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

July 11 through July 17, 2024

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from July 11 through July 17, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

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

The CAMSP addresses ambient community air monitoring and sampling to assess conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly impact air quality in Lahaina. Data collected is made available to the State of Hawaii Department of Health, Clean Air Branch (HDOH) through an online shared site and the information presented in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Air quality monitoring for particulate matter was conducted at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} occurred 24 hours a day, 7 days a week from July 11 through 17 at each community location. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3).

The weekly reports do not include air quality monitoring for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). The Department of Health or U.S. Environmental Protection Agency (EPA) monitors for this at six locations in Lahaina; results are accessible at https://fire.airnow.gov/.

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

Air Monitoring Results

Real time PM_{10} concentrations were detected at each monitoring location throughout this reporting period. None of the results exceeded the 150 µg/m^3 screening level, as shown in **Table 1**.

Air Sampling Results

Collection of 28 samples to be analyzed for asbestos fibers occurred at each monitoring location throughout this reporting period. The sample collected at Lahaina Intermediate School on July 16 was voided due to pump fault error which prevented collecting a post-sampling calibration reading. All

analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and below the laboratory's analytical sensitivity. **Table 2** lists results. Notably, the laboratory commented "Numerous gypsum fibers present" regarding samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on July 11, 12, and 16
- WW Pump Station #4 on July 11 and July 13-16
- Lahaina Intermediate School on July 13-15
- Lahaina Boys & Girls Club on July 11 and July 14-16

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

All ambient air samples from all community sampling locations yielded low levels of metals, all below SSALs.

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour originating from a generally southeast direction. **Table 3** summarizes 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 proceeded by use of 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 calibration, except for a leak check and a flow audit, which were performed before monitoring according to the manufacturer's procedures.

Collection of samples to be analyzed for asbestos occurred by use of a Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump according to a primary calibration standard. Calibration and sampling accorded with 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.

Collection of samples to be analyzed for metals occurred by use of Tisch Environmental High Volume Air Samplers, or equivalent, in accordance with the following methods:

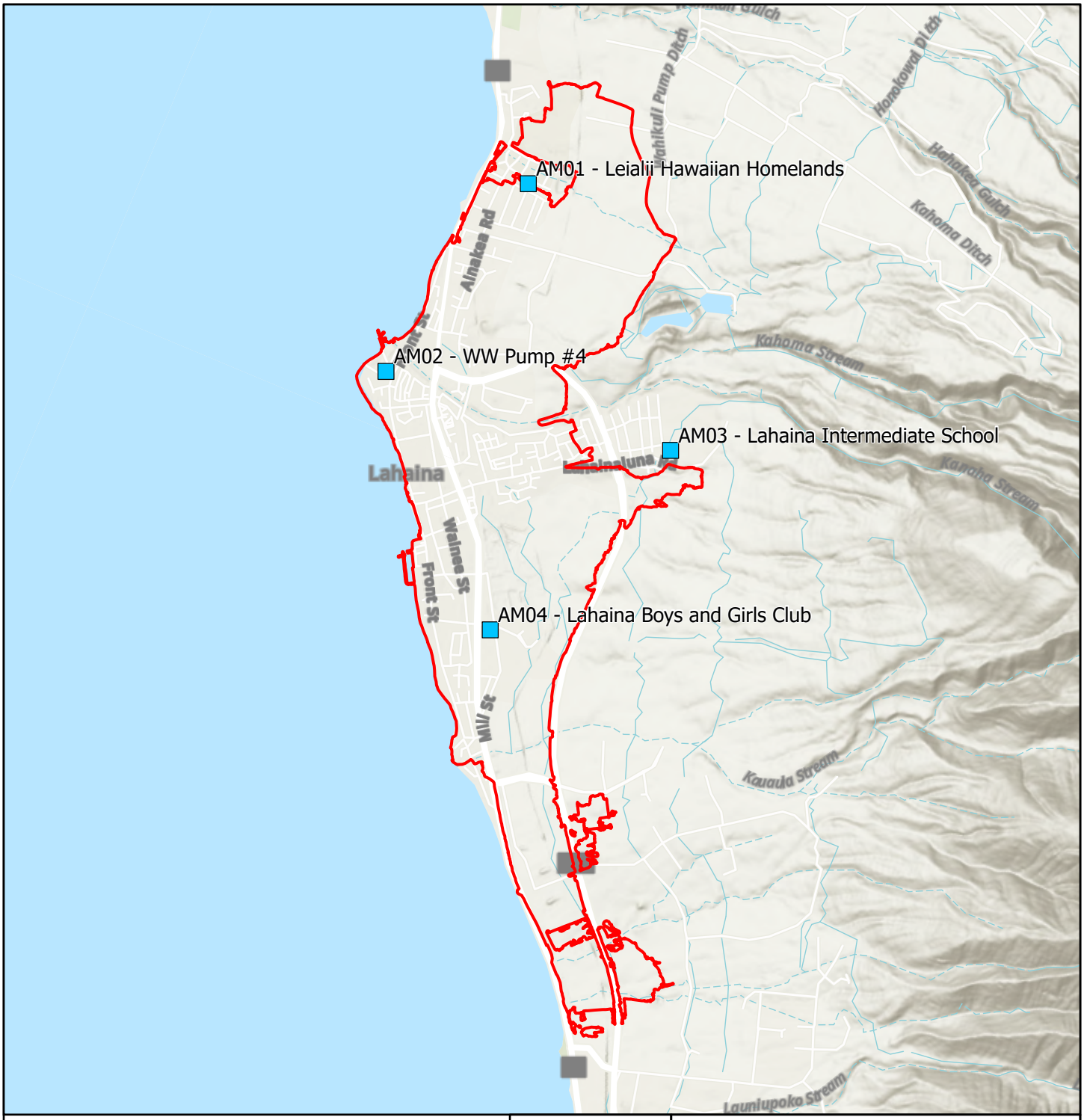
- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a

- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- 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 are maintained in an electronic database and compared to SSALs. Level 1 data verification of all analytical data occurs, and an industrial hygienist reviews results.

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
July 11 through July 17, 2024

Screening Level		TWA Results 150 ($\mu g/m^3$)
7/11/2024	Leialii Hawaiian Homelands (AM-01)	9.2
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	11
7/12/2024	Leialii Hawaiian Homelands (AM-01)	13*
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Boys & Girls Club (AM-04)	13**
7/13/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.1
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	10*
7/14/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	14
	Lahaina Intermediate School (AM-03)	16
	Lahaina Boys & Girls Club (AM-04)	13
7/15/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	8.4
7/16/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.6
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	9.9
7/17/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	9.7

Notes:
$\mu g/m^3$ = micrograms per cubic meter
TWA = 24 Hour Time-Weighted Average
TWA calculation results are shown in two significant figures
* Data provided as a 23-hour TWA due to an error
** Data provided as a 22-hour TWA due to an error

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
July 11 through July 17, 2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units*		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Site Screening Action Level		0.003 [1]	0.7	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
7/11/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000200	0.00920	0.0195	0.0000766	0.000102	0.0141	0.00311	0.0740	0.000910	0.0762	0.00307	0.00585	0.000443	0.00000376	0.00843	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000989	0.00118	0.0191	0.0000929	0.000835	0.0152	0.00388	0.0395	0.00318	0.0920	0.00140	0.0106	0.000457	0.00000435	0.0112	ND
	Lahaina Intermediate School (AM-03)	<0.0027	ND	0.000283	0.00468	0.0000655	ND	0.00522	0.00103	0.0584	0.000534	0.0221	0.00273	0.00258	0.000276	0.00000208	0.00252	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000832	0.000825	0.00731	0.0000407	ND	0.00648	0.00133	0.0233	0.00212	0.0398	0.00107	0.00359	0.000266	0.00000231	0.00291	ND
7/12/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000581	0.00116	0.00816	0.0000245	ND	0.00507	0.000998	0.178	0.000496	0.0253	0.00879	0.00250	0.000180	0.00000145	0.00291	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000657	0.000394	0.00398	0.0000113	ND	0.00263	0.000372	0.0353	0.00108	0.0121	0.00177	0.00122	0.000169	0.000000953	0.00119	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000323	0.000183	0.00268	0.0000221	ND	0.00275	0.000433	0.0601	0.000510	0.0105	0.00295	0.00117	0.000158	0.000000869	0.00109	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000762	0.000638	0.00416	0.0000136	ND	0.00300	0.000592	0.0305	0.000951	0.0191	0.00156	0.00132	0.000185	0.000000986	0.00125	ND
7/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000371	0.000514	0.00485	0.0000178	ND	0.00443	0.000827	0.193	0.000382	0.0202	0.00868	0.00230	0.000202	0.00000153	0.00243	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000726	0.000379	0.00417	0.0000145	ND	0.00272	0.000414	0.0417	0.00125	0.0136	0.00186	0.00124	0.000223	0.00000138	0.00137	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.000178	0.00311	0.0000322	ND	0.00311	0.000489	0.0525	0.000573	0.0123	0.00229	0.00132	0.000191	0.00000129	0.00125	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000693	0.000531	0.00397	0.0000136	ND	0.00298	0.000427	0.0253	0.000795	0.0188	0.00140	0.00121	0.000188	0.00000139	0.00119	ND
7/14/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000795	0.000426	0.00352	0.00000915	ND	0.00239	0.000331	0.231	0.000401	0.0104	0.0114	0.000930	0.000283	0.00000181	0.00110	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000109	0.000290	0.00418	0.0000113	ND	0.00230	0.000318	0.0691	0.000895	0.0105	0.00293	0.00108	0.000323	0.00000187	0.00107	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000454	0.000193	0.00303	0.0000277	ND	0.00261	0.000422	0.0535	0.000494	0.0114	0.00245	0.00115	0.000255	0.00000176	0.00115	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000783	0.000347	0.00361	0.0000141	ND	0.00262	0.000389	0.0283	0.000731	0.0154	0.00142	0.00116	0.000279	0.00000184	0.00114	ND
7/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000735	0.00111	0.00477	0.0000146	ND	0.00371	0.000629	0.256	0.000398	0.0167	0.00995	0.00161	0.000229	0.00000136	0.00184	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000129	0.000448	0.00583	0.0000215	ND	0.00345	0.000684	0.0546	0.00113	0.0201	0.00192	0.00202	0.000276	0.00000173	0.00215	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000468	0.000252	0.00394	0.0000483	ND	0.00323	0.000624	0.0644	0.000593	0.0152	0.00254	0.00169	0.000244	0.00000158	0.00134	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000845	0.000463	0.00454	0.0000174	ND	0.00341	0.000593	0.0353	0.000880	0.0237	0.00162	0.00155	0.000245	0.00000152	0.00158	ND
7/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000422	0.000969	0.00603	0.0000253	ND	0.00483	0.000944	0.208	0.000605	0.0265	0.00795	0.00241	0.000224	0.00000199	0.00266	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000163	0.000515	0.00682	0.0000224	ND	0.00326	0.000672	0.0632	0.00169	0.0218	0.00182	0.00180	0.000230	0.00000195	0.00200	ND
	Lahaina Intermediate School (AM-03)		0.0000463	0.000355	0.00496	0.0000855	ND	0.00513	0.00109	0.0373	0.000461	0.0253	0.00188	0.00271	0.000244	0.00000205	0.00229	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000778	0.000447	0.00411	0.0000169	ND	0.00295	0.000522	0.0267	0.000852	0.0183	0.00155	0.00140	0.000202	0.00000165	0.00137	ND
7/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000112	0.00289	0.0114	0.0000477	ND	0.00874	0.00190	0.161	0.000849	0.0492	0.00591	0.00422	0.000276	0.00000263	0.00540	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000144	0.000746	0.00711	0.0000259	ND	0.00413	0.000898	0.0604	0.00182	0.0257	0.00184	0.00241	0.000240	0.00000202	0.00251	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000528	0.000257	0.00422	0.0000571	ND	0.00394	0.000748	0.0439	0.000494	0.0172	0.00213	0.00181	0.000189	0.00000151	0.00161	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000956	0.000418	0.00448	0.0000165	ND	0.00324	0.000526	0.0269	0.000959	0.0197	0.00149	0.00148	0.000181	0.00000174	0.00135	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.00110	0.00702	0.0000410	NA	0.00531	0.00110	0.105	0.00112	0.0295	0.00439	0.00274	0.000270	0.00000210	0.00294	NA

Notes:

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

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

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

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

Asbestos sample voided due to pump error and no post-sampling calibration reading

