ATTACHMENT 2

Weekly Reports

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

January 13 through January 17, 2024
[Report Updated: December 4, 2024]

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

Field operations, including site reconnaissance and set up of the air monitoring and sampling equipment began on January 13 at Leialii Hawaiian Homelands, WW Pump Station #4, and Lahaina Intermediate School. Due to site accessibility, the equipment and sampling set up began a day later at the Lahaina Boys & Girls Club on January 14. The first 24-hour sampling period for asbestos and heavy metals began on January 14, with the first samples being collected for shipment on the 15. One exception is the metal sample at the Lahaina Boys & Girls Club, which was delayed due to equipment issues, as shown in **Table 2**. Particulate monitoring and air sampling occurred at the community locations listed below and shown on **Figure 1.**

Community Location	Location ID	Dates
Leialii Hawaiian Homelands	AM-01	1/13/2024-1/17/2024
WW Pump Station #4	AM-02	1/13/2024-1/17/2024
Lahaina Intermediate School	AM-03	1/13/2024-1/17/2024
Lahaina Boys & Girls Club	AM-04	1/14/2024-1/17/2024

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

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each

station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

A total of 12 samples for asbestos fibers were collected during this reporting period. Of the 12 samples collected, one was voided. The sample voided from WW Pump Station #4 on 1/15 was due to greater than 10% discrepancy between the pre and post calibration values, as stated in the asbestos sampling SOP. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.5 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

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

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

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

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

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

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

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

Attachments

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
January 13 through January 17, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
1/13/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	15
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Boys & Girls Club (AM-04)	
1/14/2024	Leialii Hawaiian Homelands (AM-01)	8.5
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	9.3
	Lahaina Boys & Girls Club (AM-04)	8.5
1/15/2024	Leialii Hawaiian Homelands (AM-01)	6.3
	WW Pump Station #4 (AM-02)	8.4
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	6.3
1/16/2024	Leialii Hawaiian Homelands (AM-01)	5.6
	WW Pump Station #4 (AM-02)	9.3
	Lahaina Intermediate School (AM-03)	97
	Lahaina Boys & Girls Club (AM-04)	6.00
1/17/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	99
	Lahaina Boys & Girls Club (AM-04)	8.1

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation is presented in two significant figures
Location for station AM-04 was not accesssible on 1/13 at start of sampling. Station was set up on 1/14
Monitoring commenced 1/13 when authorization was given by the HDOH
Results are based on 24 hour TWA calculation
TWA results for 1/13 AM-01 based on a 7 hr TWA
TWA results for 1/13 AM-02 based on a 9 hr TWA
TWA results for 1/13 AM-03 based on a 13 hr TWA
TWA results for 1/14 AM-04 based on a 5 hr TWA
Data unavailable, prior to start of air monitoring or final set up of equipment
Results from Lahaina Boys & Girls Club on 1/17 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
January 13 through January 17, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		f/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
1/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.00043	0.000047	0.000118	0.00156	ND	ND	ND	0.0000624	0.0397	0.000321	ND	0.00157	0.000755	0.000238	0.000000919	0.000686	ND
	WW Pump Station #4 (AM-02)	NA	0.0000867	0.000335	0.00312	0.00000426	ND	0.00228	0.000133	0.0234	0.000535	0.00328	0.00106	0.00106	0.000266	0.000000892	0.000929	ND
	Lahaina Intermediate School (AM-03)	<0.00062	0.000134	0.0000719	0.00161	ND	ND	ND	0.0000868	0.0366	0.000525	0.0019	0.00138	0.00139	0.00022	0.000000967	0.000839	ND
	Lahaina Boys & Girls Club (AM-04)	<0.00048																
1/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.00049	0.000225	0.00207	0.00639	0.00000283	ND	ND	0.00018	0.0232	0.00154	0.00414	0.000646	0.000683	0.000145	0.000000785	0.000361	ND
	WW Pump Station #4 (AM-02)	<0.00063	0.000104	0.000428	0.00114	ND	ND	ND	0.0000443	0.0175	0.000566	0.00148	0.000484	ND	0.000125	0.000000518	0.000143	ND
	Lahaina Intermediate School (AM-03)	<0.00117	0.00011	0.0000544	0.00146	0.00000447	ND	ND	0.000122	0.0105	ND	0.0023	0.000514	0.00109	0.000129	0.000000671	0.00022	ND
	Lahaina Boys & Girls Club (AM-04)	<0.00043	0.0000778	0.000122	0.00103	ND	ND	ND	0.0000464	0.0256	0.000419	ND	0.000722	ND	0.000115	ND	0.00012	ND
1/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.00066	0.0000832	0.000478	0.00207	ND	ND	ND	0.0000807	0.0198	0.000526	0.00222	0.000722	ND	0.000124	ND	0.000181	ND
	WW Pump Station #4 (AM-02)	<0.00145	0.000156	0.00117	0.00144	ND	ND	ND	0.0000882	0.027	0.000845	0.00237	0.00058	0.00074	0.000127	0.000000626	0.000173	ND
	Lahaina Intermediate School (AM-03)	<0.00136	0.000091	0.0000597	0.00169	0.00000355	ND	ND	0.0000751	0.0124	ND	ND	0.000694	0.00066	0.00013	ND	0.000146	ND
	Lahaina Boys & Girls Club (AM-04)	<0.00244	0.0000429	0.000126	0.000924	ND	ND	ND	0.0000859	0.0298	0.000424	ND	0.000763	ND	0.000109	ND	0.0000814	ND
95% Upper Confidence Limit[3]		NA	0.00015	0.00177	0.00294	0.000005	NA	NA	0.00012	0.0319	0.0009	0.00289	0.00106	0.00116	0.00019	0.0000009	0.00073	NA

Notes:

[1] Fiber count sample result via Phase Contrast Microscopy

[2] Confirmed asbestos sample result via Transmission Electron Microscopy

[3] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

Asbestos sampling was voided at theWW Pump Station #4 (AM-02) on 1/15 due to greater than 10% discrepancy between the pre and post calibration values

Data unavailable, prior to start of air monitoring or final set up of equipment

f/cc = fibers per cubic centimeter

Laboratory data provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

mg/m3 = milligrams per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

No heavy metal sample at WW Pump Station #4 (AM-04) was collected on 1/15 due to equipment malfunction.

The 24-hour sampling period commenced on 1/14 after mobilzation and set up 1/13-1/14

This report has been updated with new SSALs in accordance with the CAMSP Rev 2, May 2024

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 13 through January 17, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/13/2024	AM-01	Leialii Hawaiian Homelands	9.1	NE	68	61	756.8
1/13/2024	AM-02	WW Pump Station #4	1.7	NE	72	59	758.8
1/13/2024	AM-03	Lahaina Intermediate School	2.5	ESE	76	55	749.0
1/13/2024	AM-04	Lahaina Boys & Girls Club	9.1	NE	68	61	756.8
1/14/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSW	74	63	757.1
1/14/2024	AM-02	WW Pump Station #4	1.0	SE	72	67	759.3
1/14/2024	AM-03	Lahaina Intermediate School	1.1	SE	76	63	749.6
1/14/2024	AM-04	Lahaina Boys & Girls Club	0.8	S	70	74	759.4
1/15/2024	AM-01	Leialii Hawaiian Homelands	1.6	SE	73	71	755.6
1/15/2024	AM-02	WW Pump Station #4	1.3	SE	74	75	758.0
1/15/2024	AM-03	Lahaina Intermediate School	2.0	ESE	78	69	748.4
1/15/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSE	73	73	757.6
1/16/2024	AM-01	Leialii Hawaiian Homelands	2.3	SSE	75	90	754.2
1/16/2024	AM-02	WW Pump Station #4	4.8	SSE	76	93	756.6
1/16/2024	AM-03	Lahaina Intermediate School	11.4	SSE	79	93	747.1
1/16/2024	AM-04	Lahaina Boys & Girls Club	1.5	SSE	75	92	756.3
1/17/2024	AM-01	Leialii Hawaiian Homelands	1.4	SSE	75	82	756.1
1/17/2024	AM-02	WW Pump Station #4	1.2	SSE	76	85	758.6
1/17/2024	AM-03	Lahaina Intermediate School	1.5	SSE	79	89	749.0
1/17/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSE	75	85	758.1

Notes:
Meteorological data at Station (AM-04) and (AM-01) on 1/13/2024 were pulled from Weather Underground due gaps in data exports during equipment set up
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Time	Temperature	Dew Point	Humidity	Wind	Wind Speed	Wind Gust	Pressure	Precip.	Condition
12:54 AM	67 °F	58 °F	73 %	NW	12	0 mph	29.83 in	0.0 in	Fair
1:54 AM	69 °F	58 °F	68 %	NNW	14	0 mph	29.82 in	0.0 in	Fair
2:54 AM	67 °F	59 °F	76 %	NNW	5	0 mph	29.81 in	0.0 in	Light Rain
3:54 AM	67 °F	60 °F	79 %	W	5	0 mph	29.81 in	0.0 in	Cloudy
4:54 AM	68 °F	58 °F	70 %	WNW	6	0 mph	29.81 in	0.0 in	Mostly Cloudy
5:54 AM	66 °F	59 °F	78 %	W	5	0 mph	29.82 in	0.0 in	Partly Cloudy
6:54 AM	64 °F	59 °F	84 %	SE	7	0 mph	29.83 in	0.0 in	Partly Cloudy
7:54 AM	65 °F	61 °F	87 %	SSE	5	0 mph	29.84 in	0.0 in	Partly Cloudy
8:54 AM	69 °F	61 °F	75 %	SE	5	0 mph	29.86 in	0.0 in	Mostly Cloudy
9:54 AM	72 °F	58 °F	61 %	NNW	6	0 mph	29.87 in	0.0 in	Mostly Cloudy
10:54 AM	73 °F	58 °F	59 %	NNW	7	0 mph	29.87 in	0.0 in	Partly Cloudy
11:54 AM	74 °F	57 °F	55 %	NW	16	0 mph	29.85 in	0.0 in	Partly Cloudy
12:54 PM	74 °F	57 °F	55 %	N	16	0 mph	29.81 in	0.0 in	Mostly Cloudy
1:54 PM	76 °F	55 °F	48 %	NNW	12	0 mph	29.78 in	0.0 in	Partly Cloudy
2:54 PM	75 °F	58 °F	55 %	N	13	0 mph	29.78 in	0.0 in	Partly Cloudy
3:54 PM	75 °F	56 °F	51 %	N	14	0 mph	29.78 in	0.0 in	Partly Cloudy
4:54 PM	74 °F	57 °F	55 %	N	12	0 mph	29.79 in	0.0 in	Partly Cloudy
8:54 PM	68 °F	56 °F	65 %	NNE	12	0 mph	29.83 in	0.0 in	Fair
9:54 PM	66 °F	56 °F	70 %	E	6	0 mph	29.84 in	0.0 in	Fair
10:54 PM	65 °F	56 °F	73 %	E	7	0 mph	29.83 in	0.0 in	Fair
11:54 PM	61 °F	56 °F	83 %	E	7				

9.142857

Appendix 1

Eurofins Built Environment Testing
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
www.EurofinsBuiltEnv.com

Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3513040_V1
Project #: 1032864023141
Receipt Date: 22-Jan-2024
Analysis Date: 25-Jan-2024
Report Date: 25-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM01-011524-AB**

Air Volume, L:	6738.706
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.43282
Analytical Sensitivity: f/cm3:	0.00043
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00043
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00043
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00043
Concentration of Asbestos (Chrysotile), Str/L:	<0.43282
Concentration of Asbestos (Amphibole), Str/L:	<0.43282
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.6

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

These results apply to the sample(s) as received. Eurofins J3 Resources, Inc. (EJ3) is not responsible for results reported in fibers or asbestos structures per cubic centimeter, which is dependent on volumes provided by non-laboratory personnel. This report is for the exclusive use of the addressed client and shall not be reproduced except in full, without written approval by EJ3. All samples received in good condition unless otherwise noted. This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

NVLAP Lab Code: 200525-0; TDSHS License: 30-0273

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Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3513040_V1
Project #: 1032864023141
Receipt Date: 22-Jan-2024
Analysis Date: 25-Jan-2024
Report Date: 25-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM03-011524-AB**

Air Volume, L:	4687.842
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.62218
Analytical Sensitivity: f/cm3:	0.00062
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00062
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00062
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00062
Concentration of Asbestos (Chrysotile), Str/L:	<0.62218
Concentration of Asbestos (Amphibole), Str/L:	<0.62218
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.3
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.3

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3513040_V1
Project #: 1032864023141
Receipt Date: 22-Jan-2024
Analysis Date: 25-Jan-2024
Report Date: 25-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM04-011524-AB**

Air Volume, L:	6113.32
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.47710
Analytical Sensitivity: f/cm3:	0.00048
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00048
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00048
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00048
Concentration of Asbestos (Chrysotile), Str/L:	<0.4771
Concentration of Asbestos (Amphibole), Str/L:	<0.4771
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.8
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.8

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3513040_V1
Project #: 1032864023141
Receipt Date: 22-Jan-2024
Analysis Date: 25-Jan-2024
Report Date: 25-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-FB01-011524-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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HDOH Lahaina Community Air

Sample Number **MFL-LB01-011524-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM01-011624-AB**

Air Volume, L:	5970.879
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.48848
Analytical Sensitivity: f/cm3:	0.00049
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00049
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00049
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00049
Concentration of Asbestos (Chrysotile), Str/L:	<0.48848
Concentration of Asbestos (Amphibole), Str/L:	<0.48848
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.8
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.8

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM02-011624-AB**

Air Volume, L:	4597.753
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.63437
Analytical Sensitivity: f/cm3:	0.00063
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00063
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00063
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00063
Concentration of Asbestos (Chrysotile), Str/L:	<0.63437
Concentration of Asbestos (Amphibole), Str/L:	<0.63437
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.3
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.3

Analyst: Taylor Smylie

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Sample Number **MFL-AM03-011624-AB**

Air Volume, L:	2502.76
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.16538
Analytical Sensitivity: f/cm3:	0.00117
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00117
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00117
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00117
Concentration of Asbestos (Chrysotile), Str/L:	<1.16538
Concentration of Asbestos (Amphibole), Str/L:	<1.16538
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	4.3
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	4.3

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM04-011624-AB**

Air Volume, L:	6782.819
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.43001
Analytical Sensitivity: f/cm3:	0.00043
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00043
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00043
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00043
Concentration of Asbestos (Chrysotile), Str/L:	<0.43001
Concentration of Asbestos (Amphibole), Str/L:	<0.43001
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.6

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-FB01-011624-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM01-011724-AB**

Air Volume, L:	4411.252
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.66119
Analytical Sensitivity: f/cm3:	0.00066
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00066
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00066
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00066
Concentration of Asbestos (Chrysotile), Str/L:	<0.66119
Concentration of Asbestos (Amphibole), Str/L:	<0.66119
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.4

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM02-011724-AB**

Air Volume, L:	2006.352
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.45372
Analytical Sensitivity: f/cm3:	0.00145
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00145
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00145
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00145
Concentration of Asbestos (Chrysotile), Str/L:	<1.45372
Concentration of Asbestos (Amphibole), Str/L:	<1.45372
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	5.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	5.4

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM03-011724-AB**

Air Volume, L:	2149.337
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.35701
Analytical Sensitivity: f/cm3:	0.00136
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00136
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00136
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00136
Concentration of Asbestos (Chrysotile), Str/L:	<1.35701
Concentration of Asbestos (Amphibole), Str/L:	<1.35701
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	5

Analyst: Taylor Smylie

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EJ3 Order #: 3513040_V1
Project #: 1032864023141
Receipt Date: 22-Jan-2024
Analysis Date: 25-Jan-2024
Report Date: 25-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM04-011724-AB**

Air Volume, L:	1194.332
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	2.44209
Analytical Sensitivity: f/cm3:	0.00244
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00244
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00244
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00244
Concentration of Asbestos (Chrysotile), Str/L:	<2.44209
Concentration of Asbestos (Amphibole), Str/L:	<2.44209
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	9
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	9

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

These results apply to the sample(s) as received. Eurofins J3 Resources, Inc. (EJ3) is not responsible for results reported in fibers or asbestos structures per cubic centimeter, which is dependent on volumes provided by non-laboratory personnel. This report is for the exclusive use of the addressed client and shall not be reproduced except in full, without written approval by EJ3. All samples received in good condition unless otherwise noted. This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

NVLAP Lab Code: 200525-0; TDSHS License: 30-0273

Eurofins Built Environment Testing
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
www.EurofinsBuiltEnv.com

Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3513040_V1
Project #: 1032864023141
Receipt Date: 22-Jan-2024
Analysis Date: 25-Jan-2024
Report Date: 25-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-FB01-011724-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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NVLAP Lab Code: 200525-0; TDSHS License: 30-0273

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:

Talaidh Isaacs 02/01/2024 and Shanna Vasser 02/02/2024

Laboratory: Eurofins Built Environment Testing – Houston, TX

Collection date(s): 1/15/2024 - 1/17/2024

Report No: 3513040

√	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:

MFL-AM02-011524-AB was listed on the CoC but crossed off and noted that it was void and not shipped to the laboratory. No results were present in the laboratory report for this sample because it was not shipped.

