0	1.82	ng/m ³ Air	7.9739	30.5	93.7	80-120			
Molybdenum	2.82	0.345	ng/m ³ Air	1.3290	1.58	92.7	80-120			QB-01
Nickel	4.84	0.627	ng/m ³ Air	2.6580	2.47	89.3	80-120			QB-01
Selenium	2.88	0.00861	ng/m ³ Air	2.6580	0.365	94.7	80-120			
Thallium	0.135	5.66E-4	ng/m ³ Air	0.13290	0.00198	99.9	80-120			
Vanadium	5.34	0.0508	ng/m ³ Air	2.6580	2.75	97.4	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4L2405 - ICP-MS Extraction

Matrix Spike (B4L2405-MS1) Continued Source: 4122328-09 Prepared: 12/24/24 Analyzed: 12/26/24

Zinc	97.5	73.8	ng/m ³ Air	79.739	ND	122	80-120			
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Matrix Spike (B4L2405-MS2) Source: 4122328-24 Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.824	0.0341	ng/m ³ Air	1.2202	0.174	53.2	80-120			SL
Arsenic	2.61	0.00827	ng/m ³ Air	2.4403	0.238	97.3	80-120			
Barium	31.5	0.944	ng/m ³ Air	24.403	6.71	101	80-120			QB-01
Beryllium	1.28	0.00282	ng/m ³ Air	1.2202	0.0171	103	80-120			
Cadmium	1.29	0.0654	ng/m ³ Air	1.2202	ND	105	80-120			
Chromium	16.3	1.95	ng/m ³ Air	12.202	4.19	98.8	80-120			QB-01
Cobalt	1.87	0.0385	ng/m ³ Air	1.2202	0.644	101	80-120			
Copper	81.5	2.32	ng/m ³ Air	24.403	52.0	121	80-120			QM-07
Lead	13.3	0.189	ng/m ³ Air	12.202	0.858	102	80-120			
Manganese	25.0	1.67	ng/m ³ Air	7.3210	17.7	99.6	80-120			
Molybdenum	5.75	0.317	ng/m ³ Air	1.2202	4.21	126	80-120			QB-01, QM-07
Nickel	4.48	0.575	ng/m ³ Air	2.4403	2.15	95.4	80-120			QB-01
Selenium	2.64	0.00791	ng/m ³ Air	2.4403	0.233	98.5	80-120			
Thallium	0.123	5.20E-4	ng/m ³ Air	0.12202	0.00123	99.8	80-120			
Vanadium	4.82	0.0467	ng/m ³ Air	2.4403	2.38	100	80-120			
Zinc	93.3	67.8	ng/m ³ Air	73.210	ND	127	80-120			

Matrix Spike Dup (B4L2405-MSD1) Source: 4122328-09 Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.748	0.0371	ng/m ³ Air	1.3290	0.142	45.6	80-120	4.83	20	SL
Arsenic	3.07	0.00900	ng/m ³ Air	2.6580	0.626	92.1	80-120	1.76	20	
Barium	32.7	1.03	ng/m ³ Air	26.580	6.84	97.4	80-120	1.03	20	QB-01
Beryllium	1.36	0.00308	ng/m ³ Air	1.3290	0.0319	99.9	80-120	0.00515	20	
Cadmium	1.35	0.0712	ng/m ³ Air	1.3290	ND	101	80-120	1.20	20	
Chromium	18.2	2.12	ng/m ³ Air	13.290	4.46	104	80-120	0.762	20	QB-01
Cobalt	2.29	0.0419	ng/m ³ Air	1.3290	0.967	99.2	80-120	0.949	20	
Copper	52.3	2.53	ng/m ³ Air	26.580	25.2	102	80-120	1.05	20	
Lead	15.7	0.206	ng/m ³ Air	13.290	2.65	98.4	80-120	4.02	20	
Manganese	38.2	1.82	ng/m ³ Air	7.9739	30.5	96.2	80-120	0.525	20	
Molybdenum	2.81	0.345	ng/m ³ Air	1.3290	1.58	92.3	80-120	0.180	20	QB-01
Nickel	4.88	0.627	ng/m ³ Air	2.6580	2.47	90.9	80-120	0.826	20	QB-01
Selenium	2.87	0.00861	ng/m ³ Air	2.6580	0.365	94.2	80-120	0.505	20	
Thallium	0.134	5.66E-4	ng/m ³ Air	0.13290	0.00198	99.7	80-120	0.235	20	
Vanadium	5.31	0.0508	ng/m ³ Air	2.6580	2.75	96.3	80-120	0.564	20	
Zinc	96.2	73.8	ng/m ³ Air	79.739	ND	121	80-120	1.26	20	