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
July 11 through July 17, 2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
7/11/2024	AM-01	Leialii Hawaiian Homelands	1.8	SE	82	59	759.4
7/11/2024	AM-02	WW Pump Station #4	1.7	SE	82	63	761.2
7/11/2024	AM-03	Lahaina Intermediate School	1.7	SE	80	61	752.0
7/11/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	80	63	760.9
7/12/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	86	59	760.9
7/12/2024	AM-02	WW Pump Station #4	1.2	SSE	83	68	763.0
7/12/2024	AM-03	Lahaina Intermediate School	1.1	ESE	80	65	753.7
7/12/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	79	68	762.1
7/13/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	87	57	761.1
7/13/2024	AM-02	WW Pump Station #4	1.1	SSE	84	65	763.3
7/13/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	62	753.9
7/13/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	80	64	762.8
7/14/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	85	58	761.9
7/14/2024	AM-02	WW Pump Station #4	1.0	SSE	83	64	764.1
7/14/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	62	754.6
7/14/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	64	763.7
7/15/2024	AM-01	Leialii Hawaiian Homelands	0.9	ESE	86	57	761.2
7/15/2024	AM-02	WW Pump Station #4	1.0	SSE	83	64	763.4
7/15/2024	AM-03	Lahaina Intermediate School	1.2	ESE	80	61	753.9
7/15/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	64	762.9
7/16/2024	AM-01	Leialii Hawaiian Homelands	1.5	ESE	85	51	760.9
7/16/2024	AM-02	WW Pump Station #4	1.3	SE	83	58	763.0
7/16/2024	AM-03	Lahaina Intermediate School	1.4	ESE	80	55	753.6
7/16/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	59	762.6
7/17/2024	AM-01	Leialii Hawaiian Homelands	1.4	ESE	85	50	760.9
7/17/2024	AM-02	WW Pump Station #4	1.2	SSE	83	56	763.1
7/17/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	54	753.6
7/17/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	56	762.7

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

Appendix 1

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

**Please note sample data that does not fall within this reporting period have been removed or redacted

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:	042414833
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:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-071124-AB**		**Sample Description:**	**DK864908**
EMSL Sample Number:	042414833-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7152.6
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0001 **Customer Sample:** MFL-AM01-071124-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					
A7	I6	None Detected									
A7	E7	None Detected									
A7	B3	None Detected									
A8	D6	None Detected									
A8	H2	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:	042414833
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:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071124-AB**		**Sample Description:**	**DK864985**
EMSL Sample Number:	042414833-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7281.8
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:	G.Barry
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 Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

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: 042414833-0002 **Customer Sample:** MFL-AM02-071124-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	A3	None Detected									
B2	F8	None Detected									
B2	I6	None Detected									
B3	G7	None Detected									
B3	C9	None Detected									

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

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

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Project: **Maui Fires - Lahaina**

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071124-AB**		**Sample Description:**	**DK864874**
EMSL Sample Number:	042414833-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6911.2
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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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: 042414833-0003 **Customer Sample:** MFL-AM03-071124-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	I9	None Detected									
B5	F4	None Detected									
B5	A5	None Detected									
B6	D3	None Detected									
B6	G7	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071124-AB**		**Sample Description:**	**DK864876**
EMSL Sample Number:	042414833-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7071.9
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

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: 042414833-0004 **Customer Sample:** MFL-AM04-071124-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	I3	None Detected									
C1	E5	None Detected									
C1	B6	None Detected									
C2	C4	None Detected									
C2	H7	None Detected									

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

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Project ID:	N/A

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Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071124-AB** **Sample Description:** **DK864881**

EMSL Sample Number:	042414833-0005		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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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: 042414833-0005 **Customer Sample:** MFL-FB01-071124-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	J4	None Detected									
C5	H8	None Detected									
C5	D10	None Detected									
C5	A6	None Detected									
C6	B3	None Detected									
C6	D7	None Detected									
C6	I5	None Detected									
C7	E1	None Detected									
C7	E5	None Detected									
C7	I3	None Detected									

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

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

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Phone:	(703) 489-2674
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Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071224-AB** **Sample Description:** **DK797356**

EMSL Sample Number:	042414833-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.8
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042414833
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: 042414833-0006 **Customer Sample:** MFL-AM01-071224-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	J8	None Detected									
D1	G5	None Detected									
D1	A4	None Detected									
D2	C8	None Detected									
D2	F7	None Detected									

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

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EMSL Order:	042414833
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:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-071224-AB** **Sample Description: DK864916**

EMSL Sample Number:	042414833-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7169.3
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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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: 042414833-0007 **Customer Sample:** MFL-AM02-071224-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	I7	None Detected									
D5	E2	None Detected									
D5	B4	None Detected									
D6	H9	None Detected									
D6	D9	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-071224-AB** **Sample Description:** **DK864857**

EMSL Sample Number:	042414833-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7051.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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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: 042414833-0008 **Customer Sample:** MFL-AM03-071224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	I8	None Detected									
E2	E4	None Detected									
E2	B6	None Detected									
E3	H7	None Detected									
E3	D3	None Detected									

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

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

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-071224-AB** **Sample Description:** **DK864884**

EMSL Sample Number:	042414833-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7070.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0009 **Customer Sample:** MFL-AM04-071224-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	H9	None Detected									
E5	F4	None Detected									
E5	B6	None Detected									
E6	C4	None Detected									
E6	D9	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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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071224-AB** **Sample Description:** **DK864893**

EMSL Sample Number:	042414833-0010		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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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: 042414833-0010 **Customer Sample:** MFL-FB01-071224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	B3	None Detected									
F2	D7	None Detected									
F2	G5	None Detected									
F2	I8	None Detected									
F3	A6	None Detected									
F3	E9	None Detected									
F3	H4	None Detected									
F4	J8	None Detected									
F4	G10	None Detected									
F4	D7	None Detected									

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

EMSL Analytical, Inc.
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EMSL Order:	042414833
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:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071324-AB** **Sample Description:** **DK864862**

EMSL Sample Number:	042414833-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7120.8
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0011 **Customer Sample:** MFL-AM01-071324-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	H5	None Detected									
F5	E8	None Detected									
F5	B6	None Detected									
F6	G3	None Detected									
F6	D6	None Detected									

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

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EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071324-AB**		**Sample Description:**	**DK864896**
EMSL Sample Number:	042414833-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7127.9
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:	G.Barry
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 Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0012 **Customer Sample:** MFL-AM02-071324-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	J3	None Detected									
G1	F6	None Detected									
G1	B4	None Detected									
G2	H4	None Detected									
G2	C5	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:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071324-AB**		**Sample Description:**	**DK864914**
EMSL Sample Number:	042414833-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7021.5
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0013 **Customer Sample:** MFL-AM03-071324-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	I8	None Detected									
G5	E5	None Detected									
G5	B7	None Detected									
G6	H6	None Detected									
G6	D6	None Detected									

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

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EMSL Order:	042414833
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071324-AB**		**Sample Description:**	**DK864990**
EMSL Sample Number:	042414833-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7288.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0014 **Customer Sample:** MFL-AM04-071324-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	A7	None Detected									
H1	D5	None Detected									
H1	I3	None Detected									
H2	C8	None Detected									
H2	I8	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:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071324-AB** **Sample Description:** **DK864980**

EMSL Sample Number:	042414833-0015		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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0015 **Customer Sample:** MFL-FB01-071324-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	B9	None Detected									
H5	C6	None Detected									
H5	F4	None Detected									
H5	I7	None Detected									
H6	J7	None Detected									
H6	E3	None Detected									
H6	B6	None Detected									
H7	A2	None Detected									
H7	D5	None Detected									
H7	J4	None Detected									

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

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EMSL Order:	042414833
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:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-071424-AB**		**Sample Description:**	**DK864906**
EMSL Sample Number:	042414833-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7299.6
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0016 **Customer Sample:** MFL-AM01-071424-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	A5	None Detected									
I1	D8	None Detected									
I1	H3	None Detected									
I2	I6	None Detected									
I2	C4	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071424-AB**		**Sample Description:**	**DK864863**
EMSL Sample Number:	042414833-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7407.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042414833-0017 **Customer Sample:** MFL-AM02-071424-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	H4	None Detected									
I5	G7	None Detected									
I5	A3	None Detected									
I6	C8	None Detected									
I6	F6	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:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071424-AB**		**Sample Description:**	**DK864849**
EMSL Sample Number:	042414833-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.9
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:	G.Barry
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 Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042414833
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: 042414833-0018 **Customer Sample:** MFL-AM03-071424-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	J6	None Detected									
J1	F9	None Detected									
J1	B5	None Detected									
J2	H3	None Detected									
J2	D4	None Detected									

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

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Project ID:	N/A

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Fax:	N/A
Received Date:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071424-AB**		**Sample Description:**	**DK864872**
EMSL Sample Number:	042414833-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7022.2
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:	G.Barry
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 Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Approved Signatory

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042414833-0019 **Customer Sample:** MFL-AM04-071424-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	H4	None Detected									
J5	E7	None Detected									
J5	B4	None Detected									
J6	B8	None Detected									
J6	D4	None Detected									

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

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

EMSL Order:	042414833
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:	07/17/2024 09:40 AM
Analysis Date:	07/24/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071424-AB** **Sample Description:** **DK864871**

EMSL Sample Number:	042414833-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
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 / cinnasblab@EMSL.com

EMSL Order ID: 042414833
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: 042414833-0020 **Customer Sample:** MFL-FB01-071424-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	B6	None Detected									
K1	D3	None Detected									
K1	G6	None Detected									
K1	J7	None Detected									
K2	I3	None Detected									
K2	I8	None Detected									
K2	C5	None Detected									
K3	H5	None Detected									
K3	F9	None Detected									
K3	B7	None Detected									

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

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

EMSL Order:	042414833
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:	07/17/2024 09:40 AM
Analysis Date:	07/23/2024
Report Date:	07/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042414833-0021		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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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

EMSL Order ID: 042414833
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: 042414833-0021 **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	J2	None Detected									
A1	H5	None Detected									
A1	E8	None Detected									
A1	A6	None Detected									
A2	B4	None Detected									
A2	F7	None Detected									
A2	I4	None Detected									
A3	H8	None Detected									
A3	G5	None Detected									
A3	A3	None Detected									

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

OrderID: 042414833

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042414833

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

RECEIVED EMSL CINNAMINSON, N.J. 2024 JUL 17 A 11:38

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

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

Project Information

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

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-07124-AB (EMS)	DK864908	7,152.612	07/11/24 1100
MFL-AM02-07124-AB	DK864985	7,281.812	07/11/24 1121
MFL-AM03-07124-AB	DK864874	6,911.244	07/11/24 1302
MFL-AM04-07124-AB	DK864876	7,071.913	07/11/24 1320
MFL-FB01-07124-AB	DK864881 (EMS)	0	07/11/24 1200
MFL-AM01-071224-AB	DK797356	7,161.759	07/12/24 1105
MFL-AM02-071224-AB	DK864916	7,169.293	07/12/24 1123
MFL-AM03-071224-AB	DK864857	7,051.396	07/12/24 1258

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:		Date/Time: 07/15/24 1100	Received by: FX
Date/Time: 7/17/24 942			
Relinquished by:		Date/Time:	Received by:
Date/Time			

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

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

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

20 AM

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042414833

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

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-071224-AB	DK864884	7,070.389	07/12/24 1324
MFL-FB01-071224-AB	DK864893	0	07/12/24 1200
MFL-AM01-071324-AB	DK864862	7,120.771	07/13/24 1047
MFL-AM02-071324-AB	DK864896	7,127.917	07/13/24 1110
MFL-AM03-071324-AB	DK864914	7,021.453	07/13/24 1255
MFL-AM04-071324-AB	DK864990	7,287.984	07/13/24 1328
MFL-FB01-071324-AB	DK864980	0	07/13/24 1200
MFL-AM01-071424-AB	DK864906	7,299.648	07/14/24 1051
MFL-AM02-071424-AB	DK864863	7,407.008	07/14/24 1148
MFL-AM03-071424-AB	DK864849	7,230.924	07/14/24 1303
MFL-AM04-071424-AB	DK864872	7,022.160	07/14/24 1333
MFL-FB01-071424-AB	DK864871	0	07/14/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUL 17 AM 11:36

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/15/24 1100	Received by: FX	Date/Time: 7/17/24 9:44
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/26/2024 and Shanna Vasser 07/29/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/11/2024 – 07/14/2024
Report No: 42414833

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

Discrepancies: None.

Notes: None.