Notes: None

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

January 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 01/23/24 15:07.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

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

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9543026	4012337-01	Air	01/15/24 23:59	01/23/24 15:07
TetraTech Q9543025	4012337-02	Air	01/15/24 23:59	01/23/24 15:07
TetraTech Q9524443	4012337-03	Air	01/15/24 23:59	01/23/24 15:07
TetraTech Q9524451 FB	4012337-04	Air	01/15/24 00:00	01/23/24 15:07
TetraTech Q9524441	4012337-05	Air	01/16/24 23:59	01/23/24 15:07
TetraTech Q9524453	4012337-06	Air	01/16/24 23:59	01/23/24 15:07
TetraTech Q9524452	4012337-07	Air	01/16/24 23:59	01/23/24 15:07
TetraTech Q9524442	4012337-08	Air	01/16/24 23:59	01/23/24 15:07
TetraTech Q9524446 FB	4012337-09	Air	01/16/24 00:00	01/23/24 15:07
TetraTech Q9524450	4012337-10	Air	01/17/24 23:59	01/23/24 15:07
TetraTech Q9524449	4012337-11	Air	01/17/24 23:59	01/23/24 15:07
TetraTech Q9524448	4012337-12	Air	01/17/24 23:59	01/23/24 15:07
TetraTech Q9524447	4012337-13	Air	01/17/24 23:59	01/23/24 15:07
TetraTech Q9524461 FB	4012337-14	Air	01/17/24 00:00	01/23/24 15:07

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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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9543026
Matrix: Air
Comments: MFL-AM01-011524-HM

Lab ID: 4012337-01
Sample Volume: 1941.922 m³
Filter ID:

Sampled: 01/15/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 17:18

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0470**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.118**		**0.00785**
Barium	**7440-39-3**	**1.56**		**0.896**
Beryllium	7440-41-7	0.00212	U	0.00268
Cadmium	7440-43-9	0.00842	U	0.0664
Chromium	7440-47-3	1.71	U	1.85
Cobalt	**7440-48-4**	**0.0624**		**0.0365**
Copper	**7440-50-8**	**39.7**	QM-07	**2.20**
Lead	**7439-92-1**	**0.321**		**0.179**
Manganese	7439-96-5	1.39	U	1.58
Molybdenum	**7439-98-7**	**1.57**		**0.301**
Nickel	**7440-02-0**	**0.755**	QB-01	**0.546**
Selenium	**7782-49-2**	**0.238**		**0.00751**
Thallium	**7440-28-0**	**9.19E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**0.686**		**0.0443**
Zinc	7440-66-6	36.7	U	64.3

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9543025
Matrix: Air
Comments: MFL-AM02-011524-HM

Lab ID: 4012337-02
Sample Volume: 2078.015 m³
Filter ID:

Sampled: 01/15/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 20:06

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0867**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.335**		**0.00734**
Barium	**7440-39-3**	**3.12**		**0.838**
Beryllium	**7440-41-7**	**0.00426**		**0.00251**
Cadmium	7440-43-9	0.0171	U	0.0621
Chromium	**7440-47-3**	**2.28**		**1.73**
Cobalt	**7440-48-4**	**0.133**		**0.0341**
Copper	**7440-50-8**	**23.4**		**2.06**
Lead	**7439-92-1**	**0.535**		**0.168**
Manganese	**7439-96-5**	**3.28**		**1.48**
Molybdenum	**7439-98-7**	**1.06**		**0.281**
Nickel	**7440-02-0**	**1.06**	QB-01	**0.510**
Selenium	**7782-49-2**	**0.266**		**0.00702**
Thallium	**7440-28-0**	**8.92E-4**		**4.61E-4**
Vanadium	**7440-62-2**	**0.929**		**0.0414**
Zinc	7440-66-6	27.6	U	60.1

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524443
Matrix: Air
Comments: MFL-AM03-011524-HM

Lab ID: 4012337-03
Sample Volume: 1872.11 m³
Filter ID:

Sampled: 01/15/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 20:26

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.134**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.0719**		**0.00814**
Barium	**7440-39-3**	**1.61**		**0.930**
Beryllium	7440-41-7	0.00265	U	0.00278
Cadmium	7440-43-9	0.0120	U	0.0689
Chromium	7440-47-3	1.74	U	1.92
Cobalt	**7440-48-4**	**0.0868**		**0.0379**
Copper	**7440-50-8**	**36.6**		**2.29**
Lead	**7439-92-1**	**0.525**		**0.186**
Manganese	**7439-96-5**	**1.90**		**1.64**
Molybdenum	**7439-98-7**	**1.38**		**0.312**
Nickel	**7440-02-0**	**1.39**	QB-01	**0.567**
Selenium	**7782-49-2**	**0.220**		**0.00779**
Thallium	**7440-28-0**	**9.67E-4**		**5.12E-4**
Vanadium	**7440-62-2**	**0.839**		**0.0460**
Zinc	7440-66-6	41.8	U	66.7

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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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524451 FB
Matrix: Air
Lab ID: 4012337-04
Sample Volume: 1941.922 m³
Filter ID:
Sampled: 01/15/24 00:00
Received: 01/23/24 15:07
Analysis Date: 01/25/24 20:43

Comments: MFL-FB01-011524-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0161	SL, U	0.0323
Arsenic	7440-38-2	0.00374	U	0.00785
Barium	7440-39-3	0.634	U	0.896
Beryllium	7440-41-7	5.79E-4	U	0.00268
Cadmium	7440-43-9	6.61E-4	U	0.0664
Chromium	7440-47-3	0.645	U	1.85
Cobalt	7440-48-4	0.00480	U	0.0365
Copper	7440-50-8	0.299	U	2.20
Lead	7439-92-1	0.0318	U	0.179
Manganese	7439-96-5	0.119	U	1.58
Molybdenum	7439-98-7	0.0869	U	0.301
Nickel	7440-02-0	0.211	QB-01, U	0.546
Selenium	7782-49-2	0.00366	U	0.00751
Thallium	7440-28-0	1.69E-4	U	4.93E-4
Vanadium	7440-62-2	0.0130	U	0.0443
Zinc	7440-66-6	18.7	U	64.3

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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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524441
Matrix: Air
Comments: MFL-AM01-011624-HM

Lab ID: 4012337-05
Sample Volume: 2098.221 m³
Filter ID:

Sampled: 01/16/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 20:58

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.225**	SL	**0.0299**
Arsenic	**7440-38-2**	**2.07**		**0.00727**
Barium	**7440-39-3**	**6.39**		**0.830**
Beryllium	**7440-41-7**	**0.00283**		**0.00248**
Cadmium	7440-43-9	0.0288	U	0.0615
Chromium	7440-47-3	1.52	U	1.71
Cobalt	**7440-48-4**	**0.180**		**0.0338**
Copper	**7440-50-8**	**23.2**		**2.04**
Lead	**7439-92-1**	**1.54**		**0.166**
Manganese	**7439-96-5**	**4.14**		**1.47**
Molybdenum	**7439-98-7**	**0.646**		**0.278**
Nickel	**7440-02-0**	**0.683**	QB-01	**0.506**
Selenium	**7782-49-2**	**0.145**		**0.00695**
Thallium	**7440-28-0**	**7.85E-4**		**4.57E-4**
Vanadium	**7440-62-2**	**0.361**		**0.0410**
Zinc	7440-66-6	48.1	U	59.6

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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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524453
Matrix: Air
Comments: MFL-AM02-011624-HM

Lab ID: 4012337-06
Sample Volume: 2097.489 m³
Filter ID:

Sampled: 01/16/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 21:18

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.428**		**0.00727**
Barium	**7440-39-3**	**1.14**		**0.830**
Beryllium	7440-41-7	0.00127	U	0.00248
Cadmium	7440-43-9	0.0147	U	0.0615
Chromium	7440-47-3	0.843	U	1.71
Cobalt	**7440-48-4**	**0.0443**		**0.0338**
Copper	**7440-50-8**	**17.5**		**2.04**
Lead	**7439-92-1**	**0.566**		**0.166**
Manganese	**7439-96-5**	**1.48**		**1.47**
Molybdenum	**7439-98-7**	**0.484**		**0.278**
Nickel	7440-02-0	0.486	QB-01, U	0.506
Selenium	**7782-49-2**	**0.125**		**0.00695**
Thallium	**7440-28-0**	**5.18E-4**		**4.57E-4**
Vanadium	**7440-62-2**	**0.143**		**0.0410**
Zinc	7440-66-6	39.5	U	59.6

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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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524452
Matrix: Air
Comments: MFL-AM03-011624-HM

Lab ID: 4012337-07
Sample Volume: 2094.66 m³
Filter ID:

Sampled: 01/16/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 21:37

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.0544**		**0.00728**
Barium	**7440-39-3**	**1.46**		**0.831**
Beryllium	**7440-41-7**	**0.00447**		**0.00249**
Cadmium	7440-43-9	0.00417	U	0.0616
Chromium	7440-47-3	1.54	U	1.72
Cobalt	**7440-48-4**	**0.122**		**0.0339**
Copper	**7440-50-8**	**10.5**		**2.04**
Lead	7439-92-1	0.145	U	0.166
Manganese	**7439-96-5**	**2.30**		**1.47**
Molybdenum	**7439-98-7**	**0.514**		**0.279**
Nickel	**7440-02-0**	**1.09**	QB-01	**0.506**
Selenium	**7782-49-2**	**0.129**		**0.00696**
Thallium	**7440-28-0**	**6.71E-4**		**4.57E-4**
Vanadium	**7440-62-2**	**0.220**		**0.0411**
Zinc	7440-66-6	49.4	U	59.7

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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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524442
Matrix: Air
Comments: MFL-AM04-011624-HM

Lab ID: 4012337-08
Sample Volume: 1915.529 m³
Filter ID:

Sampled: 01/16/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 21:51

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	**0.0328**
Arsenic	**7440-38-2**	**0.122**		**0.00796**
Barium	**7440-39-3**	**1.03**		**0.909**
Beryllium	7440-41-7	0.00155	U	0.00272
Cadmium	7440-43-9	0.00545	U	0.0674
Chromium	7440-47-3	0.799	U	1.88
Cobalt	**7440-48-4**	**0.0464**		**0.0370**
Copper	**7440-50-8**	**25.6**		**2.23**
Lead	**7439-92-1**	**0.419**		**0.182**
Manganese	7439-96-5	1.06	U	1.61
Molybdenum	**7439-98-7**	**0.722**		**0.305**
Nickel	7440-02-0	0.381	QB-01, U	0.554
Selenium	**7782-49-2**	**0.115**		**0.00761**
Thallium	7440-28-0	4.94E-4	U	5.00E-4
Vanadium	**7440-62-2**	**0.120**		**0.0449**
Zinc	7440-66-6	26.9	U	65.2

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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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524446 FB
Matrix: Air
Lab ID: 4012337-09
Sample Volume: 2098.221 m³
Filter ID:
Sampled: 01/16/24 00:00
Received: 01/23/24 15:07
Analysis Date: 01/25/24 22:06

Comments: MFL-FB01-011624-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0186	SL, U	0.0299
Arsenic	7440-38-2	0.00259	U	0.00727
Barium	7440-39-3	0.598	U	0.830
Beryllium	7440-41-7	5.16E-4	U	0.00248
Cadmium	7440-43-9	6.25E-4	U	0.0615
Chromium	7440-47-3	0.579	U	1.71
Cobalt	7440-48-4	0.00556	U	0.0338
Copper	7440-50-8	0.294	U	2.04
Lead	7439-92-1	0.0318	U	0.166
Manganese	7439-96-5	0.101	U	1.47
Molybdenum	7439-98-7	0.0786	U	0.278
Nickel	7440-02-0	0.168	QB-01, U	0.506
Selenium	7782-49-2	0.00285	U	0.00695
Thallium	7440-28-0	1.54E-4	U	4.57E-4
Vanadium	7440-62-2	0.0145	U	0.0410
Zinc	7440-66-6	12.8	U	59.6

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524450
Matrix: Air
Lab ID: 4012337-10
Sample Volume: 2072.005 m³
Filter ID:
Sampled: 01/17/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 22:21

Comments: MFL-AM01-011724-HM - CoC states filter ID Q9524456, physical filter is Q952445

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	**0.0303**
Arsenic	**7440-38-2**	**0.478**		**0.00736**
Barium	**7440-39-3**	**2.07**		**0.840**
Beryllium	7440-41-7	0.00197	U	0.00251
Cadmium	7440-43-9	0.00698	U	0.0623
Chromium	7440-47-3	0.916	U	1.74
Cobalt	**7440-48-4**	**0.0807**		**0.0342**
Copper	**7440-50-8**	**19.8**		**2.07**
Lead	**7439-92-1**	**0.526**		**0.168**
Manganese	**7439-96-5**	**2.22**		**1.48**
Molybdenum	**7439-98-7**	**0.722**		**0.282**
Nickel	7440-02-0	0.432	QB-01, U	0.512
Selenium	**7782-49-2**	**0.124**		**0.00704**
Thallium	7440-28-0	4.18E-4	U	4.63E-4
Vanadium	**7440-62-2**	**0.181**		**0.0415**
Zinc	7440-66-6	26.8	U	60.3

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524449
Matrix: Air
Comments: MFL-AM02-011724-HM

Lab ID: 4012337-11
Sample Volume: 2133.93 m³
Filter ID:

Sampled: 01/17/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/25/24 23:30

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.156**	SL	**0.0294**
Arsenic	**7440-38-2**	**1.17**		**0.00714**
Barium	**7440-39-3**	**1.44**		**0.816**
Beryllium	7440-41-7	0.00189	U	0.00244
Cadmium	7440-43-9	0.0110	U	0.0605
Chromium	7440-47-3	1.48	U	1.68
Cobalt	**7440-48-4**	**0.0882**		**0.0332**
Copper	**7440-50-8**	**27.0**		**2.01**
Lead	**7439-92-1**	**0.845**		**0.163**
Manganese	**7439-96-5**	**2.37**		**1.44**
Molybdenum	**7439-98-7**	**0.580**		**0.274**
Nickel	**7440-02-0**	**0.740**	QB-01	**0.497**
Selenium	**7782-49-2**	**0.127**		**0.00683**
Thallium	**7440-28-0**	**6.26E-4**		**4.49E-4**
Vanadium	**7440-62-2**	**0.173**		**0.0403**
Zinc	7440-66-6	44.0	U	58.6

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FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524448
Matrix: Air
Comments: MFL-AM03-011724-HM

Lab ID: 4012337-12
Sample Volume: 2028.254 m³
Filter ID:

Sampled: 01/17/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/26/24 00:07

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0910**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.0597**		**0.00752**
Barium	**7440-39-3**	**1.69**		**0.858**
Beryllium	**7440-41-7**	**0.00355**		**0.00257**
Cadmium	7440-43-9	0.00326	U	0.0636
Chromium	7440-47-3	0.988	U	1.77
Cobalt	**7440-48-4**	**0.0751**		**0.0350**
Copper	**7440-50-8**	**12.4**		**2.11**
Lead	7439-92-1	0.107	U	0.172
Manganese	7439-96-5	1.48	U	1.52
Molybdenum	**7439-98-7**	**0.694**		**0.288**
Nickel	**7440-02-0**	**0.660**	QB-01	**0.523**
Selenium	**7782-49-2**	**0.130**		**0.00719**
Thallium	7440-28-0	3.82E-4	U	4.72E-4
Vanadium	**7440-62-2**	**0.146**		**0.0424**
Zinc	7440-66-6	26.3	U	61.6

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524447
Matrix: Air
Comments: MFL-AM04-011724-HM

Lab ID: 4012337-13
Sample Volume: 1974.12 m³
Filter ID:

Sampled: 01/17/24 23:59
Received: 01/23/24 15:07
Analysis Date: 01/26/24 00:23

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0429**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.126**		**0.00772**
Barium	**7440-39-3**	**0.924**		**0.882**
Beryllium	7440-41-7	0.00117	U	0.00264
Cadmium	7440-43-9	0.00517	U	0.0654
Chromium	7440-47-3	0.767	U	1.82
Cobalt	**7440-48-4**	**0.0859**		**0.0359**
Copper	**7440-50-8**	**29.8**		**2.17**
Lead	**7439-92-1**	**0.424**		**0.176**
Manganese	7439-96-5	0.874	U	1.56
Molybdenum	**7439-98-7**	**0.763**		**0.296**
Nickel	7440-02-0	0.415	QB-01, U	0.537
Selenium	**7782-49-2**	**0.109**		**0.00738**
Thallium	7440-28-0	2.69E-4	U	4.85E-4
Vanadium	**7440-62-2**	**0.0814**		**0.0436**
Zinc	7440-66-6	15.8	U	63.3

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524461 FB
Matrix: Air
Lab ID: 4012337-14
Sample Volume: 2072.005 m³
Filter ID:
Sampled: 01/17/24 00:00
Received: 01/23/24 15:07
Analysis Date: 01/26/24 00:40

Comments: MFL-FB01-011724-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0134	SL, U	0.0303
Arsenic	7440-38-2	0.00379	U	0.00736
Barium	7440-39-3	0.636	U	0.840
Beryllium	7440-41-7	4.49E-4	U	0.00251
Cadmium	7440-43-9	5.33E-4	U	0.0623
Chromium	7440-47-3	0.569	U	1.74
Cobalt	7440-48-4	0.00389	U	0.0342
Copper	7440-50-8	0.251	U	2.07
Lead	7439-92-1	0.0268	U	0.168
Manganese	7439-96-5	0.0831	U	1.48
Molybdenum	7439-98-7	0.0774	U	0.282
Nickel	7440-02-0	0.168	QB-01, U	0.512
Selenium	7782-49-2	0.00562	U	0.00704
Thallium	7440-28-0	1.01E-4	U	4.63E-4
Vanadium	7440-62-2	0.0109	U	0.0415
Zinc	7440-66-6	10.8	U	60.3

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2401066 - B4A1801										
Calibration Blank (2401066-CCB1)				Prepared & Analyzed: 01/25/24						
Antimony	-0.0741		ng/l							U
Arsenic	0.491		ng/l							
Barium	1.39		ng/l							
Beryllium	0.0284		ng/l							
Cadmium	0.153		ng/l							
Chromium	2.57		ng/l							
Cobalt	0.175		ng/l							
Copper	98.1		ng/l							
Lead	3.06		ng/l							
Manganese	6.46		ng/l							
Molybdenum	11.9		ng/l							
Nickel	0.843		ng/l							
Selenium	-0.981		ng/l							U
Thallium	0.699		ng/l							
Vanadium	-39.9		ng/l							U
Zinc	-19.2		ng/l							U
Calibration Blank (2401066-CCB2)				Prepared & Analyzed: 01/25/24						
Antimony	0.0385		ng/l							
Arsenic	4.42		ng/l							
Barium	0.607		ng/l							
Beryllium	0.0388		ng/l							
Cadmium	0.145		ng/l							
Chromium	2.71		ng/l							
Cobalt	0.123		ng/l							
Copper	28.3		ng/l							
Lead	1.31		ng/l							
Manganese	5.84		ng/l							
Molybdenum	3.41		ng/l							
Nickel	0.444		ng/l							
Selenium	10.8		ng/l							
Thallium	0.668		ng/l							
Vanadium	-35.8		ng/l							U
Zinc	-53.0		ng/l							U
Calibration Blank (2401066-CCB3)				Prepared & Analyzed: 01/25/24						
Antimony	-0.342		ng/l							U
Arsenic	1.43		ng/l							
Barium	1.06		ng/l							
Beryllium	-0.0124		ng/l							U

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2401066 - B4A1801										
Calibration Blank (2401066-CCB3) Contin				Prepared & Analyzed: 01/25/24						
Cadmium	0.0232		ng/l							
Chromium	2.03		ng/l							
Cobalt	0.0739		ng/l							
Copper	24.7		ng/l							
Lead	0.831		ng/l							
Manganese	7.28		ng/l							
Molybdenum	3.57		ng/l							
Nickel	0.352		ng/l							
Selenium	11.6		ng/l							
Thallium	0.758		ng/l							
Vanadium	-38.5		ng/l							U
Zinc	-52.0		ng/l							U
Calibration Blank (2401066-CCB4)				Prepared: 01/25/24 Analyzed: 01/26/24						
Antimony	-0.205		ng/l							U
Arsenic	4.57		ng/l							
Barium	0.951		ng/l							
Beryllium	0.00507		ng/l							
Cadmium	0.0722		ng/l							
Chromium	2.04		ng/l							
Cobalt	0.115		ng/l							
Copper	26.2		ng/l							
Lead	1.03		ng/l							
Manganese	6.25		ng/l							
Molybdenum	3.03		ng/l							
Nickel	1.13		ng/l							
Selenium	11.0		ng/l							
Thallium	0.555		ng/l							
Vanadium	-38.5		ng/l							U
Zinc	-56.7		ng/l							U
Calibration Blank (2401066-CCB5)				Prepared: 01/25/24 Analyzed: 01/26/24						
Antimony	-0.00315		ng/l							U
Arsenic	3.25		ng/l							
Barium	0.533		ng/l							
Beryllium	0.0234		ng/l							
Cadmium	0.0884		ng/l							
Chromium	1.25		ng/l							
Cobalt	0.147		ng/l							
Copper	33.6		ng/l							

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2401066 - B4A1801										
Calibration Blank (2401066-CCB5) Contin				Prepared: 01/25/24 Analyzed: 01/26/24						
Lead	0.982		ng/l							
Manganese	5.89		ng/l							
Molybdenum	2.83		ng/l							
Nickel	0.474		ng/l							
Selenium	14.1		ng/l							
Thallium	0.656		ng/l							
Vanadium	-40.0		ng/l							U
Zinc	-58.9		ng/l							U
Calibration Check (2401066-CCV1)				Prepared & Analyzed: 01/25/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5270		ng/l	5000.0		105	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.7	90-110			
Thallium	498		ng/l	500.00		99.7	90-110			
Vanadium	19500		ng/l	20000		97.3	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Calibration Check (2401066-CCV2)				Prepared & Analyzed: 01/25/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	19600		ng/l	20000		98.2	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	4750		ng/l	5000.0		95.0	90-110			
Cadmium	19800		ng/l	20000		98.9	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	48500		ng/l	50000		97.1	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Lead	195000		ng/l	200000		97.5	90-110			
Manganese	486000		ng/l	500000		97.3	90-110			
Molybdenum	49100		ng/l	50000		98.1	90-110			
Nickel	118000		ng/l	120000		98.2	90-110			

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

FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2401066 - B4A1801										
Calibration Check (2401066-CCV2) Contin					Prepared & Analyzed: 01/25/24					
Selenium	19600		ng/l	20000		98.2	90-110			
Thallium	469		ng/l	500.00		93.7	90-110			
Vanadium	19300		ng/l	20000		96.6	90-110			
Zinc	499000		ng/l	500000		99.7	90-110			
Calibration Check (2401066-CCV3)					Prepared & Analyzed: 01/25/24					
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5340		ng/l	5000.0		107	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	49400		ng/l	50000		98.9	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	497000		ng/l	500000		99.5	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	119000		ng/l	120000		99.3	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	473		ng/l	500.00		94.7	90-110			
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Calibration Check (2401066-CCV4)					Prepared: 01/25/24 Analyzed: 01/26/24					
Antimony	19900		ng/l	20000		99.4	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	196000		ng/l	200000		98.1	90-110			
Beryllium	4880		ng/l	5000.0		97.6	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	49500		ng/l	50000		99.0	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	49100		ng/l	50000		98.3	90-110			
Nickel	120000		ng/l	120000		99.7	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	467		ng/l	500.00		93.4	90-110			
Vanadium	19300		ng/l	20000		96.6	90-110			
Zinc	504000		ng/l	500000		101	90-110			

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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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2401066 - B4A1801

Calibration Check (2401066-CCV5)				Prepared: 01/25/24 Analyzed: 01/26/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	4770		ng/l	5000.0		95.3	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	49900		ng/l	50000		99.9	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	474		ng/l	500.00		94.8	90-110			
Vanadium	19500		ng/l	20000		97.6	90-110			
Zinc	510000		ng/l	500000		102	90-110			
High Cal Check (2401066-HCV1)				Prepared & Analyzed: 01/25/24						
Antimony	39600		ng/l	40000		99.1	95-105			
Arsenic	39800		ng/l	40000		99.4	95-105			
Barium	395000		ng/l	400000		98.8	95-105			
Beryllium	10300		ng/l	10000		103	95-105			
Cadmium	39500		ng/l	40000		98.7	95-105			
Chromium	461000		ng/l	480000		96.1	95-105			
Cobalt	98600		ng/l	100000		98.6	95-105			
Copper	3.93E6		ng/l	4.0000E6		98.2	95-105			
Lead	395000		ng/l	400000		98.7	95-105			
Manganese	983000		ng/l	1.0000E6		98.3	95-105			
Molybdenum	99500		ng/l	100000		99.5	95-105			
Nickel	237000		ng/l	240000		98.7	95-105			
Selenium	39900		ng/l	40000		99.8	95-105			
Thallium	983		ng/l	1000.0		98.3	95-105			
Vanadium	39300		ng/l	40000		98.4	95-105			
Zinc	984000		ng/l	1.0000E6		98.4	95-105			
Initial Cal Blank (2401066-ICB1)				Prepared & Analyzed: 01/25/24						
Antimony	0.892		ng/l							
Arsenic	5.52		ng/l							
Barium	3.84		ng/l							
Beryllium	0.151		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2401066 - B4A1801										
Initial Cal Blank (2401066-ICB1) Continu				Prepared & Analyzed: 01/25/24						
Cadmium	0.390		ng/l							
Chromium	5.99		ng/l							
Cobalt	1.02		ng/l							
Copper	150		ng/l							
Lead	23.4		ng/l							
Manganese	14.6		ng/l							
Molybdenum	14.5		ng/l							
Nickel	2.03		ng/l							
Selenium	1.98		ng/l							
Thallium	1.04		ng/l							
Vanadium	-43.7		ng/l							U
Zinc	-41.1		ng/l							U
Initial Cal Check (2401066-ICV1)				Prepared & Analyzed: 01/25/24						
Antimony	19500		ng/l	20000		97.5	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	5110		ng/l	5000.0		102	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	49500		ng/l	50000		98.9	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Lead	193000		ng/l	200000		96.6	90-110			
Manganese	479000		ng/l	500000		95.7	90-110			
Molybdenum	49700		ng/l	50000		99.3	90-110			
Nickel	118000		ng/l	120000		98.6	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	19700		ng/l	20000		98.6	90-110			
Zinc	501000		ng/l	500000		100	90-110			
Interference Check A (2401066-IFA1)				Prepared & Analyzed: 01/25/24						
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

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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 2401066 - B4A1801										
Interference Check A (2401066-IFA1) Co					Prepared & Analyzed: 01/25/24					
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	298000		ng/l	300000		99.5	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
Interference Check B (2401066-IFB1)					Prepared & Analyzed: 01/25/24					
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	201000		ng/l	200000		100	80-120			
Beryllium	5090		ng/l	5000.0		102	80-120			
Cadmium	19600		ng/l	20000		98.0	80-120			
Chromium	239000		ng/l	240000		99.6	80-120			
Cobalt	49300		ng/l	50000		98.5	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.7	80-120			
Lead	202000		ng/l	200000		101	80-120			
Manganese	507000		ng/l	500000		101	80-120			
Molybdenum	349000		ng/l	350000		99.6	80-120			
Nickel	116000		ng/l	120000		96.7	80-120			
Selenium	19200		ng/l	20000		95.8	80-120			
Thallium	502		ng/l	500.00		100	80-120			
Vanadium	18800		ng/l	20000		94.1	80-120			
Zinc	461000		ng/l	500000		92.3	80-120			
Batch B4A2501 - ICP-MS Extraction										
Blank (B4A2501-BLK1)					Prepared & Analyzed: 01/25/24					
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	0.0793	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