Matrix Spike Dup (B4L2405-MSD2) Source: 4122328-24 Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.802	0.0341	ng/m ³ Air	1.2202	0.174	51.5	80-120	2.60	20	SL
Arsenic	2.59	0.00827	ng/m ³ Air	2.4403	0.238	96.4	80-120	0.814	20	

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 Blue Bell, PA 19422

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

FILE #: 4205.00.003.001
 REPORTED: 01/02/25 14:26
 SUBMITTED: 12/23/24
 AQS SITE CODE:
 SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4L2405 - ICP-MS Extraction

Matrix Spike Dup (B4L2405-MSD2) ContirSource: 4122328-24 Prepared: 12/24/24 Analyzed: 12/26/24

Barium	31.1	0.944	ng/m ³ Air	24.403	6.71	99.8	80-120	1.29	20	QB-01
Beryllium	1.25	0.00282	ng/m ³ Air	1.2202	0.0171	101	80-120	2.46	20	
Cadmium	1.27	0.0654	ng/m ³ Air	1.2202	ND	104	80-120	1.37	20	
Chromium	16.1	1.95	ng/m ³ Air	12.202	4.19	97.7	80-120	0.853	20	QB-01
Cobalt	1.85	0.0385	ng/m ³ Air	1.2202	0.644	98.5	80-120	1.43	20	
Copper	85.4	2.32	ng/m ³ Air	24.403	52.0	137	80-120	4.67	20	QM-07
Lead	13.2	0.189	ng/m ³ Air	12.202	0.858	101	80-120	0.511	20	
Manganese	24.4	1.67	ng/m ³ Air	7.3210	17.7	92.5	80-120	2.08	20	
Molybdenum	6.17	0.317	ng/m ³ Air	1.2202	4.21	161	80-120	7.10	20	QB-01, QM-07
Nickel	4.36	0.575	ng/m ³ Air	2.4403	2.15	90.6	80-120	2.67	20	QB-01
Selenium	2.61	0.00791	ng/m ³ Air	2.4403	0.233	97.4	80-120	1.01	20	
Thallium	0.122	5.20E-4	ng/m ³ Air	0.12202	0.00123	99.3	80-120	0.451	20	
Vanadium	4.73	0.0467	ng/m ³ Air	2.4403	2.38	96.3	80-120	1.93	20	
Zinc	92.2	67.8	ng/m ³ Air	73.210	ND	126	80-120	1.11	20	

Post Spike (B4L2405-PS2) Source: 4122328-24 Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.415	0.0341	ng/m ³ Air	0.24403	0.174	98.7	75-125			SL
Arsenic	1.40	0.00827	ng/m ³ Air	1.2202	0.238	95.0	75-125			
Barium	8.99	0.944	ng/m ³ Air	2.4403	6.71	93.4	75-125			QB-01
Beryllium	0.269	0.00282	ng/m ³ Air	0.24403	0.0171	103	75-125			
Cadmium	0.139	0.0654	ng/m ³ Air	0.12202	ND	114	75-125			
Chromium	5.49	1.95	ng/m ³ Air	1.2202	4.19	106	75-125			QB-01
Cobalt	0.892	0.0385	ng/m ³ Air	0.24403	0.644	102	75-125			
Copper	65.3	2.32	ng/m ³ Air	12.202	52.0	108	75-125			
Lead	25.4	0.189	ng/m ³ Air	24.403	0.858	101	75-125			
Manganese	20.2	1.67	ng/m ³ Air	2.4403	17.7	105	75-125			
Molybdenum	5.40	0.317	ng/m ³ Air	1.2202	4.21	97.8	75-125			QB-01
Nickel	4.59	0.575	ng/m ³ Air	2.4403	2.15	100	75-125			QB-01
Selenium	1.42	0.00791	ng/m ³ Air	1.2202	0.233	97.5	75-125			
Thallium	0.0614	5.20E-4	ng/m ³ Air	6.1008E-2	0.00123	98.6	75-125			
Vanadium	3.60	0.0467	ng/m ³ Air	1.2202	2.38	99.7	75-125			
Zinc	ND	67.8	ng/m ³ Air	24.403	ND		75-125			U