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

EMSL Order:	042415099
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:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071524-AB** **Sample Description: DK864954**

EMSL Sample Number:	042415099-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6781.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042415099
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: 042415099-0001 **Customer Sample:** MFL-AM01-071524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	J4	None Detected									
A5	F6	None Detected									
A5	B5	None Detected									
A6	H2	None Detected									
A6	D6	None Detected									

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

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

EMSL Order:	042415099
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:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-071524-AB**		**Sample Description:**	**DK864902**
EMSL Sample Number:	042415099-0002		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 (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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042415099
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: 042415099-0002 **Customer Sample:** MFL-AM02-071524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	B3	None Detected									
B1	E7	None Detected									
B1	J4	None Detected									
B2	A7	None Detected									
B2	H7	None Detected									

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

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EMSL Order:	042415099
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:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071524-AB**		**Sample Description:**	**DK864885**
EMSL Sample Number:	042415099-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7363.8
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042415099
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: 042415099-0003 **Customer Sample:** MFL-AM03-071524-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	I9	None Detected									
B5	G4	None Detected									
B5	B7	None Detected									
B6	J6	None Detected									
B6	D4	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:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071524-AB**		**Sample Description:**	**DK864889**
EMSL Sample Number:	042415099-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7150.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042415099-0004 **Customer Sample:** MFL-AM04-071524-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	A7	None Detected									
C1	E4	None Detected									
C1	I3	None Detected									
C2	G8	None Detected									
C2	D5	None Detected									

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

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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071524-AB** **Sample Description:** **DK864891**

EMSL Sample Number:	042415099-0005		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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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EMSL Order ID: 042415099
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: 042415099-0005 **Customer Sample:** MFL-FB01-071524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J7	None Detected									
C5	H4	None Detected									
C5	D5	None Detected									
C5	A8	None Detected									
C6	I6	None Detected									
C6	E5	None Detected									
C6	B6	None Detected									
C7	A3	None Detected									
C7	D7	None Detected									
C7	C4	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:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-071624-AB** **Sample Description: DK864888**

EMSL Sample Number:	042415099-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7213.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
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 Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415099
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: 042415099-0006 **Customer Sample:** MFL-AM01-071624-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	J4	None Detected									
D1	F7	None Detected									
D1	A4	None Detected									
D2	C9	None Detected									
D2	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:	042415099
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:	07/22/2024 09:00 AM
Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-071624-AB** **Sample Description: DK864968**

EMSL Sample Number:	042415099-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.6
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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042415099-0007 **Customer Sample:** MFL-AM02-071624-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	I6	None Detected									
D5	E3	None Detected									
D5	B7	None Detected									
D6	J9	None Detected									
D6	F4	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:	07/22/2024 09:00 AM
Analysis Date:	07/26/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-071624-AB** **Sample Description: DK864890**

EMSL Sample Number:	042415099-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7167.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
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 Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.00	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.00**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042415099-0008 **Customer Sample:** MFL-AM04-071624-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	A7	None Detected									
E1	E9	None Detected									
E1	H6	None Detected									
E2	C6	None Detected									
E2	G3	None Detected									

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

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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071624-AB** **Sample Description:** **DK864839**

EMSL Sample Number:	042415099-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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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: 042415099-0009 **Customer Sample:** MFL-FB01-071624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J9	None Detected									
E5	G6	None Detected									
E5	D2	None Detected									
E5	A4	None Detected									
E6	I3	None Detected									
E6	E5	None Detected									
E6	C9	None Detected									
E7	H8	None Detected									
E7	G4	None Detected									
E7	B5	None Detected									

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

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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	07/27/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-071724-AB**		**Sample Description:**	**DK864854**
EMSL Sample Number:	042415099-0010		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 (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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042415099-0010 **Customer Sample:** MFL-AM01-071724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	B4	None Detected									
F2	E7	None Detected									
F2	H8	None Detected									
F3	C6	None Detected									
F3	G3	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-071724-AB** **Sample Description: DK864861**

EMSL Sample Number:	042415099-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7179.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042415099
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: 042415099-0011 **Customer Sample:** MFL-AM02-071724-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	A3	None Detected									
F5	D7	None Detected									
F5	I4	None Detected									
F6	G6	None Detected									
F6	B4	None Detected									

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

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EMSL Order:	042415099
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:	07/22/2024 09:00 AM
Analysis Date:	07/29/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-071724-AB**		**Sample Description:**	**DK864869**
EMSL Sample Number:	042415099-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7110.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042415099
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: 042415099-0012 **Customer Sample:** MFL-AM03-071724-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	F9	None Detected									
G1	I7	None Detected									
G2	C7	None Detected									
G2	G6	None Detected									
G2	I2	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:	042415099
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	07/22/2024 09:00 AM
Analysis Date:	07/29/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-071724-AB**	**Sample Description:**	**DK864877**
EMSL Sample Number:	042415099-0013	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	5268.9
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:	6
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042415099
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: 042415099-0013 **Customer Sample:** MFL-AM04-071724-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	G4	None Detected									
G5	C7	None Detected									
G5	A5	None Detected									
G6	C4	None Detected									
G6	H7	None Detected									
G6	J2	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:	042415099
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:	07/22/2024 09:00 AM
Analysis Date:	07/29/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-071724-AB** **Sample Description:** **DK864842**

EMSL Sample Number:	042415099-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0130
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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EMSL Order ID: 042415099
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: 042415099-0014 **Customer Sample:** MFL-FB01-071724-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	A6	None Detected									
H1	C4	None Detected									
H1	E1	None Detected									
H1	G3	None Detected									
H1	I5	None Detected									
H2	J6	None Detected									
H2	H5	None Detected									
H2	F8	None Detected									
H2	D7	None Detected									
H2	B5	None Detected									

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

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EMSL Order:	042415099
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:	07/22/2024 09:00 AM
Analysis Date:	07/25/2024
Report Date:	07/29/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042415099-0015		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:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042415099
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: 042415099-0015 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A2	None Detected									
A1	D5	None Detected									
A1	F9	None Detected									
A1	H6	None Detected									
A2	I7	None Detected									
A2	G3	None Detected									
A2	C4	None Detected									
A3	H7	None Detected									
A3	E10	None Detected									
A3	A5	None Detected									

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

OrderID: 042415099

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042415099

RECEIVED EMSL CINNAMINSON, NJ 24 JUL 22 AM 9:19

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

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

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Snber
Street Address: 1560 Broadway Stc1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.snber@tetratech.com

Billing Information

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

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected:
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. Chelsea Snber
Sampled By Signature:
No. of Samples in Shipment: 14

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-071524-AB	DK864954	6,780.965	07/15/24 1058
* MFL-AM02-071524-AB	~~DK864885~~	~~7,363.789~~ EKS	07/15/24 1115
MFL-AM03-071524-AB	DK864885 EKS	7,363.789	07/15/24 1305
MFL-AM04-071524-AB	DK864889	7,150.385	07/15/24 1322
MFL-FB01-071524-AB	DK864891	0	07/15/24 1200
MFL-AM01-071624-AB	DK864888	7,213.022	07/16/24 1059
MFL-AM02-071624-AB	DK864968	7,195.634	07/16/24 1118
~~MFL-AM03-071624-AB~~	~~DK864870~~	~~2,888.2~~	~~07/16/24~~ EKS VOID

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

* Note: MFL-AM02-071524-AB s/w is DK864902 & the volume is 7,040.535 L

All samples received acceptable for analysis.

Method of Shipment: FedEx

Relinquished by:	Date/Time:	Received by:	Date/Time
	07/18/24 1100	FX	7/22/24 9:00am
Relinquished by:	Date/Time:	Received by:	Date/Time

Sample Condition Upon Receipt:

☐ 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.

14 VOIDS

OrderID: 042415099

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

RECEIVED EMSL CINNAMINSON, NJ 24 JUL 22 AM 9:19

#042415099

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

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-071624-AB	DK864890	7,167.744	07/16/24 1325
MFL-FB01-071624-AB	DK864839	0	07/16/24 1200
MFL-AM01-071724-AB	DK864854	7,231.519	07/17/24 1056
MFL-AM02-071724-AB	DK864861	7,179.029	07/17/24 1111
MFL-AM03-071724-AB	DK864869	7,110.040	07/17/24 1258
MFL-AM04-071724-AB	DK864877	5,268.887	07/17/24 1338
MFL-FB01-071724-AB	DK864842	0	07/17/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 07/18/24 1100	Received by: FEDEX	Date/Time: 7/22/24 9:00
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 07/29/2024 and Shanna Vasser 08/02/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 07/15/2024-07/17/2024
Report No: 42415099

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

Discrepancies:

4. MFL-AM03-071624-AB was listed on the CoC, but crossed off, voided, and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes:

2. The original report made no comment regarding sample condition upon laboratory receipt. A revised laboratory report was issued on 7/30/2024 stating that all samples were received in acceptable condition for analysis.

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

July 31, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 07/22/24 09:47.

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: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-071124-HM	4072229-01	Air	07/11/24 23:59	07/22/24 09:47
MFL-AM02-071124-HM	4072229-02	Air	07/11/24 23:59	07/22/24 09:47
MFL-AM03-071124-HM	4072229-03	Air	07/11/24 23:59	07/22/24 09:47
MFL-AM04-071124-HM	4072229-04	Air	07/11/24 23:59	07/22/24 09:47
MFL-AM01-071224-HM	4072229-05	Air	07/12/24 23:59	07/22/24 09:47
MFL-AM02-071224-HM	4072229-06	Air	07/12/24 23:59	07/22/24 09:47
MFL-AM03-071224-HM	4072229-07	Air	07/12/24 23:59	07/22/24 09:47
MFL-AM04-071224-HM	4072229-08	Air	07/12/24 23:59	07/22/24 09:47
MFL-FB01-071224-HM	4072229-09	Air	07/12/24 23:59	07/22/24 09:47
MFL-AM01-071324-HM	4072229-10	Air	07/13/24 23:59	07/22/24 09:47
MFL-AM02-071324-HM	4072229-11	Air	07/13/24 23:59	07/22/24 09:47
MFL-AM03-071324-HM	4072229-12	Air	07/13/24 23:59	07/22/24 09:47
MFL-AM04-071324-HM	4072229-13	Air	07/13/24 23:59	07/22/24 09:47
MFL-AM01-071424-HM	4072229-14	Air	07/14/24 23:59	07/22/24 09:47
MFL-AM02-071424-HM	4072229-15	Air	07/14/24 23:59	07/22/24 09:47
MFL-AM03-071424-HM	4072229-16	Air	07/14/24 23:59	07/22/24 09:47
MFL-AM04-071424-HM	4072229-17	Air	07/14/24 23:59	07/22/24 09:47
MFL-FB01-071424-HM	4072229-18	Air	07/14/24 23:59	07/22/24 09:47
MFL-AM01-071524-HM	4072229-19	Air	07/15/24 23:59	07/22/24 09:47
MFL-AM02-071524-HM	4072229-20	Air	07/15/24 23:59	07/22/24 09:47
MFL-AM03-071524-HM	4072229-21	Air	07/15/24 23:59	07/22/24 09:47

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:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-071524-HM	4072229-22	Air	07/15/24 23:59	07/22/24 09:47
MFL-AM01-071624-HM	4072229-23	Air	07/16/24 23:59	07/22/24 09:47
MFL-AM02-071624-HM	4072229-24	Air	07/16/24 23:59	07/22/24 09:47
MFL-AM03-071624-HM	4072229-25	Air	07/16/24 23:59	07/22/24 09:47
MFL-AM04-071624-HM	4072229-26	Air	07/16/24 23:59	07/22/24 09:47
MFL-FB01-071624-HM	4072229-27	Air	07/16/24 23:59	07/22/24 09:47
MFL-AM01-071724-HM	4072229-28	Air	07/17/24 23:59	07/22/24 09:47
MFL-AM02-071724-HM	4072229-29	Air	07/17/24 23:59	07/22/24 09:47
MFL-AM03-071724-HM	4072229-30	Air	07/17/24 23:59	07/22/24 09:47
MFL-AM04-071724-HM	4072229-31	Air	07/17/24 23:59	07/22/24 09:47

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071124-HM
Matrix: Air
Lab ID: 4072229-01
Sample Volume: 1872.213 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 00:41

Comments: Q95446645 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.200**	SL	**0.0335**
Arsenic	**7440-38-2**	**9.20**		**0.00814**
Barium	**7440-39-3**	**19.5**		**0.930**
Beryllium	**7440-41-7**	**0.0766**		**0.00278**
Cadmium	**7440-43-9**	**0.102**		**0.0644**
Chromium	**7440-47-3**	**14.1**		**1.92**
Cobalt	**7440-48-4**	**3.11**		**0.0379**
Copper	**7440-50-8**	**74.0**		**2.29**
Lead	**7439-92-1**	**0.910**		**0.186**
Manganese	**7439-96-5**	**76.2**		**1.64**
Molybdenum	**7439-98-7**	**3.07**		**0.312**
Nickel	**7440-02-0**	**5.85**		**0.567**
Selenium	**7782-49-2**	**0.443**		**0.00779**
Thallium	**7440-28-0**	**0.00376**		**5.12E-4**
Vanadium	**7440-62-2**	**8.43**		**0.0460**
Zinc	7440-66-6	26.2	U	66.7

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071124-HM
Matrix: Air
Lab ID: 4072229-02
Sample Volume: 2032.623 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 01:01