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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 B4A2501 - ICP-MS Extraction										
Blank (B4A2501-BLK1) Continued				Prepared & Analyzed: 01/25/24						
Nickel	ND	0.652	ng/m³ Air							QB-01, 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 (B4A2501-BS1)				Prepared & Analyzed: 01/25/24						
Antimony	0.679	0.0386	ng/m³ Air	1.3829		49.1	80-120			SL
Arsenic	2.76	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.30	0.00320	ng/m³ Air	1.3829		93.7	80-120			
Cadmium	1.41	0.0793	ng/m³ Air	1.3829		102	80-120			
Chromium	16.5	2.21	ng/m³ Air	13.829		119	80-120			
Cobalt	1.43	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	31.3	2.63	ng/m³ Air	27.658		113	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.97	1.89	ng/m³ Air	8.2975		108	80-120			
Molybdenum	1.67	0.359	ng/m³ Air	1.3829		121	80-120			
Nickel	3.07	0.652	ng/m³ Air	2.7658		111	80-120			QB-01
Selenium	2.71	0.00896	ng/m³ Air	2.7658		98.1	80-120			
Thallium	0.132	5.89E-4	ng/m³ Air	0.13829		95.7	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.6	80-120			
Zinc	129	76.8	ng/m³ Air	82.975		156	80-120			
Duplicate (B4A2501-DUP1)		**Source: 4012337-01**		Prepared & Analyzed: 01/25/24						
Antimony	0.0508	0.0323	ng/m³ Air		0.0470			7.67	10	SL
Arsenic	0.127	0.00785	ng/m³ Air		0.118			6.98	10	
Barium	1.76	0.896	ng/m³ Air		1.56			12.0	10	
Beryllium	ND	0.00268	ng/m³ Air		ND				10	U
Cadmium	ND	0.0664	ng/m³ Air		ND				10	U
Chromium	ND	1.85	ng/m³ Air		ND				10	U
Cobalt	0.0612	0.0365	ng/m³ Air		0.0624			1.94	10	
Copper	44.0	2.20	ng/m³ Air		39.7			10.4	10	
Lead	0.516	0.179	ng/m³ Air		0.321			46.7	10	
Manganese	ND	1.58	ng/m³ Air		ND				10	U
Molybdenum	1.58	0.301	ng/m³ Air		1.57			0.935	10	
Nickel	0.773	0.546	ng/m³ Air		0.755			2.41	10	QB-01
Selenium	0.236	0.00751	ng/m³ Air		0.238			1.03	10	
Thallium	8.50E-4	4.93E-4	ng/m³ Air		9.19E-4			7.70	10	
Vanadium	0.699	0.0443	ng/m³ Air		0.686			1.82	10	

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FILE #: 4205.00.003.001
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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 B4A2501 - ICP-MS Extraction										
Duplicate (B4A2501-DUP1) Continued		**Source: 4012337-01**		Prepared & Analyzed: 01/25/24						
Zinc	ND	64.3	ng/m³ Air		ND				10	U
Duplicate (B4A2501-DUP2)		**Source: 4012337-11**		Prepared & Analyzed: 01/25/24						
Antimony	0.157	0.0294	ng/m³ Air		0.156			0.885	10	SL
Arsenic	1.15	0.00714	ng/m³ Air		1.17			1.29	10	
Barium	1.44	0.816	ng/m³ Air		1.44			0.00637	10	
Beryllium	ND	0.00244	ng/m³ Air		ND				10	U
Cadmium	ND	0.0605	ng/m³ Air		ND				10	U
Chromium	ND	1.68	ng/m³ Air		ND				10	U
Cobalt	0.0879	0.0332	ng/m³ Air		0.0882			0.326	10	
Copper	26.9	2.01	ng/m³ Air		27.0			0.543	10	
Lead	0.832	0.163	ng/m³ Air		0.845			1.54	10	
Manganese	2.35	1.44	ng/m³ Air		2.37			0.923	10	
Molybdenum	0.578	0.274	ng/m³ Air		0.580			0.261	10	
Nickel	0.734	0.497	ng/m³ Air		0.740			0.874	10	QB-01
Selenium	0.122	0.00683	ng/m³ Air		0.127			3.85	10	
Thallium	5.25E-4	4.49E-4	ng/m³ Air		6.26E-4			17.5	10	
Vanadium	0.175	0.0403	ng/m³ Air		0.173			0.998	10	
Zinc	ND	58.6	ng/m³ Air		ND				10	U
Matrix Spike (B4A2501-MS1)		**Source: 4012337-01**		Prepared & Analyzed: 01/25/24						
Antimony	0.590	0.0323	ng/m³ Air	1.1586	0.0470	46.8	80-120			SL
Arsenic	2.44	0.00785	ng/m³ Air	2.3173	0.118	100	80-120			
Barium	24.8	0.896	ng/m³ Air	23.173	1.56	100	80-120			
Beryllium	1.16	0.00268	ng/m³ Air	1.1586	ND	100	80-120			
Cadmium	1.18	0.0664	ng/m³ Air	1.1586	ND	102	80-120			
Chromium	13.6	1.85	ng/m³ Air	11.586	ND	117	80-120			
Cobalt	1.24	0.0365	ng/m³ Air	1.1586	0.0624	102	80-120			
Copper	71.2	2.20	ng/m³ Air	23.173	39.7	136	80-120			QM-07
Lead	12.5	0.179	ng/m³ Air	11.586	0.321	105	80-120			
Manganese	8.90	1.58	ng/m³ Air	6.9519	ND	128	80-120			
Molybdenum	2.81	0.301	ng/m³ Air	1.1586	1.57	107	80-120			
Nickel	3.00	0.546	ng/m³ Air	2.3173	0.755	97.1	80-120			QB-01
Selenium	2.49	0.00751	ng/m³ Air	2.3173	0.238	97.2	80-120			
Thallium	0.113	4.93E-4	ng/m³ Air	0.11586	9.19E-4	96.5	80-120			
Vanadium	3.00	0.0443	ng/m³ Air	2.3173	0.686	99.9	80-120			
Zinc	114	64.3	ng/m³ Air	69.519	ND	164	80-120			
Matrix Spike Dup (B4A2501-MSD1)		**Source: 4012337-01**		Prepared & Analyzed: 01/25/24						
Antimony	0.576	0.0323	ng/m³ Air	1.1586	0.0470	45.7	80-120	2.33	20	SL
Arsenic	2.41	0.00785	ng/m³ Air	2.3173	0.118	99.0	80-120	1.16	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4A2501 - ICP-MS Extraction										
Matrix Spike Dup (B4A2501-MSD1) Conti				**Source: 4012337-01**		Prepared & Analyzed: 01/25/24				
Barium	24.4	0.896	ng/m³ Air	23.173	1.56	98.5	80-120	1.68	20	
Beryllium	1.19	0.00268	ng/m³ Air	1.1586	ND	103	80-120	2.52	20	
Cadmium	1.16	0.0664	ng/m³ Air	1.1586	ND	100	80-120	1.50	20	
Chromium	13.6	1.85	ng/m³ Air	11.586	ND	117	80-120	0.194	20	
Cobalt	1.22	0.0365	ng/m³ Air	1.1586	0.0624	99.9	80-120	1.79	20	
Copper	71.4	2.20	ng/m³ Air	23.173	39.7	137	80-120	0.293	20	QM-07
Lead	12.4	0.179	ng/m³ Air	11.586	0.321	104	80-120	0.800	20	
Manganese	8.54	1.58	ng/m³ Air	6.9519	ND	123	80-120	4.14	20	
Molybdenum	2.73	0.301	ng/m³ Air	1.1586	1.57	99.9	80-120	3.00	20	
Nickel	3.00	0.546	ng/m³ Air	2.3173	0.755	96.7	80-120	0.273	20	QB-01
Selenium	2.56	0.00751	ng/m³ Air	2.3173	0.238	100	80-120	2.55	20	
Thallium	0.113	4.93E-4	ng/m³ Air	0.11586	9.19E-4	96.3	80-120	0.155	20	
Vanadium	2.94	0.0443	ng/m³ Air	2.3173	0.686	97.3	80-120	1.98	20	
Zinc	107	64.3	ng/m³ Air	69.519	ND	153	80-120	6.79	20	
Post Spike (B4A2501-PS1)				**Source: 4012337-01**		Prepared & Analyzed: 01/25/24				
Antimony	0.282	0.0323	ng/m³ Air	0.23173	0.0470	101	75-125			SL
Arsenic	1.27	0.00785	ng/m³ Air	1.1586	0.118	99.1	75-125			
Barium	3.89	0.896	ng/m³ Air	2.3173	1.56	101	75-125			
Beryllium	0.235	0.00268	ng/m³ Air	0.23173	ND	101	75-125			
Cadmium	0.128	0.0664	ng/m³ Air	0.11586	ND	110	75-125			
Chromium	2.90	1.85	ng/m³ Air	1.1586	ND	250	75-125			
Cobalt	0.300	0.0365	ng/m³ Air	0.23173	0.0624	102	75-125			
Copper	52.4	2.20	ng/m³ Air	11.586	39.7	110	75-125			
Lead	23.7	0.179	ng/m³ Air	23.173	0.321	101	75-125			
Manganese	3.79	1.58	ng/m³ Air	2.3173	ND	163	75-125			
Molybdenum	2.72	0.301	ng/m³ Air	1.1586	1.57	99.5	75-125			
Nickel	3.09	0.546	ng/m³ Air	2.3173	0.755	101	75-125			QB-01
Selenium	1.36	0.00751	ng/m³ Air	1.1586	0.238	96.8	75-125			
Thallium	0.0589	4.93E-4	ng/m³ Air	5.7932E-2	9.19E-4	100	75-125			
Vanadium	1.83	0.0443	ng/m³ Air	1.1586	0.686	98.8	75-125			
Zinc	ND	64.3	ng/m³ Air	23.173	ND		75-125			U
Dilution Check (B4A2501-SRL1)				**Source: 4012337-01**		Prepared & Analyzed: 01/25/24				
Antimony	ND	0.162	ng/m³ Air		ND				10	SL, U
Arsenic	0.120	0.0393	ng/m³ Air		0.118			1.53	10	
Barium	ND	4.48	ng/m³ Air		ND				10	U
Beryllium	ND	0.0134	ng/m³ Air		ND				10	U
Cadmium	ND	0.332	ng/m³ Air		ND				10	U
Chromium	ND	9.26	ng/m³ Air		ND				10	U

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: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4A2501 - ICP-MS Extraction										
Dilution Check (B4A2501-SRL1) ContinueSource: 4012337-01 Prepared & Analyzed: 01/25/24										
Cobalt	ND	0.183	ng/m³ Air		ND				10	U
Copper	39.5	11.0	ng/m³ Air		39.7			0.512	10	
Lead	ND	0.896	ng/m³ Air		ND				10	U
Manganese	ND	7.92	ng/m³ Air		ND				10	U
Molybdenum	1.54	1.50	ng/m³ Air		1.57			1.86	10	
Nickel	ND	2.73	ng/m³ Air		ND				10	QB-01, U
Selenium	0.238	0.0375	ng/m³ Air		0.238			0.0599	10	
Thallium	ND	0.00247	ng/m³ Air		ND				10	U
Vanadium	0.688	0.222	ng/m³ Air		0.686			0.268	10	
Zinc	ND	322	ng/m³ Air		ND				10	U

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 01/31/24 14:01
SUBMITTED: 01/23/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QB-01	Analyte exceeds method blank criteria
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

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.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Talaidh Isaacs 02/01/2024 and Shanna Vasser 2/2/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 1/15/2024 - 1/17/2024
Report No: 4012337

√	1.	Chain of custody (CoC) documentation is present.
X	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.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: MFL-AM01-011724-HM has the filter ID, Q9524456, listed; however, the filter ID noted by the laboratory is Q9524450.
Notes: No sample receipt information was included.

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

January 18 through January 24, 2024
[Report Updated: December 4, 2024]

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

Particulate monitoring and air sampling occurred from January 18 through January 24, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from January 18 through January 24 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(Rev. December 4, 2024)**

Air Sampling Results

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

Heavy metal samples were not collected at WW Pump Station #4, Lahaina Intermediate School, and Lahaina Boys & Girls Club on January 20 through January 23. Heavy metal samples were not collected at Leialii Hawaiian Homelands on January 23. The samples were not collected because of weather-related shipping delays which subsequently caused a delay in receiving the necessary sampling supplies. Sample collection during this time as based on the location closest to active operations. Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

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

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

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

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

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

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

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

Attachments

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
January 18 through January 24, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
1/18/2024	Leialii Hawaiian Homelands (AM-01)	6.6
	WW Pump Station #4 (AM-02)	10.5
	Lahaina Intermediate School (AM-03)	6.2
	Lahaina Boys & Girls Club (AM-04)	6.5
1/19/2024	Leialii Hawaiian Homelands (AM-01)	5.2
	WW Pump Station #4 (AM-02)	8.5
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Boys & Girls Club (AM-04)	5.5
1/20/2024	Leialii Hawaiian Homelands (AM-01)	6.8
	WW Pump Station #4 (AM-02)	6.6
	Lahaina Intermediate School (AM-03)	7.4
	Lahaina Boys & Girls Club (AM-04)	4.3
1/21/2024	Leialii Hawaiian Homelands (AM-01)	5.9
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	6.7
	Lahaina Boys & Girls Club (AM-04)	5.2
1/22/2024	Leialii Hawaiian Homelands (AM-01)	7.8
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	8.5
	Lahaina Boys & Girls Club (AM-04)	9.0
1/23/2024	Leialii Hawaiian Homelands (AM-01)	7.1
	WW Pump Station #4 (AM-02)	9.3
	Lahaina Intermediate School (AM-03)	8.2
	Lahaina Boys & Girls Club (AM-04)	7.1
1/24/2024	Leialii Hawaiian Homelands (AM-01)	14
	WW Pump Station #4 (AM-02)	14
	Lahaina Intermediate School (AM-03)	16
	Lahaina Boys & Girls Club (AM-04)	11

Notes:
Results are based on 24 hour TWA calculation
24 hour TWA calculation is presented in two significant figures
µg/m3 = micrograms per cubic meter
Results from Lahaina Intermediate School on 1/19 and 1/23 have been revised from previously submitted report.
Results from Leialii Hawaiian Homelands on 1/23 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, LahainaDate
Maui Wildfire, Lahaina
January 18 through January 24, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		f/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
1/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.00069	0.00025	0.00136	0.00819	0.00000536	ND	ND	0.000364	0.0366	0.00193	0.00767	0.00164	0.000844	0.000238	0.00000286	0.000483	0.0838
	WW Pump Station #4 (AM-02)	<0.00083	0.000284	0.00226	0.00599	0.00000644	ND	0.00239	0.000185	0.0364	0.00240	0.00643	0.0014	0.000753	0.00027	0.00000135	0.000595	0.0628
	Lahaina Intermediate School (AM-03)	<0.00132	0.000102	0.0000957	0.0022	0.00000647	ND	ND	0.000114	0.0232	0.000263	0.00251	0.00135	0.000608	0.000216	0.00000113	0.000275	ND
	Lahaina Boys & Girls Club (AM-04)	<0.00074	0.0000792	0.000156	0.00207	0.00000299	ND	ND	0.0000723	0.0351	0.000437	0.00224	0.00102	ND	0.000198	0.000000911	0.000216	ND
1/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0004	0.0000714	0.000399	0.00236	0.0000035	ND	ND	0.000143	0.0287	0.000588	0.00391	0.00134	0.000548	0.00014	0.000000644	0.000467	ND
	WW Pump Station #4 (AM-02)	<0.0005	0.000202	0.000974	0.00433	0.00000519	ND	ND	0.000165	0.0238	0.00168	0.00529	0.0012	0.000654	0.000157	0.000000742	0.000582	ND
	Lahaina Intermediate School (AM-03)	<0.00066	0.0000852	0.000065	0.00201	0.00000558	ND	ND	0.000106	0.0233	0.000318	0.00248	0.00135	0.000879	0.000139	0.000000653	0.000341	ND
	Lahaina Boys & Girls Club (AM-04)	<0.00042	0.00012	0.00016	0.0019	0.0000027	ND	ND	0.0000708	0.0304	0.000256	0.00218	0.00102	ND	0.000146	ND	0.000276	ND
1/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.00081	0.000059	0.000378	0.00188	ND	ND	ND	0.0000876	0.0275	0.00027	0.00237	0.00143	ND	0.000193	0.000000485	0.000283	ND
	WW Pump Station #4 (AM-02)	<0.00069																
	Lahaina Intermediate School (AM-03)	<0.00126																
	Lahaina Boys & Girls Club (AM-04)	<0.00106																
1/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.00044	0.000098	0.000501	0.00165	ND	ND	ND	0.0000638	0.0304	0.000347	0.0017	0.0017	ND	0.000349	0.000000712	0.000314	ND
	WW Pump Station #4 (AM-02)	<0.00045																
	Lahaina Intermediate School (AM-03)	<0.0012																
	Lahaina Boys & Girls Club (AM-04)	<0.00061																
1/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.00053	0.0000894	0.000572	0.00332	0.00000558	ND	ND	0.000274	0.0494	0.00126	0.00641	0.00186	0.00105	0.000323	0.00000102	0.000786	ND
	WW Pump Station #4 (AM-02)	<0.00189																
	Lahaina Intermediate School (AM-03)	<0.00104																
	Lahaina Boys & Girls Club (AM-04)	<0.00039																
1/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0004																
	WW Pump Station #4 (AM-02)	<0.0017																
	Lahaina Intermediate School (AM-03)	<0.00099																
	Lahaina Boys & Girls Club (AM-04)	<0.00111																
1/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.00041	0.000112	0.00241	0.014	0.0000238	ND	0.00524	0.00138	0.0474	0.0118	0.026	0.00163	0.00647	0.000408	0.00000147	0.00229	0.077
	WW Pump Station #4 (AM-02)	<0.00053	0.0000349	0.00071	0.00124	0.00000264	ND	0.00189	0.000104	0.0232	0.00125	0.0018	0.000445	ND	0.000382	0.000000578	0.000225	ND
	Lahaina Intermediate School (AM-03)	<0.00039	0.0000507	0.000165	0.00252	0.0000104	ND	0.00307	0.000438	0.00874	0.000284	0.00768	0.000626	0.0012	0.000368	0.000000657	0.000677	ND
	Lahaina Boys & Girls Club (AM-04)	<0.00042	0.0000627	0.000874	0.00126	ND	ND	0.00211	0.00011	0.0273	0.00086	0.00198	0.000979	ND	0.00033	ND	0.000265	ND
95% Upper Confidence Limit[3]		NA	0.00016	0.00194	0.00541	0.00001	NA	0.00344	0.00039	0.0378	0.00326	0.00829	0.00157	0.00267	0.00032	0.0000013	0.00074	0.103