Dilution Check (B4L2405-SRL1) Source: 4122328-09 Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	ND	0.185	ng/m ³ Air		ND			10		SL, U
Arsenic	0.626	0.0450	ng/m ³ Air		0.626			0.0772	10	
Barium	6.67	5.14	ng/m ³ Air		6.84			2.41	10	QB-01
Beryllium	0.0308	0.0154	ng/m ³ Air		0.0319			3.36	10	
Cadmium	ND	0.356	ng/m ³ Air		ND				10	U
Chromium	ND	10.6	ng/m ³ Air		ND				10	QB-01, U

Eastern Research Group

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



CERTIFICATE OF ANALYSIS

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

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4L2405 - ICP-MS Extraction

Dilution Check (B4L2405-SRL1) Continue Source: 4122328-09 Prepared: 12/24/24 Analyzed: 12/26/24

Cobalt	0.983	0.209	ng/m ³ Air		0.967			1.65	10	
Copper	25.7	12.6	ng/m ³ Air		25.2			1.95	10	
Lead	2.57	1.03	ng/m ³ Air		2.65			3.09	10	
Manganese	30.7	9.08	ng/m ³ Air		30.5			0.688	10	
Molybdenum	ND	1.73	ng/m ³ Air		ND				10	QB-01, U
Nickel	ND	3.13	ng/m ³ Air		ND				10	QB-01, U
Selenium	0.361	0.0431	ng/m ³ Air		0.365			1.11	10	
Thallium	0.00342	0.00283	ng/m ³ Air		ND			53.4	10	
Vanadium	2.70	0.254	ng/m ³ Air		2.75			1.96	10	
Zinc	ND	369	ng/m ³ Air		ND				10	U

Dilution Check (B4L2405-SRL2) Source: 4122328-24 Prepared: 12/24/24 Analyzed: 12/26/24

Antimony	0.170	0.170	ng/m ³ Air		0.174				10	SL
Arsenic	0.231	0.0413	ng/m ³ Air		0.238			3.11	10	
Barium	6.66	4.72	ng/m ³ Air		6.71			0.756	10	QB-01
Beryllium	0.0173	0.0141	ng/m ³ Air		0.0171			1.14	10	
Cadmium	ND	0.327	ng/m ³ Air		ND				10	U
Chromium	ND	9.75	ng/m ³ Air		ND				10	QB-01, U
Cobalt	0.658	0.192	ng/m ³ Air		0.644			2.08	10	
Copper	53.9	11.6	ng/m ³ Air		52.0			3.49	10	
Lead	ND	0.944	ng/m ³ Air		ND				10	U
Manganese	17.8	8.34	ng/m ³ Air		17.7			0.834	10	
Molybdenum	4.27	1.58	ng/m ³ Air		4.21			1.35	10	QB-01
Nickel	ND	2.88	ng/m ³ Air		ND				10	QB-01, U
Selenium	0.237	0.0395	ng/m ³ Air		0.233			1.71	10	
Thallium	0.00298	0.00260	ng/m ³ Air		ND			82.8	10	
Vanadium	2.35	0.233	ng/m ³ Air		2.38			1.53	10	
Zinc	ND	339	ng/m ³ Air		ND				10	U



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SITE CODE: Lahaina fires

Notes and Definitions

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

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

Stage 1 Data Verification Checklist – Metals
HDOH CAB – Ambient Community Air Sampling – Lahaina
Task Order No. 23141

Reviewed by:

Kierra Johnson 01/03/2025 and Shanna Vasser 01/07/2025

Laboratory: Eastern Research Group – Morrisville, NC

Collection date(s): 12/12/2024 – 12/18/2024

Report No: 4122328

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

Discrepancies:

- 13. Field blank detections above the method detection limit were reported for antimony, arsenic, barium, cobalt, copper, nickel, and vanadium in MFL-FB01-121224-HM; for barium in MFL-FB01-121424-HM; for arsenic and barium in MFL-FB01-121624-HM; for arsenic, barium, and vanadium in MFL-FB01-121824-HM; and for barium in MFL-LB01-121824-HM.

Notes: None.