Comments: Q95446642 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0989**	SL	**0.0309**
Arsenic	**7440-38-2**	**1.18**		**0.00750**
Barium	**7440-39-3**	**19.1**		**0.856**
Beryllium	**7440-41-7**	**0.0929**		**0.00256**
Cadmium	**7440-43-9**	**0.835**		**0.0593**
Chromium	**7440-47-3**	**15.2**		**1.77**
Cobalt	**7440-48-4**	**3.88**		**0.0349**
Copper	**7440-50-8**	**39.5**		**2.11**
Lead	**7439-92-1**	**3.18**		**0.171**
Manganese	**7439-96-5**	**92.0**		**1.51**
Molybdenum	**7439-98-7**	**1.40**		**0.287**
Nickel	**7440-02-0**	**10.6**		**0.522**
Selenium	**7782-49-2**	**0.457**		**0.00717**
Thallium	**7440-28-0**	**0.00435**		**4.71E-4**
Zinc	7440-66-6	36.8	U	61.5

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071124-HM
Matrix: Air
Lab ID: 4072229-02RE1
Sample Volume: 2032.623 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 11:52

Comments: Q95446642 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Vanadium	**7440-62-2**	**11.2**	D	**0.0847**

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071124-HM
Matrix: Air
Lab ID: 4072229-03
Sample Volume: 2024.135 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 01:21

Comments: Q95446640 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0233	U, SL	0.0310
Arsenic	**7440-38-2**	**0.283**		**0.00753**
Barium	**7440-39-3**	**4.68**		**0.860**
Beryllium	**7440-41-7**	**0.0655**		**0.00257**
Cadmium	7440-43-9	0.0187	U	0.0596
Chromium	**7440-47-3**	**5.22**		**1.78**
Cobalt	**7440-48-4**	**1.03**		**0.0350**
Copper	**7440-50-8**	**58.4**		**2.11**
Lead	**7439-92-1**	**0.534**		**0.172**
Manganese	**7439-96-5**	**22.1**		**1.52**
Molybdenum	**7439-98-7**	**2.73**		**0.289**
Nickel	**7440-02-0**	**2.58**		**0.524**
Selenium	**7782-49-2**	**0.276**		**0.00720**
Thallium	**7440-28-0**	**0.00208**		**4.73E-4**
Vanadium	**7440-62-2**	**2.52**		**0.0425**
Zinc	7440-66-6	9.96	U	61.7

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071124-HM
Matrix: Air
Lab ID: 4072229-04
Sample Volume: 1905.941 m³
Filter ID:
Sampled: 07/11/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/23/24 17:59

Comments: Q95446623 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0832**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.825**		**0.00800**
Barium	**7440-39-3**	**7.31**		**0.913**
Beryllium	**7440-41-7**	**0.0407**		**0.00273**
Cadmium	7440-43-9	0.0433	U	0.0633
Chromium	**7440-47-3**	**6.48**		**1.89**
Cobalt	**7440-48-4**	**1.33**		**0.0372**
Copper	**7440-50-8**	**23.3**		**2.25**
Lead	**7439-92-1**	**2.12**		**0.183**
Manganese	**7439-96-5**	**39.8**	QM-4X	**1.61**
Molybdenum	**7439-98-7**	**1.07**		**0.306**
Nickel	**7440-02-0**	**3.59**		**0.557**
Selenium	**7782-49-2**	**0.266**		**0.00765**
Thallium	**7440-28-0**	**0.00231**		**5.03E-4**
Vanadium	**7440-62-2**	**2.91**		**0.0452**
Zinc	7440-66-6	24.4	U, PS-01	65.6

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:**

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071224-HM
Matrix: Air
Lab ID: 4072229-05
Sample Volume: 1995.619 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 01:40

Comments: Q95446637 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0581**	SL	**0.0315**
Arsenic	**7440-38-2**	**1.16**		**0.00764**
Barium	**7440-39-3**	**8.16**		**0.872**
Beryllium	**7440-41-7**	**0.0245**		**0.00261**
Cadmium	7440-43-9	0.0495	U	0.0604
Chromium	**7440-47-3**	**5.07**		**1.80**
Cobalt	**7440-48-4**	**0.998**		**0.0355**
Copper	**7440-50-8**	**178**		**2.14**
Lead	**7439-92-1**	**0.496**		**0.174**
Manganese	**7439-96-5**	**25.3**		**1.54**
Molybdenum	**7439-98-7**	**8.79**		**0.293**
Nickel	**7440-02-0**	**2.50**		**0.532**
Selenium	**7782-49-2**	**0.180**		**0.00730**
Thallium	**7440-28-0**	**0.00145**		**4.80E-4**
Vanadium	**7440-62-2**	**2.91**		**0.0431**
Zinc	7440-66-6	13.1	U	62.6

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071224-HM
Matrix: Air
Lab ID: 4072229-06
Sample Volume: 2077.967 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 01:57

Comments: Q95446636 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0657**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.394**		**0.00734**
Barium	**7440-39-3**	**3.98**		**0.838**
Beryllium	**7440-41-7**	**0.0113**		**0.00251**
Cadmium	7440-43-9	0.0476	U	0.0580
Chromium	**7440-47-3**	**2.63**		**1.73**
Cobalt	**7440-48-4**	**0.372**		**0.0341**
Copper	**7440-50-8**	**35.3**		**2.06**
Lead	**7439-92-1**	**1.08**		**0.168**
Manganese	**7439-96-5**	**12.1**		**1.48**
Molybdenum	**7439-98-7**	**1.77**		**0.281**
Nickel	**7440-02-0**	**1.22**		**0.511**
Selenium	**7782-49-2**	**0.169**		**0.00702**
Thallium	**7440-28-0**	**9.53E-4**		**4.61E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0414**
Zinc	7440-66-6	11.8	U	60.1

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071224-HM
Matrix: Air
Lab ID: 4072229-07
Sample Volume: 2060.292 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 02:12

Comments: Q95446635 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0323**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.183**		**0.00740**
Barium	**7440-39-3**	**2.68**		**0.845**
Beryllium	**7440-41-7**	**0.0221**		**0.00253**
Cadmium	7440-43-9	0.0237	U	0.0585
Chromium	**7440-47-3**	**2.75**		**1.75**
Cobalt	**7440-48-4**	**0.433**		**0.0344**
Copper	**7440-50-8**	**60.1**		**2.08**
Lead	**7439-92-1**	**0.510**		**0.169**
Manganese	**7439-96-5**	**10.5**		**1.49**
Molybdenum	**7439-98-7**	**2.95**		**0.284**
Nickel	**7440-02-0**	**1.17**		**0.515**
Selenium	**7782-49-2**	**0.158**		**0.00708**
Thallium	**7440-28-0**	**8.69E-4**		**4.65E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0418**
Zinc	7440-66-6	8.07	U	60.6

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071224-HM
Matrix: Air
Lab ID: 4072229-08
Sample Volume: 1825.863 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 02:26

Comments: Q95446634 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0762**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.638**		**0.00835**
Barium	**7440-39-3**	**4.16**		**0.953**
Beryllium	**7440-41-7**	**0.0136**		**0.00285**
Cadmium	7440-43-9	0.0480	U	0.0660
Chromium	**7440-47-3**	**3.00**		**1.97**
Cobalt	**7440-48-4**	**0.592**		**0.0389**
Copper	**7440-50-8**	**30.5**		**2.34**
Lead	**7439-92-1**	**0.951**		**0.191**
Manganese	**7439-96-5**	**19.1**		**1.68**
Molybdenum	**7439-98-7**	**1.56**		**0.320**
Nickel	**7440-02-0**	**1.32**		**0.581**
Selenium	**7782-49-2**	**0.185**		**0.00798**
Thallium	**7440-28-0**	**9.86E-4**		**5.25E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0471**
Zinc	7440-66-6	15.2	U	68.4

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-071224-HM
Matrix: Air
Lab ID: 4072229-09
Sample Volume: 1995.619 m³
Filter ID:
Sampled: 07/12/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 02:41

Comments: Q95446628 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00898	U, SL	0.0315
Arsenic	**7440-38-2**	**0.0121**	FB-01	**0.00764**
Barium	7440-39-3	0.629	U	0.872
Beryllium	7440-41-7	0.00139	U	0.00261
Cadmium	7440-43-9	0.00246	U	0.0604
Chromium	7440-47-3	1.48	U	1.80
Cobalt	**7440-48-4**	**0.0404**	FB-01	**0.0355**
Copper	**7440-50-8**	**3.96**	FB-01	**2.14**
Lead	7439-92-1	0.140	U	0.174
Manganese	7439-96-5	0.384	U	1.54
Molybdenum	**7439-98-7**	**0.454**	FB-01	**0.293**
Nickel	7440-02-0	0.335	U	0.532
Selenium	7782-49-2	0.00711	U	0.00730
Thallium	7440-28-0	7.42E-5	U	4.80E-4
Vanadium	**7440-62-2**	**0.0555**	FB-01	**0.0431**
Zinc	7440-66-6	6.62	U	62.6

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071324-HM
Matrix: Air
Lab ID: 4072229-10
Sample Volume: 1858.987 m³
Filter ID:
Sampled: 07/13/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 02:55

Comments: Q95446632 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0371**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.514**		**0.00820**
Barium	**7440-39-3**	**4.85**		**0.936**
Beryllium	**7440-41-7**	**0.0178**		**0.00280**
Cadmium	7440-43-9	0.0265	U	0.0649
Chromium	**7440-47-3**	**4.43**		**1.93**
Cobalt	**7440-48-4**	**0.827**		**0.0382**
Copper	**7440-50-8**	**193**		**2.30**
Lead	**7439-92-1**	**0.382**		**0.187**
Manganese	**7439-96-5**	**20.2**		**1.65**
Molybdenum	**7439-98-7**	**8.68**		**0.314**
Nickel	**7440-02-0**	**2.30**		**0.571**
Selenium	**7782-49-2**	**0.202**		**0.00784**
Thallium	**7440-28-0**	**0.00153**		**5.15E-4**
Vanadium	**7440-62-2**	**2.43**		**0.0463**
Zinc	7440-66-6	10.2	U	67.2

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071324-HM
Matrix: Air
Lab ID: 4072229-11
Sample Volume: 2002.979 m³
Filter ID:
Sampled: 07/13/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 03:11

Comments: Q95446631 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0726**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.379**		**0.00761**
Barium	**7440-39-3**	**4.17**		**0.869**
Beryllium	**7440-41-7**	**0.0145**		**0.00260**
Cadmium	7440-43-9	0.0376	U	0.0602
Chromium	**7440-47-3**	**2.72**		**1.80**
Cobalt	**7440-48-4**	**0.414**		**0.0354**
Copper	**7440-50-8**	**41.7**		**2.14**
Lead	**7439-92-1**	**1.25**		**0.174**
Manganese	**7439-96-5**	**13.6**		**1.54**
Molybdenum	**7439-98-7**	**1.86**		**0.292**
Nickel	**7440-02-0**	**1.24**		**0.530**
Selenium	**7782-49-2**	**0.223**		**0.00728**
Thallium	**7440-28-0**	**0.00138**		**4.78E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0430**
Zinc	7440-66-6	13.8	U	62.4

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071324-HM
Matrix: Air
Lab ID: 4072229-12
Sample Volume: 1928.043 m³
Filter ID:
Sampled: 07/13/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 04:20

Comments: Q95446629 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0322	SL, U	0.0326
Arsenic	**7440-38-2**	**0.178**		**0.00791**
Barium	**7440-39-3**	**3.11**		**0.903**
Beryllium	**7440-41-7**	**0.0322**		**0.00270**
Cadmium	7440-43-9	0.0207	U	0.0625
Chromium	**7440-47-3**	**3.11**		**1.86**
Cobalt	**7440-48-4**	**0.489**		**0.0368**
Copper	**7440-50-8**	**52.5**		**2.22**
Lead	**7439-92-1**	**0.573**		**0.181**
Manganese	**7439-96-5**	**12.3**		**1.59**
Molybdenum	**7439-98-7**	**2.29**		**0.303**
Nickel	**7440-02-0**	**1.32**		**0.550**
Selenium	**7782-49-2**	**0.191**		**0.00756**
Thallium	**7440-28-0**	**0.00129**		**4.97E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0446**
Zinc	7440-66-6	12.1	U	64.8

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071324-HM
Matrix: Air
Lab ID: 4072229-13
Sample Volume: 1843.389 m³
Filter ID:
Sampled: 07/13/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 04:37

Comments: Q95446626 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0693**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.531**		**0.00827**
Barium	**7440-39-3**	**3.97**		**0.944**
Beryllium	**7440-41-7**	**0.0136**		**0.00282**
Cadmium	7440-43-9	0.0270	U	0.0654
Chromium	**7440-47-3**	**2.98**		**1.95**
Cobalt	**7440-48-4**	**0.427**		**0.0385**
Copper	**7440-50-8**	**25.3**		**2.32**
Lead	**7439-92-1**	**0.795**		**0.189**
Manganese	**7439-96-5**	**18.8**		**1.67**
Molybdenum	**7439-98-7**	**1.40**		**0.317**
Nickel	**7440-02-0**	**1.21**		**0.575**
Selenium	**7782-49-2**	**0.188**		**0.00791**
Thallium	**7440-28-0**	**0.00139**		**5.20E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0467**
Zinc	7440-66-6	12.7	U	67.8