Notes:

[1] Fiber count sample result via Phase Contrast Microscopy

[2] Confirmed asbestos sample result via Transmission Electron Microscopy

[3] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

Data unavailable, Limited sampling filters due to weather related circumstances, shipments delayed.

f/cc = fibers per cubic centimeter

Heavy Metal sampling was not conducted at (AM-01) on 1/23 and at (AM-02), (AM-03), & (AM-04) on 1/20, 1/21, 1/22, and 1/23 due to shipping delays on sampling filters

Laboratory data provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

mg/m3 = milligrams per cubic meter

NA = Not Available

ND = Not detected at or above the laboratory reporting limit

This report has been updated with new SSALs in accordance with CAMSP Rev 2, May 2024

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
January 18 through Janaury 24, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/18/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	74	69	757.3
1/18/2024	AM-02	WW Pump Station #4	0.8	ESE	75	72	759.7
1/18/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	70	750.1
1/18/2024	AM-04	Lahaina Boys & Girls Club	0.8	S	74	72	759.2
1/19/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	75	66	758.4
1/19/2024	AM-02	WW Pump Station #4	1.1	SE	75	72	760.8
1/19/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	73	751.2
1/19/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSE	74	69	760.3
1/20/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	75	77	758.3
1/20/2024	AM-02	WW Pump Station #4	1.0	ESE	76	80	760.7
1/20/2024	AM-03	Lahaina Intermediate School	1.0	ESE	79	84	751.1
1/20/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSE	75	79	760.2
1/21/2024	AM-01	Leialii Hawaiian Homelands	0.8	SE	76	77	758.7
1/21/2024	AM-02	WW Pump Station #4	1.0	SE	76	81	761.1
1/21/2024	AM-03	Lahaina Intermediate School	0.9	SE	79	85	751.5
1/21/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSE	74	81	760.6
1/22/2024	AM-01	Leialii Hawaiian Homelands	1.8	SE	77	64	758.8
1/22/2024	AM-02	WW Pump Station #4	1.3	SE	78	69	761.3
1/22/2024	AM-03	Lahaina Intermediate School	1.7	SE	81	70	751.7
1/22/2024	AM-04	Lahaina Boys & Girls Club	1.2	SE	76	68	760.7
1/23/2024	AM-01	Leialii Hawaiian Homelands	1.5	SSE	77	67	758.7
1/23/2024	AM-02	WW Pump Station #4	1.6	SSE	78	71	761.2
1/23/2024	AM-03	Lahaina Intermediate School	1.8	SE	80	74	751.6
1/23/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSE	76	71	760.7
1/24/2024	AM-01	Leialii Hawaiian Homelands	2.7	SSE	78	68	757.8
1/24/2024	AM-02	WW Pump Station #4	2.2	SSE	78	73	760.4
1/24/2024	AM-03	Lahaina Intermediate School	3.6	SSE	81	75	750.7
1/24/2024	AM-04	Lahaina Boys & Girls Club	1.5	SE	78	70	759.9

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

Appendix 1

Eurofins Built Environment Testing
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
www.EurofinsBuiltEnv.com

Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3517293
Project #: 103S864023206
Receipt Date: 25-Jan-2024
Analysis Date: 30-Jan-2024
Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM01-011824-AB**

Air Volume, L:	4255.089
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.68545
Analytical Sensitivity: f/cm3:	0.00069
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00069
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00069
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00069
Concentration of Asbestos (Chrysotile), Str/L:	<0.68545
Concentration of Asbestos (Amphibole), Str/L:	<0.68545
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.5

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
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Oakland, CA 94612

EJ3 Order #: 3517293
Project #: 103S864023206
Receipt Date: 25-Jan-2024
Analysis Date: 30-Jan-2024
Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM02-011824-AB**

Air Volume, L:	3507.459
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.83156
Analytical Sensitivity: f/cm3:	0.00083
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00083
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00083
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00083
Concentration of Asbestos (Chrysotile), Str/L:	<0.83156
Concentration of Asbestos (Amphibole), Str/L:	<0.83156
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3.1
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3.1

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM03-011824-AB**

Air Volume, L:	2207.25
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.32140
Analytical Sensitivity: f/cm3:	0.00132
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00132
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00132
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00132
Concentration of Asbestos (Chrysotile), Str/L:	<1.3214
Concentration of Asbestos (Amphibole), Str/L:	<1.3214
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	4.9
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	4.9

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM04-011824-AB**

Air Volume, L:	3957.543
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.73699
Analytical Sensitivity: f/cm3:	0.00074
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00074
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00074
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00074
Concentration of Asbestos (Chrysotile), Str/L:	<0.73699
Concentration of Asbestos (Amphibole), Str/L:	<0.73699
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.7

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-FB01-011824-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

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Sample Number **MFL-AM01-011924-AB**

Air Volume, L:	7356.859
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.39646
Analytical Sensitivity: f/cm3:	0.00040
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.0004
Concentration of Asbestos (Amphibole), f/cm^3:	<0.0004
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.0004
Concentration of Asbestos (Chrysotile), Str/L:	<0.39646
Concentration of Asbestos (Amphibole), Str/L:	<0.39646
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM02-011924-AB**

Air Volume, L:	5788.583
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.50387
Analytical Sensitivity: f/cm3:	0.00050
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.0005
Concentration of Asbestos (Amphibole), f/cm^3:	<0.0005
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.0005
Concentration of Asbestos (Chrysotile), Str/L:	<0.50387
Concentration of Asbestos (Amphibole), Str/L:	<0.50387
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.9
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.9

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM03-011924-AB**

Air Volume, L:	4439.458
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.65699
Analytical Sensitivity: f/cm3:	0.00066
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00066
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00066
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00066
Concentration of Asbestos (Chrysotile), Str/L:	<0.65699
Concentration of Asbestos (Amphibole), Str/L:	<0.65699
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.4

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM04-011924-AB**

Air Volume, L:	6909.042
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.42215
Analytical Sensitivity: f/cm3:	0.00042
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00042
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00042
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00042
Concentration of Asbestos (Chrysotile), Str/L:	<0.42215
Concentration of Asbestos (Amphibole), Str/L:	<0.42215
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.6

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-FB01-011924-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM01-012024-AB**

Air Volume, L:	3594.766
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.81136
Analytical Sensitivity: f/cm3:	0.00081
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00081
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00081
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00081
Concentration of Asbestos (Chrysotile), Str/L:	<0.81136
Concentration of Asbestos (Amphibole), Str/L:	<0.81136
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3517293
Project #: 103S864023206
Receipt Date: 25-Jan-2024
Analysis Date: 30-Jan-2024
Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM02-012024-AB**

Air Volume, L:	4219.167
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.69129
Analytical Sensitivity: f/cm3:	0.00069
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00069
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00069
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00069
Concentration of Asbestos (Chrysotile), Str/L:	<0.69129
Concentration of Asbestos (Amphibole), Str/L:	<0.69129
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.6

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM03-012024-AB**

Air Volume, L:	2306.578
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.26450
Analytical Sensitivity: f/cm3:	0.00126
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00126
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00126
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00126
Concentration of Asbestos (Chrysotile), Str/L:	<1.2645
Concentration of Asbestos (Amphibole), Str/L:	<1.2645
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	4.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	4.7

Analyst: Taylor Smylie

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Report Date:	30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM04-012024-AB**

Air Volume, L:	2763.934
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.05526
Analytical Sensitivity: f/cm3:	0.00106
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00106
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00106
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00106
Concentration of Asbestos (Chrysotile), Str/L:	<1.05526
Concentration of Asbestos (Amphibole), Str/L:	<1.05526
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3.9
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3.9

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Receipt Date: 25-Jan-2024
Analysis Date: 30-Jan-2024
Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-FB01-012024-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

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Receipt Date: 25-Jan-2024
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Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM01-012124-AB**

Air Volume, L:	6693.371
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.43575
Analytical Sensitivity: f/cm3:	0.00044
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00044
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00044
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00044
Concentration of Asbestos (Chrysotile), Str/L:	<0.43575
Concentration of Asbestos (Amphibole), Str/L:	<0.43575
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.6

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Receipt Date: 25-Jan-2024
Analysis Date: 30-Jan-2024
Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM02-012124-AB**

Air Volume, L:	6476.383
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.45035
Analytical Sensitivity: f/cm3:	0.00045
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00045
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00045
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00045
Concentration of Asbestos (Chrysotile), Str/L:	<0.45035
Concentration of Asbestos (Amphibole), Str/L:	<0.45035
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.7

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM03-012124-AB**

Air Volume, L:	2423.07
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.20371
Analytical Sensitivity: f/cm3:	0.00120
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.0012
Concentration of Asbestos (Amphibole), f/cm^3:	<0.0012
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.0012
Concentration of Asbestos (Chrysotile), Str/L:	<1.20371
Concentration of Asbestos (Amphibole), Str/L:	<1.20371
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	4.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	4.4

Analyst: Taylor Smylie

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Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM04-012124-AB**

Air Volume, L:	4805.041
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.60700
Analytical Sensitivity: f/cm3:	0.00061
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00061
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00061
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00061
Concentration of Asbestos (Chrysotile), Str/L:	<0.607
Concentration of Asbestos (Amphibole), Str/L:	<0.607
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.2
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.2

Analyst: Taylor Smylie

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Analysis Date: 30-Jan-2024
Report Date: 30-Jan-2024

HDOH Lahaina Community Air

Sample Number **MFL-FB01-012124-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Talaidh Isaacs 02/01/2024 and Shanna Vasser 02/02/2024
Laboratory: Eurofins Built Environment Testing – Houston, TX
Collection date(s): 1/18/2024 - 1/21/2024
Report No: 3517293

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

Discrepancies: None

Notes: None.

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EJ3 Order #: 3520539_V1
Project #: 103S864023206
Receipt Date: 29-Jan-2024
Analysis Date: 1-Feb-2024
Report Date: 1-Feb-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM01-012224-AB**

Air Volume, L:	5480.074
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.53223
Analytical Sensitivity: f/cm3:	0.00053
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00053
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00053
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00053
Concentration of Asbestos (Chrysotile), Str/L:	<0.53223
Concentration of Asbestos (Amphibole), Str/L:	<0.53223
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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EJ3 Order #: 3520539_V1
Project #: 103S864023206
Receipt Date: 29-Jan-2024
Analysis Date: 1-Feb-2024
Report Date: 1-Feb-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM02-012224-AB**

Air Volume, L:	1543.345
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.88983
Analytical Sensitivity: f/cm3:	0.00189
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00189
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00189
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00189
Concentration of Asbestos (Chrysotile), Str/L:	<1.88983
Concentration of Asbestos (Amphibole), Str/L:	<1.88983
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	7

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM03-012224-AB**

Air Volume, L:	2813.289
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.03675
Analytical Sensitivity: f/cm3:	0.00104
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00104
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00104
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00104
Concentration of Asbestos (Chrysotile), Str/L:	<1.03675
Concentration of Asbestos (Amphibole), Str/L:	<1.03675
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3.8
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3.8

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM04-012224-AB**

Air Volume, L:	7468.56
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.39053
Analytical Sensitivity: f/cm3:	0.00039
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00039
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00039
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00039
Concentration of Asbestos (Chrysotile), Str/L:	<0.39053
Concentration of Asbestos (Amphibole), Str/L:	<0.39053
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.4

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-FB01-012224-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM01-012324-AB**

Air Volume, L:	7373.341
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.39557
Analytical Sensitivity: f/cm3:	0.00040
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.0004
Concentration of Asbestos (Amphibole), f/cm^3:	<0.0004
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.0004
Concentration of Asbestos (Chrysotile), Str/L:	<0.39557
Concentration of Asbestos (Amphibole), Str/L:	<0.39557
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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HDOH Lahaina Community Air

Sample Number **MFL-AM02-012324-AB**

Air Volume, L:	1720.419
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.69532
Analytical Sensitivity: f/cm3:	0.00170
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.0017
Concentration of Asbestos (Amphibole), f/cm^3:	<0.0017
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.0017
Concentration of Asbestos (Chrysotile), Str/L:	<1.69532
Concentration of Asbestos (Amphibole), Str/L:	<1.69532
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	6.3
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	6.3

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM03-012324-AB**

Air Volume, L:	2944.234
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.99064
Analytical Sensitivity: f/cm3:	0.00099
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00099
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00099
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00099
Concentration of Asbestos (Chrysotile), Str/L:	<0.99064
Concentration of Asbestos (Amphibole), Str/L:	<0.99064
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3.7

Analyst: Taylor Smylie

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Sample Number **MFL-AM04-012324-AB**

Air Volume, L:	2636.072
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.10644
Analytical Sensitivity: f/cm3:	0.00111
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00111
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00111
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00111
Concentration of Asbestos (Chrysotile), Str/L:	<1.10644
Concentration of Asbestos (Amphibole), Str/L:	<1.10644
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	4.1
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	4.1

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-FB01-012324-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

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HDOH Lahaina Community Air

Sample Number **MFL-AM01-012424-AB**

Air Volume, L:	7166.648
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.40698
Analytical Sensitivity: f/cm3:	0.00041
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00041
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00041
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00041
Concentration of Asbestos (Chrysotile), Str/L:	<0.40698
Concentration of Asbestos (Amphibole), Str/L:	<0.40698
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

These results apply to the sample(s) as received. Eurofins J3 Resources, Inc. (EJ3) is not responsible for results reported in fibers or asbestos structures per cubic centimeter, which is dependent on volumes provided by non-laboratory personnel. This report is for the exclusive use of the addressed client and shall not be reproduced except in full, without written approval by EJ3. All samples received in good condition unless otherwise noted. This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