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071424-HM
Matrix: Air
Lab ID: 4072229-14
Sample Volume: 1822.081 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 04:52

Comments: Q9539730 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0795**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.426**		**0.00837**
Barium	**7440-39-3**	**3.52**		**0.955**
Beryllium	**7440-41-7**	**0.00915**		**0.00286**
Cadmium	7440-43-9	0.0368	U	0.0662
Chromium	**7440-47-3**	**2.39**		**1.97**
Cobalt	**7440-48-4**	**0.331**		**0.0389**
Copper	**7440-50-8**	**231**		**2.35**
Lead	**7439-92-1**	**0.401**		**0.191**
Manganese	**7439-96-5**	**10.4**		**1.69**
Molybdenum	**7439-98-7**	**11.4**		**0.321**
Nickel	**7440-02-0**	**0.930**		**0.582**
Selenium	**7782-49-2**	**0.283**		**0.00800**
Thallium	**7440-28-0**	**0.00181**		**5.26E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0472**
Zinc	7440-66-6	8.61	U	68.6

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071424-HM
Matrix: Air
Lab ID: 4072229-15
Sample Volume: 1959.771 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 05:25

Comments: Q9539725 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.290**		**0.00778**
Barium	**7440-39-3**	**4.18**		**0.888**
Beryllium	**7440-41-7**	**0.0113**		**0.00266**
Cadmium	7440-43-9	0.0357	U	0.0615
Chromium	**7440-47-3**	**2.30**		**1.83**
Cobalt	**7440-48-4**	**0.318**		**0.0362**
Copper	**7440-50-8**	**69.1**		**2.18**
Lead	**7439-92-1**	**0.895**		**0.178**
Manganese	**7439-96-5**	**10.5**		**1.57**
Molybdenum	**7439-98-7**	**2.93**		**0.298**
Nickel	**7440-02-0**	**1.08**		**0.541**
Selenium	**7782-49-2**	**0.323**		**0.00744**
Thallium	**7440-28-0**	**0.00187**		**4.89E-4**
Vanadium	**7440-62-2**	**1.07**		**0.0439**
Zinc	7440-66-6	11.0	U	63.8

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071424-HM
Matrix: Air
Lab ID: 4072229-16
Sample Volume: 1936.506 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 05:40

Comments: Q9539723 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0454**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.193**		**0.00787**
Barium	**7440-39-3**	**3.03**		**0.899**
Beryllium	**7440-41-7**	**0.0277**		**0.00269**
Cadmium	7440-43-9	0.0287	U	0.0623
Chromium	**7440-47-3**	**2.61**		**1.86**
Cobalt	**7440-48-4**	**0.422**		**0.0366**
Copper	**7440-50-8**	**53.5**		**2.21**
Lead	**7439-92-1**	**0.494**		**0.180**
Manganese	**7439-96-5**	**11.4**		**1.59**
Molybdenum	**7439-98-7**	**2.45**		**0.302**
Nickel	**7440-02-0**	**1.15**		**0.548**
Selenium	**7782-49-2**	**0.255**		**0.00753**
Thallium	**7440-28-0**	**0.00176**		**4.95E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0444**
Zinc	7440-66-6	8.67	U	64.5

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071424-HM
Matrix: Air
Lab ID: 4072229-17
Sample Volume: 1769.757 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 05:54

Comments: Q9539721 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0783**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.347**		**0.00861**
Barium	**7440-39-3**	**3.61**		**0.984**
Beryllium	**7440-41-7**	**0.0141**		**0.00294**
Cadmium	7440-43-9	0.0326	U	0.0681
Chromium	**7440-47-3**	**2.62**		**2.03**
Cobalt	**7440-48-4**	**0.389**		**0.0401**
Copper	**7440-50-8**	**28.3**		**2.42**
Lead	**7439-92-1**	**0.731**		**0.197**
Manganese	**7439-96-5**	**15.4**		**1.74**
Molybdenum	**7439-98-7**	**1.42**		**0.330**
Nickel	**7440-02-0**	**1.16**		**0.599**
Selenium	**7782-49-2**	**0.279**		**0.00824**
Thallium	**7440-28-0**	**0.00184**		**5.41E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0486**
Zinc	7440-66-6	11.7	U	70.6

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-071424-HM
Matrix: Air
Lab ID: 4072229-18
Sample Volume: 1822.081 m³
Filter ID:
Sampled: 07/14/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 06:09

Comments: Q9539711 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0150	SL, U	0.0345
Arsenic	**7440-38-2**	**0.00948**	FB-01	**0.00837**
Barium	7440-39-3	0.515	U	0.955
Beryllium	7440-41-7	0.00108	U	0.00286
Cadmium	7440-43-9	0.00211	U	0.0662
Chromium	7440-47-3	1.50	U	1.97
Cobalt	7440-48-4	0.0255	U	0.0389
Copper	7440-50-8	2.05	U	2.35
Lead	7439-92-1	0.0878	U	0.191
Manganese	7439-96-5	0.265	U	1.69
Molybdenum	7439-98-7	0.221	U	0.321
Nickel	7440-02-0	0.372	U	0.582
Selenium	7782-49-2	0.00210	U	0.00800
Thallium	7440-28-0	6.48E-5	U	5.26E-4
Vanadium	7440-62-2	0.0402	U	0.0472
Zinc	7440-66-6	9.84	U	68.6

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071524-HM
Matrix: Air
Lab ID: 4072229-19
Sample Volume: 1856.151 m³
Filter ID:
Sampled: 07/15/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 06:23

Comments: Q9539720 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0735**	SL	**0.0338**
Arsenic	**7440-38-2**	**1.11**		**0.00821**
Barium	**7440-39-3**	**4.77**		**0.938**
Beryllium	**7440-41-7**	**0.0146**		**0.00280**
Cadmium	7440-43-9	0.0185	U	0.0650
Chromium	**7440-47-3**	**3.71**		**1.94**
Cobalt	**7440-48-4**	**0.629**		**0.0382**
Copper	**7440-50-8**	**256**		**2.31**
Lead	**7439-92-1**	**0.398**		**0.188**
Manganese	**7439-96-5**	**16.7**		**1.66**
Molybdenum	**7439-98-7**	**9.95**		**0.315**
Nickel	**7440-02-0**	**1.61**		**0.572**
Selenium	**7782-49-2**	**0.229**		**0.00785**
Thallium	**7440-28-0**	**0.00136**		**5.16E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0464**
Zinc	7440-66-6	14.0	U	67.3

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071524-HM
Matrix: Air
Lab ID: 4072229-20
Sample Volume: 1945.54 m³
Filter ID:
Sampled: 07/15/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 06:39

Comments: Q9539717 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.448**		**0.00784**
Barium	**7440-39-3**	**5.83**		**0.895**
Beryllium	**7440-41-7**	**0.0215**		**0.00268**
Cadmium	7440-43-9	0.0259	U	0.0620
Chromium	**7440-47-3**	**3.45**		**1.85**
Cobalt	**7440-48-4**	**0.684**		**0.0365**
Copper	**7440-50-8**	**54.6**		**2.20**
Lead	**7439-92-1**	**1.13**		**0.179**
Manganese	**7439-96-5**	**20.1**		**1.58**
Molybdenum	**7439-98-7**	**1.92**		**0.300**
Nickel	**7440-02-0**	**2.02**		**0.545**
Selenium	**7782-49-2**	**0.276**		**0.00749**
Thallium	**7440-28-0**	**0.00173**		**4.93E-4**
Vanadium	**7440-62-2**	**2.15**		**0.0442**
Zinc	7440-66-6	17.3	U	64.2

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071524-HM
Matrix: Air
Lab ID: 4072229-21
Sample Volume: 1915.033 m³
Filter ID:
Sampled: 07/15/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 07:49

Comments: Q9539714 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0468**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.252**		**0.00796**
Barium	**7440-39-3**	**3.94**		**0.909**
Beryllium	**7440-41-7**	**0.0483**		**0.00272**
Cadmium	7440-43-9	0.0129	U	0.0630
Chromium	**7440-47-3**	**3.23**		**1.88**
Cobalt	**7440-48-4**	**0.624**		**0.0370**
Copper	**7440-50-8**	**64.4**		**2.23**
Lead	**7439-92-1**	**0.593**		**0.182**
Manganese	**7439-96-5**	**15.2**		**1.61**
Molybdenum	**7439-98-7**	**2.54**		**0.305**
Nickel	**7440-02-0**	**1.69**		**0.554**
Selenium	**7782-49-2**	**0.244**		**0.00761**
Thallium	**7440-28-0**	**0.00158**		**5.00E-4**
Vanadium	**7440-62-2**	**1.34**		**0.0449**
Zinc	7440-66-6	19.2	U	65.2

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071524-HM
Matrix: Air
Lab ID: 4072229-22
Sample Volume: 1741.985 m³
Filter ID:
Sampled: 07/15/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 08:05

Comments: Q9539712 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0845**	SL	**0.0361**
Arsenic	**7440-38-2**	**0.463**		**0.00875**
Barium	**7440-39-3**	**4.54**		**0.999**
Beryllium	**7440-41-7**	**0.0174**		**0.00299**
Cadmium	7440-43-9	0.0156	U	0.0692
Chromium	**7440-47-3**	**3.41**		**2.06**
Cobalt	**7440-48-4**	**0.593**		**0.0407**
Copper	**7440-50-8**	**35.3**		**2.46**
Lead	**7439-92-1**	**0.880**		**0.200**
Manganese	**7439-96-5**	**23.7**		**1.77**
Molybdenum	**7439-98-7**	**1.62**		**0.335**
Nickel	**7440-02-0**	**1.55**		**0.609**
Selenium	**7782-49-2**	**0.245**		**0.00837**
Thallium	**7440-28-0**	**0.00152**		**5.50E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0494**
Zinc	7440-66-6	15.6	U	71.7

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071624-HM
Matrix: Air
Lab ID: 4072229-23
Sample Volume: 1875.346 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 08:21

Comments: Q9546621 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0422**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.969**		**0.00813**
Barium	**7440-39-3**	**6.03**		**0.928**
Beryllium	**7440-41-7**	**0.0253**		**0.00278**
Cadmium	7440-43-9	0.0205	U	0.0643
Chromium	**7440-47-3**	**4.83**		**1.92**
Cobalt	**7440-48-4**	**0.944**		**0.0378**
Copper	**7440-50-8**	**208**		**2.28**
Lead	**7439-92-1**	**0.605**		**0.186**
Manganese	**7439-96-5**	**26.5**		**1.64**
Molybdenum	**7439-98-7**	**7.95**		**0.311**
Nickel	**7440-02-0**	**2.41**		**0.566**
Selenium	**7782-49-2**	**0.224**		**0.00777**
Thallium	**7440-28-0**	**0.00199**		**5.11E-4**
Vanadium	**7440-62-2**	**2.66**		**0.0459**
Zinc	7440-66-6	27.9	U	66.6

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CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071624-HM
Matrix: Air
Lab ID: 4072229-24
Sample Volume: 2036.857 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/23/24 21:54

Comments: Q9539709 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.163**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.515**		**0.00748**
Barium	**7440-39-3**	**6.82**		**0.855**
Beryllium	**7440-41-7**	**0.0224**		**0.00256**
Cadmium	7440-43-9	0.0189	U	0.0592
Chromium	**7440-47-3**	**3.26**		**1.77**
Cobalt	**7440-48-4**	**0.672**		**0.0348**
Copper	**7440-50-8**	**63.2**	QM-07	**2.10**
Lead	**7439-92-1**	**1.69**		**0.171**
Manganese	**7439-96-5**	**21.8**		**1.51**
Molybdenum	**7439-98-7**	**1.82**	QM-07	**0.287**
Nickel	**7440-02-0**	**1.80**		**0.521**
Selenium	**7782-49-2**	**0.230**	SRD-01	**0.00716**
Thallium	**7440-28-0**	**0.00195**		**4.70E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0423**
Zinc	7440-66-6	22.8	U	61.3

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071624-HM
Matrix: Air
Lab ID: 4072229-25
Sample Volume: 2020.749 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 08:35

Comments: Q9539706 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0463**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.355**		**0.00754**
Barium	**7440-39-3**	**4.96**		**0.862**
Beryllium	**7440-41-7**	**0.0855**		**0.00258**
Cadmium	7440-43-9	0.0180	U	0.0597
Chromium	**7440-47-3**	**5.13**		**1.78**
Cobalt	**7440-48-4**	**1.09**		**0.0351**
Copper	**7440-50-8**	**37.3**		**2.12**
Lead	**7439-92-1**	**0.461**		**0.172**
Manganese	**7439-96-5**	**25.3**		**1.52**
Molybdenum	**7439-98-7**	**1.88**		**0.289**
Nickel	**7440-02-0**	**2.71**		**0.525**
Selenium	**7782-49-2**	**0.244**		**0.00721**
Thallium	**7440-28-0**	**0.00205**		**4.74E-4**
Vanadium	**7440-62-2**	**2.29**		**0.0426**
Zinc	7440-66-6	28.1	U	61.8

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071624-HM
Matrix: Air
Lab ID: 4072229-26
Sample Volume: 1890.142 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 08:51

Comments: Q9539705 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0778**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.447**		**0.00807**
Barium	**7440-39-3**	**4.11**		**0.921**
Beryllium	**7440-41-7**	**0.0169**		**0.00275**
Cadmium	7440-43-9	0.0180	U	0.0638
Chromium	**7440-47-3**	**2.95**		**1.90**
Cobalt	**7440-48-4**	**0.522**		**0.0375**
Copper	**7440-50-8**	**26.7**		**2.26**
Lead	**7439-92-1**	**0.852**		**0.184**
Manganese	**7439-96-5**	**18.3**		**1.63**
Molybdenum	**7439-98-7**	**1.55**		**0.309**
Nickel	**7440-02-0**	**1.40**		**0.561**
Selenium	**7782-49-2**	**0.202**		**0.00771**
Thallium	**7440-28-0**	**0.00165**		**5.07E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0455**
Zinc	7440-66-6	21.5	U	66.1

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-071624-HM
Matrix: Air
Lab ID: 4072229-27
Sample Volume: 1875.346 m³
Filter ID:
Sampled: 07/16/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 09:06

Comments: Q9539703 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0114	SL, U	0.0335
Arsenic	**7440-38-2**	**0.0115**	FB-01	**0.00813**
Barium	7440-39-3	0.493	U	0.928
Beryllium	7440-41-7	9.26E-4	U	0.00278
Cadmium	7440-43-9	0.00113	U	0.0643
Chromium	7440-47-3	1.39	U	1.92
Cobalt	7440-48-4	0.0274	U	0.0378
Copper	7440-50-8	0.446	U	2.28
Lead	7439-92-1	0.0416	U	0.186
Manganese	7439-96-5	0.252	U	1.64
Molybdenum	7439-98-7	0.223	U	0.311
Nickel	7440-02-0	0.361	U	0.566
Selenium	7782-49-2	0.00481	U	0.00777
Thallium	7440-28-0	7.33E-5	U	5.11E-4
Vanadium	7440-62-2	0.0329	U	0.0459
Zinc	7440-66-6	5.67	U	66.6

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-071724-HM
Matrix: Air
Lab ID: 4072229-28
Sample Volume: 1882.142 m³
Filter ID:
Sampled: 07/17/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 09:20

Comments: Q9539704 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0334**
Arsenic	**7440-38-2**	**2.89**		**0.00810**
Barium	**7440-39-3**	**11.4**		**0.925**
Beryllium	**7440-41-7**	**0.0477**		**0.00277**
Cadmium	7440-43-9	0.0425	U	0.0641
Chromium	**7440-47-3**	**8.74**		**1.91**
Cobalt	**7440-48-4**	**1.90**		**0.0377**
Copper	**7440-50-8**	**161**		**2.27**
Lead	**7439-92-1**	**0.849**		**0.185**
Manganese	**7439-96-5**	**49.2**		**1.63**
Molybdenum	**7439-98-7**	**5.91**		**0.310**
Nickel	**7440-02-0**	**4.22**		**0.564**
Selenium	**7782-49-2**	**0.276**		**0.00775**
Thallium	**7440-28-0**	**0.00263**		**5.09E-4**
Vanadium	**7440-62-2**	**5.40**		**0.0457**
Zinc	7440-66-6	30.5	U	66.4

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-071724-HM
Matrix: Air
Lab ID: 4072229-29
Sample Volume: 1968.946 m³
Filter ID:
Sampled: 07/17/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 09:38

Comments: Q9539700 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.144**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.746**		**0.00774**
Barium	**7440-39-3**	**7.11**		**0.884**
Beryllium	**7440-41-7**	**0.0259**		**0.00264**
Cadmium	7440-43-9	0.0228	U	0.0612
Chromium	**7440-47-3**	**4.13**		**1.83**
Cobalt	**7440-48-4**	**0.898**		**0.0360**
Copper	**7440-50-8**	**60.4**		**2.17**
Lead	**7439-92-1**	**1.82**		**0.177**
Manganese	**7439-96-5**	**25.7**		**1.56**
Molybdenum	**7439-98-7**	**1.84**		**0.297**
Nickel	**7440-02-0**	**2.41**		**0.539**
Selenium	**7782-49-2**	**0.240**		**0.00740**
Thallium	**7440-28-0**	**0.00202**		**4.87E-4**
Vanadium	**7440-62-2**	**2.51**		**0.0437**
Zinc	7440-66-6	25.7	U	63.5

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-071724-HM
Matrix: Air
Lab ID: 4072229-30
Sample Volume: 1907.027 m³
Filter ID:
Sampled: 07/17/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 09:54

Comments: Q9539699 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0528**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.257**		**0.00799**
Barium	**7440-39-3**	**4.22**		**0.913**
Beryllium	**7440-41-7**	**0.0571**		**0.00273**
Cadmium	7440-43-9	0.0118	U	0.0632
Chromium	**7440-47-3**	**3.94**		**1.89**
Cobalt	**7440-48-4**	**0.748**		**0.0372**
Copper	**7440-50-8**	**43.9**		**2.24**
Lead	**7439-92-1**	**0.494**		**0.183**
Manganese	**7439-96-5**	**17.2**		**1.61**
Molybdenum	**7439-98-7**	**2.13**		**0.306**
Nickel	**7440-02-0**	**1.81**		**0.556**
Selenium	**7782-49-2**	**0.189**		**0.00764**
Thallium	**7440-28-0**	**0.00151**		**5.03E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0451**
Zinc	7440-66-6	19.3	U	65.5

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-071724-HM
Matrix: Air
Lab ID: 4072229-31
Sample Volume: 1713.635 m³
Filter ID:
Sampled: 07/17/24 23:59
Received: 07/22/24 09:47
Analysis Date: 07/24/24 11:19

Comments: Q9539698 - Recieved in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0956**	SL	**0.0366**
Arsenic	**7440-38-2**	**0.418**		**0.00890**
Barium	**7440-39-3**	**4.48**		**1.02**
Beryllium	**7440-41-7**	**0.0165**		**0.00304**
Cadmium	7440-43-9	0.0215	U	0.0704
Chromium	**7440-47-3**	**3.24**		**2.10**
Cobalt	**7440-48-4**	**0.526**		**0.0414**
Copper	**7440-50-8**	**26.9**		**2.50**
Lead	**7439-92-1**	**0.959**		**0.203**
Manganese	**7439-96-5**	**19.7**		**1.79**
Molybdenum	**7439-98-7**	**1.49**		**0.341**
Nickel	**7440-02-0**	**1.48**		**0.619**
Selenium	**7782-49-2**	**0.181**		**0.00851**
Thallium	**7440-28-0**	**0.00174**		**5.59E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0502**
Zinc	7440-66-6	24.8	U	72.9

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB1)				Prepared & Analyzed: 07/23/24						
Antimony	0.473		ng/l							
Arsenic	0.282		ng/l							
Barium	1.75		ng/l							
Beryllium	-0.0656		ng/l							U
Cadmium	0.181		ng/l							
Chromium	3.73		ng/l							
Cobalt	0.146		ng/l							
Copper	69.6		ng/l							
Lead	1.64		ng/l							
Manganese	5.82		ng/l							
Molybdenum	28.0		ng/l							
Nickel	4.24		ng/l							
Selenium	3.00		ng/l							
Thallium	0.854		ng/l							
Vanadium	44.3		ng/l							
Zinc	-36.1		ng/l							U
Calibration Blank (2407087-CCB2)				Prepared & Analyzed: 07/23/24						
Antimony	0.257		ng/l							
Arsenic	6.56		ng/l							
Barium	1.57		ng/l							
Beryllium	-0.171		ng/l							U
Cadmium	0.0526		ng/l							
Chromium	2.62		ng/l							
Cobalt	0.238		ng/l							
Copper	81.2		ng/l							
Lead	1.48		ng/l							
Manganese	4.16		ng/l							
Molybdenum	6.71		ng/l							
Nickel	3.19		ng/l							
Selenium	4.61		ng/l							
Thallium	0.599		ng/l							
Vanadium	16.2		ng/l							
Zinc	-70.7		ng/l							U
Calibration Blank (2407087-CCB3)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.273		ng/l							
Arsenic	3.21		ng/l							
Barium	1.27		ng/l							
Beryllium	-0.280		ng/l							U

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REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB3) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Cadmium	0.179		ng/l							
Chromium	4.25		ng/l							
Cobalt	0.197		ng/l							
Copper	88.4		ng/l							
Lead	1.61		ng/l							
Manganese	4.77		ng/l							
Molybdenum	8.73		ng/l							
Nickel	3.70		ng/l							
Selenium	5.65		ng/l							
Thallium	0.859		ng/l							
Vanadium	-3.12		ng/l							U
Zinc	-12.6		ng/l							U
Calibration Blank (2407087-CCB4)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.419		ng/l							
Arsenic	9.73		ng/l							
Barium	1.15		ng/l							
Beryllium	-0.276		ng/l							U
Cadmium	0.100		ng/l							
Chromium	6.94		ng/l							
Cobalt	0.219		ng/l							
Copper	60.8		ng/l							
Lead	1.68		ng/l							
Manganese	4.48		ng/l							
Molybdenum	6.26		ng/l							
Nickel	5.60		ng/l							
Selenium	10.0		ng/l							
Thallium	0.738		ng/l							
Vanadium	-11.6		ng/l							U
Zinc	-76.1		ng/l							U
Calibration Blank (2407087-CCB5)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.118		ng/l							
Arsenic	8.33		ng/l							
Barium	2.98		ng/l							
Beryllium	-0.773		ng/l							U
Cadmium	0.165		ng/l							
Chromium	6.27		ng/l							
Cobalt	0.293		ng/l							
Copper	55.9		ng/l							

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB5) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Lead	1.98		ng/l							
Manganese	6.59		ng/l							
Molybdenum	9.05		ng/l							
Nickel	4.74		ng/l							
Selenium	12.7		ng/l							
Thallium	0.888		ng/l							
Vanadium	-11.3		ng/l							U
Zinc	-68.0		ng/l							U
Calibration Blank (2407087-CCB6)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.283		ng/l							
Arsenic	9.08		ng/l							
Barium	2.24		ng/l							
Beryllium	-1.00		ng/l							U
Cadmium	0.124		ng/l							
Chromium	7.91		ng/l							
Cobalt	0.330		ng/l							
Copper	45.7		ng/l							
Lead	1.66		ng/l							
Manganese	3.62		ng/l							
Molybdenum	7.66		ng/l							
Nickel	3.99		ng/l							
Selenium	-3.37		ng/l							U
Thallium	0.766		ng/l							
Vanadium	-12.6		ng/l							U
Zinc	-72.8		ng/l							U
Calibration Blank (2407087-CCB7)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.149		ng/l							
Arsenic	7.54		ng/l							
Barium	1.82		ng/l							
Beryllium	-0.811		ng/l							U
Cadmium	0.204		ng/l							
Chromium	7.94		ng/l							
Cobalt	0.400		ng/l							
Copper	44.2		ng/l							
Lead	1.81		ng/l							
Manganese	4.39		ng/l							
Molybdenum	6.83		ng/l							
Nickel	3.30		ng/l							

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Blank (2407087-CCB7) Contin				Prepared: 07/23/24 Analyzed: 07/24/24						
Selenium	7.52		ng/l							
Thallium	1.02		ng/l							
Vanadium	-14.8		ng/l							U
Zinc	-72.5		ng/l							U
Calibration Check (2407087-CCV1)				Prepared & Analyzed: 07/23/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	237000		ng/l	240000		98.8	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19500		ng/l	20000		97.7	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV2)				Prepared & Analyzed: 07/23/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19500		ng/l	20000		97.7	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	5210		ng/l	5000.0		104	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	233000		ng/l	240000		97.1	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.9	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	496000		ng/l	500000		99.1	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	19500		ng/l	20000		97.6	90-110			
Thallium	478		ng/l	500.00		95.5	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	506000		ng/l	500000		101	90-110			

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV3)				Prepared & Analyzed: 07/23/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	236000		ng/l	240000		98.2	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19800		ng/l	20000		99.1	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV4)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5380		ng/l	5000.0		108	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19600		ng/l	20000		98.2	90-110			
Thallium	486		ng/l	500.00		97.1	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2407087-CCV5)				Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			