NVLAP Lab Code: 200525-0; TDSHS License: 30-0273

Eurofins Built Environment Testing
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
www.EurofinsBuiltEnv.com

Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3520539_V1
Project #: 103S864023206
Receipt Date: 29-Jan-2024
Analysis Date: 1-Feb-2024
Report Date: 1-Feb-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM02-012424-AB**

Air Volume, L:	5456.201
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.53456
Analytical Sensitivity: f/cm3:	0.00053
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00053
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00053
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00053
Concentration of Asbestos (Chrysotile), Str/L:	<0.53456
Concentration of Asbestos (Amphibole), Str/L:	<0.53456
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3520539_V1
Project #: 103S864023206
Receipt Date: 29-Jan-2024
Analysis Date: 1-Feb-2024
Report Date: 1-Feb-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM03-012424-AB**

Air Volume, L:	7392.814
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.39453
Analytical Sensitivity: f/cm3:	0.00039
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00039
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00039
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00039
Concentration of Asbestos (Chrysotile), Str/L:	<0.39453
Concentration of Asbestos (Amphibole), Str/L:	<0.39453
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3520539_V1
Project #: 103S864023206
Receipt Date: 29-Jan-2024
Analysis Date: 1-Feb-2024
Report Date: 1-Feb-2024

HDOH Lahaina Community Air

Sample Number **MFL-AM04-012424-AB**

Air Volume, L:	6924.664
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.42120
Analytical Sensitivity: f/cm3:	0.00042
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	<0.00042
Concentration of Asbestos (Amphibole), f/cm^3:	<0.00042
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	<0.00042
Concentration of Asbestos (Chrysotile), Str/L:	<0.4212
Concentration of Asbestos (Amphibole), Str/L:	<0.4212
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.6

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
ISO 10312:2019 - Ambient Air - Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy Method

Chelsea Saber
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3520539_V1
Project #: 103S864023206
Receipt Date: 29-Jan-2024
Analysis Date: 1-Feb-2024
Report Date: 1-Feb-2024

HDOH Lahaina Community Air

Sample Number **MFL-FB01-012424-AB**

Air Volume, L:	0
Effective Filter Area, mm^2:	385.0
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs), mm^2:	0.0132
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	N/A
Analytical Sensitivity: f/cm3:	N/A
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 µm:	0
Number of asbestos fibers and bundles > 5 µm:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Amphibole), f/cm^3:	N/A
Concentration of PCME Asbestos (Chrysotile), f/cm^3:	N/A
Concentration of Asbestos (Chrysotile), Str/L:	N/A
Concentration of Asbestos (Amphibole), Str/L:	N/A
Lower 95% Confidence Limit (Chrysotile), Str/L:	N/A
Upper 95% Confidence Limit (Chrysotile), Str/L:	N/A
Lower 95% Confidence Limit (Amphibole), Str/L:	N/A
Upper 95% Confidence Limit (Amphibole), Str/L:	N/A

Analyst: Taylor Smylie

Scott M. Ward, Ph.D. **Lab Director**

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NVLAP Lab Code: 200525-0; TDSHS License: 30-0273

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 02/13/2024 and Shanna Vasser 2/13/2024
Laboratory: Eurofins Built Environment Testing – Houston, TX
Collection date(s): 1/22/2024 - 1/24/2024
Report No: 3520539

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

Discrepancies: None

Notes: None

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

February 06, 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 01/29/24 13:08.

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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9524445	4012928-01	Air	01/18/24 23:59	01/29/24 13:08
TetraTech Q9524444	4012928-02	Air	01/18/24 23:59	01/29/24 13:08
TetraTech Q9524463	4012928-03	Air	01/18/24 23:59	01/29/24 13:08
TetraTech Q9524462	4012928-04	Air	01/18/24 23:59	01/29/24 13:08
TetraTech Q9524460	4012928-05	Air	01/19/24 23:59	01/29/24 13:08
TetraTech Q9524459	4012928-06	Air	01/19/24 23:59	01/29/24 13:08
TetraTech Q9524458	4012928-07	Air	01/19/24 23:59	01/29/24 13:08
TetraTech Q9524457	4012928-08	Air	01/19/24 23:59	01/29/24 13:08
TetraTech Q9524455	4012928-09	Air	01/21/24 23:59	01/29/24 13:08
TetraTech Q9524454	4012928-10	Air	01/22/24 23:59	01/29/24 13:08
TetraTech Q9537214	4012928-11	Air	01/24/24 23:59	01/29/24 13:08
TetraTech Q9534268	4012928-12	Air	01/24/24 23:59	01/29/24 13:08
TetraTech Q9534267	4012928-13	Air	01/24/24 23:59	01/29/24 13:08
TetraTech Q9534265	4012928-14	Air	01/24/24 23:59	01/29/24 13:08
TetraTech Q9534257 FB	4012928-15	Air	01/24/24 00:00	01/29/24 13:08
TetraTech Q9524456	4012928-16	Air	01/20/24 23:59	01/29/24 13:08

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524445
Matrix: Air
Comments: MFL-AM01-011824-HM

Lab ID: 4012928-01
Sample Volume: 2111.33 m³
Filter ID:

Sampled: 01/18/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 19:55

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.250**	SL	**0.0297**
Arsenic	**7440-38-2**	**1.36**		**0.00722**
Barium	**7440-39-3**	**8.19**		**0.825**
Beryllium	**7440-41-7**	**0.00536**		**0.00247**
Cadmium	7440-43-9	0.0203	U	0.0611
Chromium	7440-47-3	1.42	U	1.70
Cobalt	**7440-48-4**	**0.364**		**0.0336**
Copper	**7440-50-8**	**36.6**		**2.03**
Lead	**7439-92-1**	**1.93**		**0.165**
Manganese	**7439-96-5**	**7.67**		**1.46**
Molybdenum	**7439-98-7**	**1.64**		**0.277**
Nickel	**7440-02-0**	**0.844**	QB-01	**0.502**
Selenium	**7782-49-2**	**0.238**	LJ, QX	**0.00690**
Thallium	**7440-28-0**	**0.00286**	QB-01, QB-04	**4.54E-4**
Vanadium	**7440-62-2**	**0.483**		**0.0408**
Zinc	**7440-66-6**	**83.8**		**59.2**

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524444
Matrix: Air
Comments: MFL-AM02-011824-HM

Lab ID: 4012928-02
Sample Volume: 2164.06 m³
Filter ID:

Sampled: 01/18/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 20:15

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.284**	SL	**0.0290**
Arsenic	**7440-38-2**	**2.26**		**0.00704**
Barium	**7440-39-3**	**5.99**		**0.804**
Beryllium	**7440-41-7**	**0.00644**		**0.00241**
Cadmium	7440-43-9	0.0516	U	0.0596
Chromium	**7440-47-3**	**2.39**		**1.66**
Cobalt	**7440-48-4**	**0.185**		**0.0328**
Copper	**7440-50-8**	**36.4**		**1.98**
Lead	**7439-92-1**	**2.40**		**0.161**
Manganese	**7439-96-5**	**6.43**		**1.42**
Molybdenum	**7439-98-7**	**1.40**		**0.270**
Nickel	**7440-02-0**	**0.753**	QB-01	**0.490**
Selenium	**7782-49-2**	**0.270**	LJ, QX	**0.00674**
Thallium	**7440-28-0**	**0.00135**	QB-01, QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**0.595**		**0.0398**
Zinc	**7440-66-6**	**62.8**		**57.7**

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524463
Matrix: Air
Comments: MFL-AM03-011824-HM

Lab ID: 4012928-03
Sample Volume: 2059.037 m³
Filter ID:

Sampled: 01/18/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 20:35

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.0957**		**0.00740**
Barium	**7440-39-3**	**2.20**		**0.845**
Beryllium	**7440-41-7**	**0.00647**		**0.00253**
Cadmium	7440-43-9	0.0157	U	0.0627
Chromium	7440-47-3	1.20	U	1.75
Cobalt	**7440-48-4**	**0.114**		**0.0345**
Copper	**7440-50-8**	**23.2**		**2.08**
Lead	**7439-92-1**	**0.263**		**0.169**
Manganese	**7439-96-5**	**2.51**		**1.49**
Molybdenum	**7439-98-7**	**1.35**		**0.284**
Nickel	**7440-02-0**	**0.608**	QB-01	**0.515**
Selenium	**7782-49-2**	**0.216**	LJ, QX	**0.00708**
Thallium	**7440-28-0**	**0.00113**	QB-01, QB-04	**4.65E-4**
Vanadium	**7440-62-2**	**0.275**		**0.0418**
Zinc	7440-66-6	25.6	U	60.7

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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524462
Matrix: Air
Comments: MFL-AM04-011824-HM

Lab ID: 4012928-04
Sample Volume: 1951.155 m³
Filter ID:

Sampled: 01/18/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 21:05

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0792**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.156**		**0.00781**
Barium	**7440-39-3**	**2.07**		**0.892**
Beryllium	**7440-41-7**	**0.00299**		**0.00267**
Cadmium	7440-43-9	0.00671	U	0.0661
Chromium	7440-47-3	0.846	U	1.84
Cobalt	**7440-48-4**	**0.0723**		**0.0364**
Copper	**7440-50-8**	**35.1**		**2.19**
Lead	**7439-92-1**	**0.437**		**0.178**
Manganese	**7439-96-5**	**2.24**		**1.58**
Molybdenum	**7439-98-7**	**1.02**		**0.299**
Nickel	7440-02-0	0.350	U, QB-01	0.544
Selenium	**7782-49-2**	**0.198**	LJ, QX	**0.00747**
Thallium	**7440-28-0**	**9.11E-4**	QB-01, QB-04	**4.91E-4**
Vanadium	**7440-62-2**	**0.216**		**0.0441**
Zinc	7440-66-6	19.6	U	64.0

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524460
Matrix: Air
Comments: MFL-AM01-011924-HM

Lab ID: 4012928-05
Sample Volume: 2065.013 m³
Filter ID:

Sampled: 01/19/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 21:20

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0714**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.399**		**0.00738**
Barium	**7440-39-3**	**2.36**		**0.843**
Beryllium	**7440-41-7**	**0.00350**		**0.00252**
Cadmium	7440-43-9	0.00632	U	0.0625
Chromium	7440-47-3	1.20	U	1.74
Cobalt	**7440-48-4**	**0.143**		**0.0344**
Copper	**7440-50-8**	**28.7**		**2.07**
Lead	**7439-92-1**	**0.588**		**0.169**
Manganese	**7439-96-5**	**3.91**		**1.49**
Molybdenum	**7439-98-7**	**1.34**		**0.283**
Nickel	**7440-02-0**	**0.548**	QB-01	**0.514**
Selenium	**7782-49-2**	**0.140**	LJ, QX	**0.00706**
Thallium	**7440-28-0**	**6.44E-4**	QB-01, QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**0.467**		**0.0417**
Zinc	7440-66-6	26.0	U	60.5

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524459
Matrix: Air
Comments: MFL-AM02-011924-HM

Lab ID: 4012928-06
Sample Volume: 2141.176 m³
Filter ID:

Sampled: 01/19/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 21:36

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.202**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.974**		**0.00712**
Barium	**7440-39-3**	**4.33**		**0.813**
Beryllium	**7440-41-7**	**0.00519**		**0.00243**
Cadmium	7440-43-9	0.0151	U	0.0603
Chromium	7440-47-3	1.37	U	1.68
Cobalt	**7440-48-4**	**0.165**		**0.0331**
Copper	**7440-50-8**	**23.8**		**2.00**
Lead	**7439-92-1**	**1.68**		**0.163**
Manganese	**7439-96-5**	**5.29**		**1.44**
Molybdenum	**7439-98-7**	**1.20**		**0.273**
Nickel	**7440-02-0**	**0.654**	QB-01	**0.495**
Selenium	**7782-49-2**	**0.157**	LJ, QX	**0.00681**
Thallium	**7440-28-0**	**7.42E-4**	QB-01, QB-04	**4.48E-4**
Vanadium	**7440-62-2**	**0.582**		**0.0402**
Zinc	7440-66-6	44.1	U	58.4

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

FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524458
Matrix: Air
Comments: MFL-AM03-011924-HM

Lab ID: 4012928-07
Sample Volume: 2104.136 m³
Filter ID:

Sampled: 01/19/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 21:53

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0852**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.0650**		**0.00725**
Barium	**7440-39-3**	**2.01**		**0.827**
Beryllium	**7440-41-7**	**0.00558**		**0.00247**
Cadmium	7440-43-9	0.00461	U	0.0613
Chromium	7440-47-3	1.04	U	1.71
Cobalt	**7440-48-4**	**0.106**		**0.0337**
Copper	**7440-50-8**	**23.3**		**2.03**
Lead	**7439-92-1**	**0.318**		**0.165**
Manganese	**7439-96-5**	**2.48**		**1.46**
Molybdenum	**7439-98-7**	**1.35**		**0.278**
Nickel	**7440-02-0**	**0.879**	QB-01	**0.504**
Selenium	**7782-49-2**	**0.139**	LJ, QX	**0.00693**
Thallium	**7440-28-0**	**6.53E-4**	QB-01, QB-04	**4.55E-4**
Vanadium	**7440-62-2**	**0.341**		**0.0409**
Zinc	7440-66-6	19.3	U	59.4

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

FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524457
Matrix: Air
Comments: MFL-AM04-011924-HM

Lab ID: 4012928-08
Sample Volume: 1956.076 m³
Filter ID:

Sampled: 01/19/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 22:08

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.120**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.160**		**0.00779**
Barium	**7440-39-3**	**1.90**		**0.890**
Beryllium	**7440-41-7**	**0.00270**		**0.00266**
Cadmium	7440-43-9	0.00409	U	0.0660
Chromium	7440-47-3	0.992	U	1.84
Cobalt	**7440-48-4**	**0.0708**		**0.0363**
Copper	**7440-50-8**	**30.4**		**2.19**
Lead	**7439-92-1**	**0.256**		**0.178**
Manganese	**7439-96-5**	**2.18**		**1.57**
Molybdenum	**7439-98-7**	**1.02**		**0.299**
Nickel	7440-02-0	0.371	QB-01, U	0.542
Selenium	**7782-49-2**	**0.146**	LJ, QX	**0.00745**
Thallium	7440-28-0	4.54E-4	QB-01, QB-04, U	4.90E-4
Vanadium	**7440-62-2**	**0.276**		**0.0440**
Zinc	7440-66-6	19.3	U	63.9

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

FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524455
Matrix: Air
Comments: MFL-AM01-012124-HM

Lab ID: 4012928-09
Sample Volume: 2063.266 m³
Filter ID:

Sampled: 01/21/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 22:25

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0980**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.501**		**0.00739**
Barium	**7440-39-3**	**1.65**		**0.844**
Beryllium	7440-41-7	0.00195	U	0.00252
Cadmium	7440-43-9	0.00491	U	0.0625
Chromium	7440-47-3	0.811	U	1.74
Cobalt	**7440-48-4**	**0.0638**		**0.0344**
Copper	**7440-50-8**	**30.4**		**2.07**
Lead	**7439-92-1**	**0.347**		**0.169**
Manganese	**7439-96-5**	**1.70**		**1.49**
Molybdenum	**7439-98-7**	**1.70**		**0.283**
Nickel	7440-02-0	0.448	QB-01, U	0.514
Selenium	**7782-49-2**	**0.349**	LJ, QX	**0.00707**
Thallium	**7440-28-0**	**7.12E-4**	QB-01, QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**0.314**		**0.0417**
Zinc	7440-66-6	21.4	U	60.6