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

FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV5) Contin					Prepared: 07/23/24 Analyzed: 07/24/24					
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	51700		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	19600		ng/l	20000		97.9	90-110			
Thallium	484		ng/l	500.00		96.9	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2407087-CCV6)					Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5200		ng/l	5000.0		104	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	519000		ng/l	500000		104	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19400		ng/l	20000		96.9	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2407087-CCV7)					Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	5300		ng/l	5000.0		106	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Calibration Check (2407087-CCV7) Contin					Prepared: 07/23/24 Analyzed: 07/24/24					
Lead	204000		ng/l	200000		102	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	53900		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	483		ng/l	500.00		96.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			
High Cal Check (2407087-HCV1)					Prepared & Analyzed: 07/23/24					
Antimony	40200		ng/l	40000		101	95-105			
Arsenic	39700		ng/l	40000		99.2	95-105			
Barium	400000		ng/l	400000		100	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39900		ng/l	40000		99.7	95-105			
Chromium	475000		ng/l	480000		99.0	95-105			
Cobalt	99000		ng/l	100000		99.0	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	995000		ng/l	1.0000E6		99.5	95-105			
Molybdenum	99100		ng/l	100000		99.1	95-105			
Nickel	236000		ng/l	240000		98.4	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			
Thallium	981		ng/l	1000.0		98.1	95-105			
Vanadium	39800		ng/l	40000		99.6	95-105			
Zinc	988000		ng/l	1.0000E6		98.8	95-105			
Initial Cal Blank (2407087-ICB1)					Prepared & Analyzed: 07/23/24					
Antimony	0.799		ng/l							
Arsenic	-2.82		ng/l							U
Barium	2.00		ng/l							
Beryllium	-0.123		ng/l							U
Cadmium	0.157		ng/l							
Chromium	3.06		ng/l							
Cobalt	0.207		ng/l							
Copper	75.5		ng/l							
Lead	1.52		ng/l							
Manganese	11.1		ng/l							
Molybdenum	11.2		ng/l							
Nickel	-0.842		ng/l							U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Initial Cal Blank (2407087-ICB1) Continu				Prepared & Analyzed: 07/23/24						
Selenium	20.4		ng/l							
Thallium	0.720		ng/l							
Vanadium	62.8		ng/l							
Zinc	-47.0		ng/l							U
Initial Cal Check (2407087-ICV1)				Prepared & Analyzed: 07/23/24						
Antimony	19600		ng/l	20000		97.9	90-110			
Arsenic	19300		ng/l	20000		96.6	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	47800		ng/l	50000		95.7	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	496000		ng/l	500000		99.3	90-110			
Molybdenum	48700		ng/l	50000		97.5	90-110			
Nickel	118000		ng/l	120000		98.4	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	491		ng/l	500.00		98.1	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Interference Check A (2407087-IFA1)				Prepared & Analyzed: 07/23/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	320000		ng/l	300000		107	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2407087 - B4G2306										
Interference Check B (2407087-IFB1)				Prepared & Analyzed: 07/23/24						
Antimony	20600		ng/l	20000		103	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4900		ng/l	5000.0		97.9	80-120			
Cadmium	20000		ng/l	20000		99.9	80-120			
Chromium	231000		ng/l	240000		96.1	80-120			
Cobalt	49600		ng/l	50000		99.2	80-120			
Copper	1.92E6		ng/l	2.0000E6		95.8	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	508000		ng/l	500000		102	80-120			
Molybdenum	375000		ng/l	350000		107	80-120			
Nickel	116000		ng/l	120000		96.6	80-120			
Selenium	19100		ng/l	20000		95.4	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	19300		ng/l	20000		96.7	80-120			
Zinc	472000		ng/l	500000		94.5	80-120			
Batch B4G2306 - ICP-MS Extraction										
Blank (B4G2306-BLK1)				Prepared & Analyzed: 07/23/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4G2306-BS1)				Prepared & Analyzed: 07/23/24						
Antimony	0.764	0.0386	ng/m³ Air	1.3829		55.3	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.4	80-120			
Barium	28.4	1.07	ng/m³ Air	27.658		103	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
LCS (B4G2306-BS1) Continued				Prepared & Analyzed: 07/23/24						
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		94.5	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	29.4	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.6	80-120			
Manganese	8.47	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.52	0.359	ng/m³ Air	1.3829		110	80-120			
Nickel	3.22	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.67	0.00896	ng/m³ Air	2.7658		96.7	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.8	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.8	80-120			
Zinc	89.8	76.8	ng/m³ Air	82.975		108	80-120			
LCS (B4G2306-BS2)				Prepared & Analyzed: 07/23/24						
Antimony	0.745	0.0386	ng/m³ Air	1.3829		53.9	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.6	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.9	80-120			
Copper	29.1	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.4	80-120			
Manganese	8.49	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.52	0.359	ng/m³ Air	1.3829		110	80-120			
Nickel	3.23	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.63	0.00896	ng/m³ Air	2.7658		94.9	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.2	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.7	80-120			
Zinc	89.8	76.8	ng/m³ Air	82.975		108	80-120			
Duplicate (B4G2306-DUP1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	0.0802	0.0330	ng/m³ Air		0.0832			3.64	10	SL
Arsenic	0.840	0.00800	ng/m³ Air		0.825			1.77	10	
Barium	7.30	0.913	ng/m³ Air		7.31			0.177	10	
Beryllium	0.0424	0.00273	ng/m³ Air		0.0407			3.87	10	
Cadmium	ND	0.0633	ng/m³ Air		ND				10	U
Chromium	6.64	1.89	ng/m³ Air		6.48			2.44	10	
Cobalt	1.33	0.0372	ng/m³ Air		1.33			0.0159	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Duplicate (B4G2306-DUP1) Continued			**Source: 4072229-04**		Prepared & Analyzed: 07/23/24					
Copper	25.0	2.25	ng/m³ Air		23.3			6.86	10	
Lead	2.02	0.183	ng/m³ Air		2.12			4.73	10	
Manganese	40.2	1.61	ng/m³ Air		39.8			0.808	10	
Molybdenum	1.04	0.306	ng/m³ Air		1.07			3.02	10	
Nickel	3.74	0.557	ng/m³ Air		3.59			4.13	10	
Selenium	0.275	0.00765	ng/m³ Air		0.266			3.56	10	
Thallium	0.00229	5.03E-4	ng/m³ Air		0.00231			0.923	10	
Vanadium	2.96	0.0452	ng/m³ Air		2.91			1.77	10	
Zinc	ND	65.6	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP2)			**Source: 4072229-24**		Prepared & Analyzed: 07/23/24					
Antimony	0.159	0.0308	ng/m³ Air		0.163			1.97	10	SL
Arsenic	0.516	0.00748	ng/m³ Air		0.515			0.196	10	
Barium	6.71	0.855	ng/m³ Air		6.82			1.70	10	
Beryllium	0.0225	0.00256	ng/m³ Air		0.0224			0.236	10	
Cadmium	ND	0.0592	ng/m³ Air		ND				10	U
Chromium	3.31	1.77	ng/m³ Air		3.26			1.37	10	
Cobalt	0.682	0.0348	ng/m³ Air		0.672			1.53	10	
Copper	63.3	2.10	ng/m³ Air		63.2			0.239	10	
Lead	1.79	0.171	ng/m³ Air		1.69			5.48	10	
Manganese	21.8	1.51	ng/m³ Air		21.8			0.439	10	
Molybdenum	1.85	0.287	ng/m³ Air		1.82			1.75	10	
Nickel	1.82	0.521	ng/m³ Air		1.80			1.00	10	
Selenium	0.231	0.00716	ng/m³ Air		0.230			0.178	10	
Thallium	0.00193	4.70E-4	ng/m³ Air		0.00195			0.972	10	
Vanadium	2.00	0.0423	ng/m³ Air		2.00			0.270	10	
Zinc	ND	61.3	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP3)			**Source: 4072229-14**		Prepared: 07/23/24 Analyzed: 07/24/24					
Antimony	0.0772	0.0345	ng/m³ Air		0.0795			2.88	10	SL
Arsenic	0.424	0.00837	ng/m³ Air		0.426			0.686	10	
Barium	3.50	0.955	ng/m³ Air		3.52			0.569	10	
Beryllium	0.0100	0.00286	ng/m³ Air		0.00915			9.34	10	
Cadmium	ND	0.0662	ng/m³ Air		ND				10	U
Chromium	2.37	1.97	ng/m³ Air		2.39			0.902	10	
Cobalt	0.327	0.0389	ng/m³ Air		0.331			1.20	10	
Copper	229	2.35	ng/m³ Air		231			0.697	10	
Lead	0.401	0.191	ng/m³ Air		0.401			0.0690	10	
Manganese	10.2	1.69	ng/m³ Air		10.4			1.15	10	
Molybdenum	11.3	0.321	ng/m³ Air		11.4			0.764	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Duplicate (B4G2306-DUP3) Continued		**Source: 4072229-14**		Prepared: 07/23/24 Analyzed: 07/24/24						
Nickel	0.927	0.582	ng/m³ Air		0.930			0.405	10	
Selenium	0.269	0.00800	ng/m³ Air		0.283			5.22	10	
Thallium	0.00185	5.26E-4	ng/m³ Air		0.00181			1.87	10	
Vanadium	1.10	0.0472	ng/m³ Air		1.10			0.272	10	
Zinc	ND	68.6	ng/m³ Air		ND				10	U
Duplicate (B4G2306-DUP4)		**Source: 4072229-30**		Prepared: 07/23/24 Analyzed: 07/24/24						
Antimony	0.0530	0.0329	ng/m³ Air		0.0528			0.321	10	SL
Arsenic	0.257	0.00799	ng/m³ Air		0.257			0.239	10	
Barium	4.20	0.913	ng/m³ Air		4.22			0.338	10	
Beryllium	0.0572	0.00273	ng/m³ Air		0.0571			0.138	10	
Cadmium	ND	0.0632	ng/m³ Air		ND				10	U
Chromium	3.94	1.89	ng/m³ Air		3.94			0.0813	10	
Cobalt	0.749	0.0372	ng/m³ Air		0.748			0.123	10	
Copper	43.9	2.24	ng/m³ Air		43.9			0.0541	10	
Lead	0.493	0.183	ng/m³ Air		0.494			0.152	10	
Manganese	17.1	1.61	ng/m³ Air		17.2			0.752	10	
Molybdenum	2.15	0.306	ng/m³ Air		2.13			1.01	10	
Nickel	1.80	0.556	ng/m³ Air		1.81			0.171	10	
Selenium	0.197	0.00764	ng/m³ Air		0.189			4.23	10	
Thallium	0.00149	5.03E-4	ng/m³ Air		0.00151			1.79	10	
Vanadium	1.61	0.0451	ng/m³ Air		1.61			0.0949	10	
Zinc	ND	65.5	ng/m³ Air		ND				10	U
Matrix Spike (B4G2306-MS1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	0.526	0.0330	ng/m³ Air	1.1805	0.0832	37.5	80-120			SL
Arsenic	2.92	0.00800	ng/m³ Air	2.3610	0.825	88.9	80-120			
Barium	30.2	0.913	ng/m³ Air	23.610	7.31	97.1	80-120			
Beryllium	1.19	0.00273	ng/m³ Air	1.1805	0.0407	97.5	80-120			
Cadmium	1.19	0.0633	ng/m³ Air	1.1805	ND	101	80-120			
Chromium	17.2	1.89	ng/m³ Air	11.805	6.48	90.7	80-120			
Cobalt	2.50	0.0372	ng/m³ Air	1.1805	1.33	98.9	80-120			
Copper	45.8	2.25	ng/m³ Air	23.610	23.3	95.2	80-120			
Lead	13.4	0.183	ng/m³ Air	11.805	2.12	96.0	80-120			
Manganese	45.3	1.61	ng/m³ Air	7.0831	39.8	76.8	80-120			QM-4X
Molybdenum	2.06	0.306	ng/m³ Air	1.1805	1.07	84.2	80-120			
Nickel	5.58	0.557	ng/m³ Air	2.3610	3.59	84.6	80-120			
Selenium	2.42	0.00765	ng/m³ Air	2.3610	0.266	91.4	80-120			
Thallium	0.118	5.03E-4	ng/m³ Air	0.11805	0.00231	97.6	80-120			
Vanadium	4.86	0.0452	ng/m³ Air	2.3610	2.91	82.5	80-120			

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FILE #: 4205.00.003.001
REPORTED: 07/31/24 13:55
SUBMITTED: 07/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Matrix Spike (B4G2306-MS1) Continued Source: 4072229-04 Prepared & Analyzed: 07/23/24										
Zinc	91.4	65.6	ng/m³ Air	70.831	ND	129	80-120			
Matrix Spike (B4G2306-MS2) Source: 4072229-24 Prepared & Analyzed: 07/23/24										
Antimony	0.705	0.0308	ng/m³ Air	1.1046	0.163	49.1	80-120			SL
Arsenic	2.59	0.00748	ng/m³ Air	2.2093	0.515	93.8	80-120			
Barium	28.6	0.855	ng/m³ Air	22.093	6.82	98.6	80-120			
Beryllium	1.13	0.00256	ng/m³ Air	1.1046	0.0224	100	80-120			
Cadmium	1.12	0.0592	ng/m³ Air	1.1046	ND	101	80-120			
Chromium	14.2	1.77	ng/m³ Air	11.046	3.26	98.6	80-120			
Cobalt	1.76	0.0348	ng/m³ Air	1.1046	0.672	98.6	80-120			
Copper	86.4	2.10	ng/m³ Air	22.093	63.2	105	80-120			
Lead	12.8	0.171	ng/m³ Air	11.046	1.69	101	80-120			
Manganese	28.0	1.51	ng/m³ Air	6.6279	21.8	94.1	80-120			
Molybdenum	2.98	0.287	ng/m³ Air	1.1046	1.82	105	80-120			
Nickel	4.09	0.521	ng/m³ Air	2.2093	1.80	104	80-120			
Selenium	2.31	0.00716	ng/m³ Air	2.2093	0.230	94.0	80-120			
Thallium	0.107	4.70E-4	ng/m³ Air	0.11046	0.00195	94.9	80-120			
Vanadium	4.12	0.0423	ng/m³ Air	2.2093	2.00	95.7	80-120			
Zinc	86.9	61.3	ng/m³ Air	66.279	ND	131	80-120			
Matrix Spike Dup (B4G2306-MSD1) Source: 4072229-04 Prepared & Analyzed: 07/23/24										
Antimony	0.530	0.0330	ng/m³ Air	1.1805	0.0832	37.9	80-120	0.791	20	SL
Arsenic	2.99	0.00800	ng/m³ Air	2.3610	0.825	91.7	80-120	2.22	20	
Barium	30.9	0.913	ng/m³ Air	23.610	7.31	99.7	80-120	2.00	20	
Beryllium	1.17	0.00273	ng/m³ Air	1.1805	0.0407	95.4	80-120	2.14	20	
Cadmium	1.20	0.0633	ng/m³ Air	1.1805	ND	101	80-120	0.519	20	
Chromium	18.2	1.89	ng/m³ Air	11.805	6.48	99.3	80-120	5.77	20	
Cobalt	2.50	0.0372	ng/m³ Air	1.1805	1.33	99.0	80-120	0.0497	20	
Copper	46.7	2.25	ng/m³ Air	23.610	23.3	99.0	80-120	1.94	20	
Lead	13.7	0.183	ng/m³ Air	11.805	2.12	98.1	80-120	1.86	20	
Manganese	47.1	1.61	ng/m³ Air	7.0831	39.8	103	80-120	3.96	20	
Molybdenum	2.10	0.306	ng/m³ Air	1.1805	1.07	87.3	80-120	1.78	20	
Nickel	6.04	0.557	ng/m³ Air	2.3610	3.59	104	80-120	7.85	20	
Selenium	2.45	0.00765	ng/m³ Air	2.3610	0.266	92.7	80-120	1.23	20	
Thallium	0.117	5.03E-4	ng/m³ Air	0.11805	0.00231	97.4	80-120	0.232	20	
Vanadium	5.13	0.0452	ng/m³ Air	2.3610	2.91	94.1	80-120	5.48	20	
Zinc	93.2	65.6	ng/m³ Air	70.831	ND	132	80-120	1.87	20	
Matrix Spike Dup (B4G2306-MSD2) Source: 4072229-24 Prepared & Analyzed: 07/23/24										
Antimony	0.718	0.0308	ng/m³ Air	1.1046	0.163	50.3	80-120	1.87	20	SL
Arsenic	2.65	0.00748	ng/m³ Air	2.2093	0.515	96.7	80-120	2.49	20	

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REPORTED: 07/31/24 13:55
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Matrix Spike Dup (B4G2306-MSD2) Conti				**Source: 4072229-24**		Prepared & Analyzed: 07/23/24				
Barium	31.5	0.855	ng/m³ Air	22.093	6.82	112	80-120	9.56	20	
Beryllium	1.12	0.00256	ng/m³ Air	1.1046	0.0224	99.3	80-120	0.906	20	
Cadmium	1.14	0.0592	ng/m³ Air	1.1046	ND	103	80-120	2.07	20	
Chromium	14.9	1.77	ng/m³ Air	11.046	3.26	106	80-120	5.40	20	
Cobalt	1.79	0.0348	ng/m³ Air	1.1046	0.672	101	80-120	1.75	20	
Copper	91.2	2.10	ng/m³ Air	22.093	63.2	127	80-120	5.36	20	QM-07
Lead	12.9	0.171	ng/m³ Air	11.046	1.69	101	80-120	0.510	20	
Manganese	28.4	1.51	ng/m³ Air	6.6279	21.8	101	80-120	1.52	20	
Molybdenum	3.31	0.287	ng/m³ Air	1.1046	1.82	135	80-120	10.4	20	QM-07
Nickel	4.12	0.521	ng/m³ Air	2.2093	1.80	105	80-120	0.820	20	
Selenium	2.34	0.00716	ng/m³ Air	2.2093	0.230	95.4	80-120	1.38	20	
Thallium	0.109	4.70E-4	ng/m³ Air	0.11046	0.00195	96.5	80-120	1.57	20	
Vanadium	4.18	0.0423	ng/m³ Air	2.2093	2.00	98.6	80-120	1.54	20	
Zinc	88.3	61.3	ng/m³ Air	66.279	ND	133	80-120	1.54	20	
Post Spike (B4G2306-PS1)				**Source: 4072229-04**		Prepared & Analyzed: 07/23/24				
Antimony	0.317	0.0330	ng/m³ Air	0.23610	0.0832	99.0	75-125			SL
Arsenic	1.93	0.00800	ng/m³ Air	1.1805	0.825	93.4	75-125			
Barium	9.52	0.913	ng/m³ Air	2.3610	7.31	93.6	75-125			
Beryllium	0.273	0.00273	ng/m³ Air	0.23610	0.0407	98.3	75-125			
Cadmium	0.158	0.0633	ng/m³ Air	0.11805	ND	134	75-125			
Chromium	7.62	1.89	ng/m³ Air	1.1805	6.48	96.3	75-125			
Cobalt	1.56	0.0372	ng/m³ Air	0.23610	1.33	96.6	75-125			
Copper	35.2	2.25	ng/m³ Air	11.805	23.3	101	75-125			
Lead	25.5	0.183	ng/m³ Air	23.610	2.12	99.2	75-125			
Manganese	42.5	1.61	ng/m³ Air	2.3610	39.8	113	75-125			
Molybdenum	2.13	0.306	ng/m³ Air	1.1805	1.07	89.6	75-125			
Nickel	5.92	0.557	ng/m³ Air	2.3610	3.59	98.9	75-125			
Selenium	1.35	0.00765	ng/m³ Air	1.1805	0.266	91.5	75-125			
Thallium	0.0598	5.03E-4	ng/m³ Air	5.9026E-2	0.00231	97.4	75-125			
Vanadium	4.05	0.0452	ng/m³ Air	1.1805	2.91	96.9	75-125			
Zinc	ND	65.6	ng/m³ Air	23.610	ND		75-125			PS-01, U
Post Spike (B4G2306-PS2)				**Source: 4072229-24**		Prepared & Analyzed: 07/23/24				
Antimony	0.387	0.0308	ng/m³ Air	0.22093	0.163	101	75-125			SL
Arsenic	1.57	0.00748	ng/m³ Air	1.1046	0.515	95.3	75-125			
Barium	8.97	0.855	ng/m³ Air	2.2093	6.82	97.3	75-125			
Beryllium	0.252	0.00256	ng/m³ Air	0.22093	0.0224	104	75-125			
Cadmium	0.128	0.0592	ng/m³ Air	0.11046	ND	116	75-125			
Chromium	4.29	1.77	ng/m³ Air	1.1046	3.26	92.8	75-125			

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FILE #: 4205.00.003.001
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AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Post Spike (B4G2306-PS2) Continued		**Source: 4072229-24**		Prepared & Analyzed: 07/23/24						
Cobalt	0.888	0.0348	ng/m³ Air	0.22093	0.672	97.6	75-125			
Copper	74.3	2.10	ng/m³ Air	11.046	63.2	100	75-125			
Lead	24.1	0.171	ng/m³ Air	22.093	1.69	101	75-125			
Manganese	24.0	1.51	ng/m³ Air	2.2093	21.8	100	75-125			
Molybdenum	2.89	0.287	ng/m³ Air	1.1046	1.82	96.7	75-125			
Nickel	3.97	0.521	ng/m³ Air	2.2093	1.80	98.1	75-125			
Selenium	1.25	0.00716	ng/m³ Air	1.1046	0.230	92.6	75-125			
Thallium	0.0564	4.70E-4	ng/m³ Air	5.5232E-2	0.00195	98.5	75-125			
Vanadium	3.03	0.0423	ng/m³ Air	1.1046	2.00	93.0	75-125			
Zinc	ND	61.3	ng/m³ Air	22.093	ND		75-125			U
Dilution Check (B4G2306-SRL1)		**Source: 4072229-04**		Prepared & Analyzed: 07/23/24						
Antimony	ND	0.165	ng/m³ Air		ND				10	SL, U
Arsenic	0.886	0.0400	ng/m³ Air		0.825			7.12	10	
Barium	7.48	4.57	ng/m³ Air		7.31			2.25	10	
Beryllium	0.0441	0.0137	ng/m³ Air		0.0407			7.90	10	
Cadmium	ND	0.316	ng/m³ Air		ND				10	U
Chromium	ND	9.43	ng/m³ Air		ND				10	U
Cobalt	1.40	0.186	ng/m³ Air		1.33			5.13	10	
Copper	24.7	11.2	ng/m³ Air		23.3			5.86	10	
Lead	2.15	0.913	ng/m³ Air		2.12			1.48	10	
Manganese	41.9	8.07	ng/m³ Air		39.8			5.05	10	
Molybdenum	ND	1.53	ng/m³ Air		ND				10	U
Nickel	3.80	2.78	ng/m³ Air		3.59			5.76	10	
Selenium	0.288	0.0382	ng/m³ Air		0.266			8.10	10	
Thallium	0.00366	0.00251	ng/m³ Air		ND			45.1	10	
Vanadium	3.07	0.226	ng/m³ Air		2.91			5.40	10	
Zinc	ND	328	ng/m³ Air		ND				10	U
Dilution Check (B4G2306-SRL2)		**Source: 4072229-24**		Prepared & Analyzed: 07/23/24						
Antimony	0.160	0.154	ng/m³ Air		0.163			1.57	10	SL
Arsenic	0.530	0.0374	ng/m³ Air		0.515			2.85	10	
Barium	6.77	4.27	ng/m³ Air		6.82			0.716	10	
Beryllium	0.0238	0.0128	ng/m³ Air		0.0224			5.86	10	
Cadmium	ND	0.296	ng/m³ Air		ND				10	U
Chromium	ND	8.83	ng/m³ Air		ND				10	U
Cobalt	0.686	0.174	ng/m³ Air		0.672			2.09	10	
Copper	66.1	10.5	ng/m³ Air		63.2			4.48	10	
Lead	1.68	0.855	ng/m³ Air		1.69			0.570	10	
Manganese	22.3	7.55	ng/m³ Air		21.8			2.28	10	

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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4G2306 - ICP-MS Extraction										
Dilution Check (B4G2306-SRL2) ContinueSource: 4072229-24 Prepared & Analyzed: 07/23/24										
Molybdenum	1.85	1.43	ng/m³ Air		1.82			1.32	10	
Nickel	ND	2.60	ng/m³ Air		ND				10	U
Selenium	0.270	0.0358	ng/m³ Air		0.230			15.7	10	SRD-01
Thallium	0.00393	0.00235	ng/m³ Air		ND			67.4	10	
Vanadium	2.07	0.211	ng/m³ Air		2.00			3.00	10	
Zinc	ND	307	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
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.

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/01/2024 and Shanna Vasser 08/01/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 06/27/2024 and 07/11/2024 – 07/17/2027
Report No: 4072229

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic, cobalt, copper, molybdenum, and vanadium in in MFL-FB01-071224-HM, for arsenic in MFL-FB01-071424-HM, and for arsenic in MFL-FB01-071624-HM.

Notes:

4. MFL-AM04-062724-HM was previously marked as void and not shipped due to low volume. It was later determined that there was sufficient volume for the lab to analyze and included with this shipment for analysis.
7. MFL-AM02-071124-HM was analyzed at a two-fold dilution for vanadium.