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

FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524454
Matrix: Air
Comments: MFL-AM01-012224-HM

Lab ID: 4012928-10
Sample Volume: 2104.339 m³
Filter ID:

Sampled: 01/22/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/02/24 00:02

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0894**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.572**		**0.00724**
Barium	**7440-39-3**	**3.32**		**0.827**
Beryllium	**7440-41-7**	**0.00558**		**0.00247**
Cadmium	7440-43-9	0.0118	U	0.0613
Chromium	7440-47-3	1.58	U	1.71
Cobalt	**7440-48-4**	**0.274**	QB-04	**0.0337**
Copper	**7440-50-8**	**49.4**		**2.03**
Lead	**7439-92-1**	**1.26**		**0.165**
Manganese	**7439-96-5**	**6.41**		**1.46**
Molybdenum	**7439-98-7**	**1.86**		**0.278**
Nickel	**7440-02-0**	**1.05**	QB-01	**0.504**
Selenium	**7782-49-2**	**0.323**	LJ, QX	**0.00693**
Thallium	**7440-28-0**	**0.00102**	QB-01, QB-04	**4.55E-4**
Vanadium	**7440-62-2**	**0.786**		**0.0409**
Zinc	7440-66-6	31.8	U	59.4

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9537214
Matrix: Air
Comments: MFL-AM01-012424-HM

Lab ID: 4012928-11
Sample Volume: 2028.249 m³
Filter ID:

Sampled: 01/24/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/01/24 17:03

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	**0.0310**
Arsenic	**7440-38-2**	**2.41**		**0.00752**
Barium	**7440-39-3**	**14.0**	A-01	**0.858**
Beryllium	**7440-41-7**	**0.0238**		**0.00257**
Cadmium	7440-43-9	0.0378	U	0.0636
Chromium	**7440-47-3**	**5.24**		**1.77**
Cobalt	**7440-48-4**	**1.38**		**0.0350**
Copper	**7440-50-8**	**47.4**	QM-07	**2.11**
Lead	**7439-92-1**	**11.8**		**0.172**
Manganese	**7439-96-5**	**26.0**	QM-07	**1.52**
Molybdenum	**7439-98-7**	**1.63**		**0.288**
Nickel	**7440-02-0**	**6.47**	QB-01, QM-07	**0.523**
Selenium	**7782-49-2**	**0.408**	LJ, QX	**0.00719**
Thallium	**7440-28-0**	**0.00147**	QB-01	**4.72E-4**
Vanadium	**7440-62-2**	**2.29**		**0.0424**
Zinc	**7440-66-6**	**77.0**		**61.6**

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9534268
Matrix: Air
Comments: MFL-AM02-012424-HM

Lab ID: 4012928-12
Sample Volume: 2106.215 m³
Filter ID:

Sampled: 01/24/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/02/24 00:21

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0349**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.710**		**0.00724**
Barium	**7440-39-3**	**1.24**		**0.827**
Beryllium	**7440-41-7**	**0.00264**		**0.00247**
Cadmium	7440-43-9	0.0191	U	0.0613
Chromium	**7440-47-3**	**1.89**		**1.71**
Cobalt	**7440-48-4**	**0.104**	QB-04	**0.0337**
Copper	**7440-50-8**	**23.2**		**2.03**
Lead	**7439-92-1**	**1.25**		**0.165**
Manganese	**7439-96-5**	**1.80**		**1.46**
Molybdenum	**7439-98-7**	**0.445**		**0.277**
Nickel	7440-02-0	0.450	QB-01, U	0.504
Selenium	**7782-49-2**	**0.382**	LJ, QX	**0.00692**
Thallium	**7440-28-0**	**5.78E-4**	QB-01, QB-04	**4.55E-4**
Vanadium	**7440-62-2**	**0.225**		**0.0409**
Zinc	7440-66-6	28.6	U	59.3

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9534267
Matrix: Air
Comments: MFL-AM03-012424-HM

Lab ID: 4012928-13
Sample Volume: 2043.645 m³
Filter ID:

Sampled: 01/24/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/02/24 00:39

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0507**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.165**		**0.00746**
Barium	**7440-39-3**	**2.52**		**0.852**
Beryllium	**7440-41-7**	**0.0104**		**0.00255**
Cadmium	7440-43-9	0.00633	U	0.0631
Chromium	**7440-47-3**	**3.07**		**1.76**
Cobalt	**7440-48-4**	**0.438**	QB-04	**0.0347**
Copper	**7440-50-8**	**8.74**		**2.09**
Lead	**7439-92-1**	**0.284**		**0.170**
Manganese	**7439-96-5**	**7.68**		**1.50**
Molybdenum	**7439-98-7**	**0.626**		**0.286**
Nickel	**7440-02-0**	**1.20**	QB-01	**0.519**
Selenium	**7782-49-2**	**0.368**	LJ, QX	**0.00713**
Thallium	**7440-28-0**	**6.57E-4**	QB-01, QB-04	**4.69E-4**
Vanadium	**7440-62-2**	**0.677**		**0.0421**
Zinc	7440-66-6	18.7	U	61.1

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

FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9534265
Matrix: Air
Comments: MFL-AM04-012424-HM

Lab ID: 4012928-14
Sample Volume: 1915.566 m³
Filter ID:

Sampled: 01/24/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/02/24 00:56

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0627**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.874**		**0.00796**
Barium	**7440-39-3**	**1.26**		**0.909**
Beryllium	7440-41-7	0.00239	U	0.00272
Cadmium	7440-43-9	0.0244	U	0.0674
Chromium	**7440-47-3**	**2.11**		**1.88**
Cobalt	**7440-48-4**	**0.110**	QB-04	**0.0370**
Copper	**7440-50-8**	**27.3**		**2.23**
Lead	**7439-92-1**	**0.860**		**0.182**
Manganese	**7439-96-5**	**1.98**		**1.61**
Molybdenum	**7439-98-7**	**0.979**		**0.305**
Nickel	7440-02-0	0.487	QB-01, U	0.554
Selenium	**7782-49-2**	**0.330**	LJ, QX	**0.00761**
Thallium	7440-28-0	4.81E-4	QB-01, QB-04, U	5.00E-4
Vanadium	**7440-62-2**	**0.265**		**0.0449**
Zinc	7440-66-6	22.1	U	65.2

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9534257 FB
Matrix: Air
Lab ID: 4012928-15
Sample Volume: 2028.249 m³
Filter ID:
Sampled: 01/24/24 00:00
Received: 01/29/24 13:08
Analysis Date: 02/02/24 01:16

Comments: MFL-FB01-012424-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0124	SL, U	0.0310
Arsenic	7440-38-2	0.00495	U	0.00752
Barium	7440-39-3	0.472	U	0.858
Beryllium	7440-41-7	9.86E-4	U	0.00257
Cadmium	7440-43-9	0.00389	U	0.0636
Chromium	7440-47-3	1.36	U	1.77
Cobalt	7440-48-4	0.0254	QB-04, U	0.0350
Copper	7440-50-8	0.533	U	2.11
Lead	7439-92-1	0.0638	U	0.172
Manganese	7439-96-5	0.149	U	1.52
Molybdenum	7439-98-7	0.196	U	0.288
Nickel	7440-02-0	0.263	QB-01, U	0.523
Selenium	7782-49-2	0.00396	LJ, QX, U	0.00719
Thallium	7440-28-0	1.63E-4	QB-01, QB-04, U	4.72E-4
Vanadium	7440-62-2	0.0314	U	0.0424
Zinc	7440-66-6	10.5	U	61.6

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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: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: TetraTech Q9524456
Matrix: Air
Lab ID: 4012928-16
Sample Volume: 2099.095 m³
Filter ID:
Sampled: 01/20/24 23:59
Received: 01/29/24 13:08
Analysis Date: 02/02/24 01:32

Comments: MFL-AM01-012024-HM - Sample omitted from original shipment by error, receive

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0590**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.378**		**0.00726**
Barium	**7440-39-3**	**1.88**		**0.829**
Beryllium	7440-41-7	0.00225	U	0.00248
Cadmium	7440-43-9	0.00557	U	0.0615
Chromium	7440-47-3	0.904	U	1.71
Cobalt	**7440-48-4**	**0.0876**	QB-04	**0.0338**
Copper	**7440-50-8**	**27.5**		**2.04**
Lead	**7439-92-1**	**0.270**		**0.166**
Manganese	**7439-96-5**	**2.37**		**1.46**
Molybdenum	**7439-98-7**	**1.43**		**0.278**
Nickel	7440-02-0	0.365	QB-01, U	0.505
Selenium	**7782-49-2**	**0.193**	LJ, QX	**0.00694**
Thallium	**7440-28-0**	**4.85E-4**	QB-01, QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**0.283**		**0.0410**
Zinc	7440-66-6	18.0	U	59.5

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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 2402002 - B4B0101										
Calibration Blank (2402002-CCB1)				Prepared & Analyzed: 02/01/24						
Antimony	0.994		ng/l							
Arsenic	2.36		ng/l							
Barium	2.67		ng/l							
Beryllium	0.231		ng/l							
Cadmium	0.294		ng/l							
Chromium	2.83		ng/l							
Cobalt	0.637		ng/l							
Copper	94.6		ng/l							
Lead	4.20		ng/l							
Manganese	9.92		ng/l							
Molybdenum	13.1		ng/l							
Nickel	0.498		ng/l							
Selenium	-1.71		ng/l							LJ, QX, U
Thallium	0.745		ng/l							
Vanadium	50.3		ng/l							
Zinc	-30.5		ng/l							U
Calibration Blank (2402002-CCB2)				Prepared & Analyzed: 02/01/24						
Antimony	0.471		ng/l							
Arsenic	5.98		ng/l							
Barium	2.05		ng/l							
Beryllium	0.0503		ng/l							
Cadmium	0.238		ng/l							
Chromium	0.531		ng/l							
Cobalt	0.250		ng/l							
Copper	64.0		ng/l							
Lead	3.16		ng/l							
Manganese	4.59		ng/l							
Molybdenum	3.75		ng/l							
Nickel	0.346		ng/l							
Selenium	10.3		ng/l							LJ, QX
Thallium	0.610		ng/l							
Vanadium	46.1		ng/l							
Zinc	-33.0		ng/l							U
Calibration Blank (2402002-CCB3)				Prepared & Analyzed: 02/01/24						
Antimony	4.02		ng/l							
Arsenic	3.84		ng/l							
Barium	37.4		ng/l							
Beryllium	0.753		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402002 - B4B0101										
Calibration Blank (2402002-CCB3) Contin				Prepared & Analyzed: 02/01/24						
Cadmium	2.91		ng/l							
Chromium	37.8		ng/l							
Cobalt	8.52		ng/l							
Copper	456		ng/l							
Lead	45.4		ng/l							
Manganese	86.2		ng/l							
Molybdenum	22.7		ng/l							
Nickel	20.5		ng/l							
Selenium	6.85		ng/l							LJ, QX
Thallium	3.19		ng/l							QB-04
Vanadium	59.4		ng/l							
Zinc	159		ng/l							
Calibration Blank (2402002-CCB4)				Prepared: 02/01/24 Analyzed: 02/02/24						
Antimony	8.77		ng/l							
Arsenic	12.0		ng/l							
Barium	94.2		ng/l							
Beryllium	2.81		ng/l							
Cadmium	7.23		ng/l							
Chromium	98.5		ng/l							
Cobalt	26.4		ng/l							QB-04
Copper	1220		ng/l							
Lead	144		ng/l							
Manganese	236		ng/l							
Molybdenum	65.5		ng/l							
Nickel	64.5		ng/l							
Selenium	17.3		ng/l							LJ, QX
Thallium	2.43		ng/l							QB-04
Vanadium	60.7		ng/l							
Zinc	538		ng/l							
Calibration Check (2402002-CCV1)				Prepared & Analyzed: 02/01/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5270		ng/l	5000.0		105	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	253000		ng/l	240000		106	90-110			
Cobalt	49400		ng/l	50000		98.9	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.6	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 2402002 - B4B0101										
Calibration Check (2402002-CCV1) Contin				Prepared & Analyzed: 02/01/24						
Lead	200000		ng/l	200000		100	90-110			
Manganese	492000		ng/l	500000		98.4	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	119000		ng/l	120000		99.1	90-110			
Selenium	20800		ng/l	20000		104	90-110			LJ, QX
Thallium	505		ng/l	500.00		101	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2402002-CCV2)				Prepared & Analyzed: 02/01/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	48200		ng/l	50000		96.4	90-110			
Copper	1.96E6		ng/l	2.0000E6		98.1	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	485000		ng/l	500000		97.0	90-110			
Molybdenum	49800		ng/l	50000		99.7	90-110			
Nickel	116000		ng/l	120000		96.9	90-110			
Selenium	21000		ng/l	20000		105	90-110			LJ, QX
Thallium	493		ng/l	500.00		98.7	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2402002-CCV3)				Prepared & Analyzed: 02/01/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19700		ng/l	20000		98.4	90-110			
Barium	208000		ng/l	200000		104	90-110			
Beryllium	4560		ng/l	5000.0		91.3	90-110			
Cadmium	19900		ng/l	20000		99.3	90-110			
Chromium	258000		ng/l	240000		107	90-110			
Cobalt	47500		ng/l	50000		94.9	90-110			
Copper	1.94E6		ng/l	2.0000E6		96.9	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	488000		ng/l	500000		97.5	90-110			
Molybdenum	49200		ng/l	50000		98.3	90-110			
Nickel	115000		ng/l	120000		95.6	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 2402002 - B4B0101										
Calibration Check (2402002-CCV3) Contin				Prepared & Analyzed: 02/01/24						
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2402002-CCV4)				Prepared: 02/01/24 Analyzed: 02/02/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	19800		ng/l	20000		99.1	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	47100		ng/l	50000		94.3	90-110			
Copper	1.94E6		ng/l	2.0000E6		97.2	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	486000		ng/l	500000		97.2	90-110			
Molybdenum	48800		ng/l	50000		97.6	90-110			
Nickel	114000		ng/l	120000		95.1	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	477		ng/l	500.00		95.3	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	518000		ng/l	500000		104	90-110			
High Cal Check (2402002-HCV1)				Prepared & Analyzed: 02/01/24						
Antimony	40700		ng/l	40000		102	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	410000		ng/l	400000		102	95-105			
Beryllium	10300		ng/l	10000		103	95-105			
Cadmium	40100		ng/l	40000		100	95-105			
Chromium	479000		ng/l	480000		99.9	95-105			
Cobalt	98100		ng/l	100000		98.1	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.7	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	995000		ng/l	1.0000E6		99.5	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	235000		ng/l	240000		97.8	95-105			
Selenium	41000		ng/l	40000		103	95-105			LJ, QX
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	41200		ng/l	40000		103	95-105			
Zinc	1.02E6		ng/l	1.0000E6		102	95-105			

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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 2402002 - B4B0101										
Initial Cal Blank (2402002-ICB1)				Prepared & Analyzed: 02/01/24						
Antimony	1.08		ng/l							
Arsenic	0.708		ng/l							
Barium	3.32		ng/l							
Beryllium	0.366		ng/l							
Cadmium	0.309		ng/l							
Chromium	3.13		ng/l							
Cobalt	0.510		ng/l							
Copper	143		ng/l							
Lead	5.16		ng/l							
Manganese	13.3		ng/l							
Molybdenum	15.6		ng/l							
Nickel	0.407		ng/l							
Selenium	-4.51		ng/l							LJ, QX, U
Thallium	1.15		ng/l							
Vanadium	59.5		ng/l							
Zinc	-10.6		ng/l							U
Initial Cal Check (2402002-ICV1)				Prepared & Analyzed: 02/01/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	4700		ng/l	5000.0		94.0	90-110			
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	496000		ng/l	500000		99.2	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	21000		ng/l	20000		105	90-110			LJ, QX
Thallium	512		ng/l	500.00		102	90-110			
Vanadium	21100		ng/l	20000		106	90-110			
Zinc	543000		ng/l	500000		109	90-110			
Interference Check A (2402002-IFA1)				Prepared & Analyzed: 02/01/24						
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

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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 2402002 - B4B0101										
Interference Check A (2402002-IFA1) Co				Prepared & Analyzed: 02/01/24						
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	302000		ng/l	300000		101	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2402002-IFB1)				Prepared & Analyzed: 02/01/24						
Antimony	20900		ng/l	20000		105	80-120			
Arsenic	20700		ng/l	20000		104	80-120			
Barium	211000		ng/l	200000		106	80-120			
Beryllium	4430		ng/l	5000.0		88.6	80-120			
Cadmium	19800		ng/l	20000		99.1	80-120			
Chromium	238000		ng/l	240000		99.1	80-120			
Cobalt	48600		ng/l	50000		97.1	80-120			
Copper	1.89E6		ng/l	2.0000E6		94.5	80-120			
Lead	207000		ng/l	200000		104	80-120			
Manganese	505000		ng/l	500000		101	80-120			
Molybdenum	355000		ng/l	350000		102	80-120			
Nickel	113000		ng/l	120000		94.3	80-120			
Selenium	20200		ng/l	20000		101	80-120			LJ, QX
Thallium	516		ng/l	500.00		103	80-120			
Vanadium	19800		ng/l	20000		99.1	80-120			
Zinc	495000		ng/l	500000		99.1	80-120			
Batch B4B0101 - ICP-MS Extraction										
Blank (B4B0101-BLK1)				Prepared & Analyzed: 02/01/24						
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	0.0793	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							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 B4B0101 - ICP-MS Extraction										
Blank (B4B0101-BLK1) Continued				Prepared & Analyzed: 02/01/24						
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							QB-01, U
Selenium	ND	0.00896	ng/m³ Air							LJ, QX, U
Thallium	ND	5.89E-4	ng/m³ Air							QB-01, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4B0101-BS1)				Prepared & Analyzed: 02/01/24						
Antimony	0.713	0.0386	ng/m³ Air	1.3829		51.6	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	29.2	1.07	ng/m³ Air	27.658		105	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.40	0.0793	ng/m³ Air	1.3829		101	80-120			
Chromium	17.0	2.21	ng/m³ Air	13.829		123	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.7	80-120			
Copper	29.8	2.63	ng/m³ Air	27.658		108	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.83	1.89	ng/m³ Air	8.2975		106	80-120			
Molybdenum	1.65	0.359	ng/m³ Air	1.3829		120	80-120			
Nickel	3.00	0.652	ng/m³ Air	2.7658		109	80-120			QB-01
Selenium	2.83	0.00896	ng/m³ Air	2.7658		102	80-120			LJ, QX
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.2	80-120			QB-01
Vanadium	2.89	0.0529	ng/m³ Air	2.7658		104	80-120			
Zinc	138	76.8	ng/m³ Air	82.975		166	80-120			
Duplicate (B4B0101-DUP1)		**Source: 4012928-11**		Prepared & Analyzed: 02/01/24						
Antimony	0.136	0.0310	ng/m³ Air		0.112			19.7	10	SL
Arsenic	2.60	0.00752	ng/m³ Air		2.41			7.48	10	
Barium	14.2	0.858	ng/m³ Air		14.0			1.36	10	
Beryllium	0.0241	0.00257	ng/m³ Air		0.0238			1.37	10	
Cadmium	ND	0.0636	ng/m³ Air		ND				10	U
Chromium	5.31	1.77	ng/m³ Air		5.24			1.36	10	
Cobalt	1.43	0.0350	ng/m³ Air		1.38			3.52	10	
Copper	43.5	2.11	ng/m³ Air		47.4			8.61	10	
Lead	12.5	0.172	ng/m³ Air		11.8			5.26	10	
Manganese	26.4	1.52	ng/m³ Air		26.0			1.64	10	
Molybdenum	1.72	0.288	ng/m³ Air		1.63			5.71	10	

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

FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4B0101 - ICP-MS Extraction

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Duplicate (B4B0101-DUP1) Continued	**Source: 4012928-11**			Prepared & Analyzed: 02/01/24						
Nickel	6.58	0.523	ng/m³ Air		6.47			1.73	10	QB-01
Selenium	0.429	0.00719	ng/m³ Air		0.408			4.90	10	LJ, QX
Thallium	0.00150	4.72E-4	ng/m³ Air		0.00147			2.49	10	QB-01
Vanadium	2.30	0.0424	ng/m³ Air		2.29			0.445	10	
Zinc	77.4	61.6	ng/m³ Air		77.0			0.489	10	
Duplicate (B4B0101-DUP2)	**Source: 4012928-03**			Prepared & Analyzed: 02/01/24						
Antimony	0.102	0.0305	ng/m³ Air		0.102			0.220	10	SL
Arsenic	0.0955	0.00740	ng/m³ Air		0.0957			0.195	10	
Barium	2.22	0.845	ng/m³ Air		2.20			0.598	10	
Beryllium	0.00753	0.00253	ng/m³ Air		0.00647			15.1	10	
Cadmium	ND	0.0627	ng/m³ Air		ND				10	U
Chromium	ND	1.75	ng/m³ Air		ND				10	U
Cobalt	0.112	0.0345	ng/m³ Air		0.114			1.67	10	
Copper	23.5	2.08	ng/m³ Air		23.2			1.40	10	
Lead	0.251	0.169	ng/m³ Air		0.263			4.89	10	
Manganese	2.50	1.49	ng/m³ Air		2.51			0.504	10	
Molybdenum	1.39	0.284	ng/m³ Air		1.35			2.45	10	
Nickel	0.608	0.515	ng/m³ Air		0.608			0.0271	10	QB-01
Selenium	0.219	0.00708	ng/m³ Air		0.216			1.40	10	LJ, QX
Thallium	0.00107	4.65E-4	ng/m³ Air		0.00113			5.84	10	QB-01, QB-04
Vanadium	0.284	0.0418	ng/m³ Air		0.275			3.12	10	
Zinc	ND	60.7	ng/m³ Air		ND				10	U
Matrix Spike (B4B0101-MS1)	**Source: 4012928-11**			Prepared & Analyzed: 02/01/24						
Antimony	0.596	0.0310	ng/m³ Air	1.1093	0.112	43.7	80-120			SL
Arsenic	4.72	0.00752	ng/m³ Air	2.2187	2.41	104	80-120			
Barium	37.3	0.858	ng/m³ Air	22.187	14.0	105	80-120			
Beryllium	1.13	0.00257	ng/m³ Air	1.1093	0.0238	99.9	80-120			
Cadmium	1.13	0.0636	ng/m³ Air	1.1093	ND	102	80-120			
Chromium	16.9	1.77	ng/m³ Air	11.093	5.24	105	80-120			
Cobalt	2.46	0.0350	ng/m³ Air	1.1093	1.38	97.2	80-120			
Copper	62.7	2.11	ng/m³ Air	22.187	47.4	69.0	80-120			QM-07
Lead	23.6	0.172	ng/m³ Air	11.093	11.8	106	80-120			
Manganese	32.9	1.52	ng/m³ Air	6.6560	26.0	104	80-120			
Molybdenum	2.79	0.288	ng/m³ Air	1.1093	1.63	105	80-120			
Nickel	8.78	0.523	ng/m³ Air	2.2187	6.47	104	80-120			QB-01
Selenium	2.63	0.00719	ng/m³ Air	2.2187	0.408	100	80-120			LJ, QX
Thallium	0.108	4.72E-4	ng/m³ Air	0.11093	0.00147	95.9	80-120			QB-01
Vanadium	4.48	0.0424	ng/m³ Air	2.2187	2.29	98.5	80-120			

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

FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
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 B4B0101 - ICP-MS Extraction										
Matrix Spike (B4B0101-MS1) Continued Source: 4012928-11 Prepared & Analyzed: 02/01/24										
Zinc	138	61.6	ng/m³ Air	66.560	77.0	92.2	80-120			
Matrix Spike Dup (B4B0101-MSD1) Source: 4012928-11 Prepared & Analyzed: 02/01/24										
Antimony	0.542	0.0310	ng/m³ Air	1.1093	0.112	38.8	80-120	9.65	20	SL
Arsenic	4.27	0.00752	ng/m³ Air	2.2187	2.41	83.6	80-120	9.91	20	
Barium	35.3	0.858	ng/m³ Air	22.187	14.0	96.0	80-120	5.43	20	
Beryllium	1.15	0.00257	ng/m³ Air	1.1093	0.0238	102	80-120	1.89	20	
Cadmium	1.07	0.0636	ng/m³ Air	1.1093	ND	96.5	80-120	5.20	20	
Chromium	15.9	1.77	ng/m³ Air	11.093	5.24	95.9	80-120	6.10	20	
Cobalt	2.34	0.0350	ng/m³ Air	1.1093	1.38	86.9	80-120	4.73	20	
Copper	58.1	2.11	ng/m³ Air	22.187	47.4	48.5	80-120	7.51	20	QM-07
Lead	22.2	0.172	ng/m³ Air	11.093	11.8	93.8	80-120	5.83	20	
Manganese	31.2	1.52	ng/m³ Air	6.6560	26.0	79.0	80-120	5.23	20	QM-07
Molybdenum	2.66	0.288	ng/m³ Air	1.1093	1.63	92.7	80-120	5.03	20	
Nickel	8.21	0.523	ng/m³ Air	2.2187	6.47	78.7	80-120	6.67	20	QB-01, QM-07
Selenium	2.59	0.00719	ng/m³ Air	2.2187	0.408	98.5	80-120	1.48	20	LJ, QX
Thallium	0.105	4.72E-4	ng/m³ Air	0.11093	0.00147	93.1	80-120	2.97	20	QB-01
Vanadium	4.22	0.0424	ng/m³ Air	2.2187	2.29	86.9	80-120	5.89	20	
Zinc	141	61.6	ng/m³ Air	66.560	77.0	95.9	80-120	1.74	20	
Post Spike (B4B0101-PS1) Source: 4012928-11 Prepared & Analyzed: 02/01/24										
Antimony	0.335	0.0310	ng/m³ Air	0.22187	0.112	101	75-125			SL
Arsenic	3.49	0.00752	ng/m³ Air	1.1093	2.41	96.9	75-125			
Barium	16.9	0.858	ng/m³ Air	2.2187	14.0	128	75-125			A-01
Beryllium	0.249	0.00257	ng/m³ Air	0.22187	0.0238	101	75-125			
Cadmium	0.147	0.0636	ng/m³ Air	0.11093	ND	132	75-125			
Chromium	6.42	1.77	ng/m³ Air	1.1093	5.24	106	75-125			
Cobalt	1.62	0.0350	ng/m³ Air	0.22187	1.38	107	75-125			
Copper	56.3	2.11	ng/m³ Air	11.093	47.4	80.2	75-125			
Lead	33.7	0.172	ng/m³ Air	22.187	11.8	98.7	75-125			
Manganese	28.2	1.52	ng/m³ Air	2.2187	26.0	100	75-125			
Molybdenum	2.74	0.288	ng/m³ Air	1.1093	1.63	100	75-125			
Nickel	8.64	0.523	ng/m³ Air	2.2187	6.47	97.7	75-125			QB-01
Selenium	1.52	0.00719	ng/m³ Air	1.1093	0.408	100	75-125			LJ, QX
Thallium	0.0551	4.72E-4	ng/m³ Air	5.5467E-2	0.00147	96.7	75-125			QB-01
Vanadium	3.39	0.0424	ng/m³ Air	1.1093	2.29	98.8	75-125			
Zinc	101	61.6	ng/m³ Air	22.187	77.0	109	75-125			
Dilution Check (B4B0101-SRL1) Source: 4012928-11 Prepared & Analyzed: 02/01/24										
Antimony	ND	0.155	ng/m³ Air		ND				10	SL, U
Arsenic	2.50	0.0376	ng/m³ Air		2.41			3.70	10	

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
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 B4B0101 - ICP-MS Extraction										
Dilution Check (B4B0101-SRL1) ContinueSource: 4012928-11 Prepared & Analyzed: 02/01/24										
Barium	14.9	4.29	ng/m³ Air		14.0			6.10	10	
Beryllium	0.0230	0.0128	ng/m³ Air		0.0238			3.16	10	
Cadmium	ND	0.318	ng/m³ Air		ND				10	U
Chromium	ND	8.86	ng/m³ Air		ND				10	U
Cobalt	1.46	0.175	ng/m³ Air		1.38			5.79	10	
Copper	49.7	10.5	ng/m³ Air		47.4			4.80	10	
Lead	12.3	0.858	ng/m³ Air		11.8			3.64	10	
Manganese	27.5	7.58	ng/m³ Air		26.0			5.74	10	
Molybdenum	1.77	1.44	ng/m³ Air		1.63			8.14	10	
Nickel	6.89	2.62	ng/m³ Air		6.47			6.38	10	QB-01
Selenium	0.441	0.0359	ng/m³ Air		0.408			7.67	10	LJ, QX
Thallium	0.00278	0.00236	ng/m³ Air		ND			61.9	10	QB-01
Vanadium	2.46	0.212	ng/m³ Air		2.29			7.06	10	
Zinc	ND	308	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
SUBMITTED: 01/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
A-01	Parent sample >4x spike amount
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:
Talaidh Isaacs 02/06/2024 and Shanna Vasser 2/9/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 1/18/2024 - 1/24/2024
Report No: 4012928

√	1.	Chain of custody (CoC) documentation is present.
X	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.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: The chain of custody states sample MFL-AM01-012424-HM was missing; however, it was included in a later shipment. No other sample receipt information was included.

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

January 25 through January 31, 2024
[Report Updated: December 4, 2024]

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

Particulate monitoring and air sampling occurred from January 25 through January 31, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from January 25 through January 31 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. Of the 28 samples collected, one was voided. The sample from WW Pump Station #4 on 1/29 was voided due to a damaged filter and was unable to be analyzed. All analytical results from this reporting period were

below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on January 25 through 31
- WW Pump Station #4 on January 25 through 31
- Lahaina Intermediate School on January 25 through 31
- Lahaina Boys & Girls Club on January 25 through 27, and 29 through 31

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

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.7 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

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

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

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

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

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

- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

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

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

Attachments

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
Januay 25 through January 31, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
1/25/2024	Leialii Hawaiian Homelands (AM-01)	6.1
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	80
	Lahaina Boys & Girls Club (AM-04)	5.0
1/26/2024	Leialii Hawaiian Homelands (AM-01)	5.5
	WW Pump Station #4 (AM-02)	6.0
	Lahaina Intermediate School (AM-03)	58
	Lahaina Boys & Girls Club (AM-04)	5.8
1/27/2024	Leialii Hawaiian Homelands (AM-01)	8.0
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	86
	Lahaina Boys & Girls Club (AM-04)	13.
1/28/2024	Leialii Hawaiian Homelands (AM-01)	8.8
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	9.4
1/29/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	8.6
	Lahaina Boys & Girls Club (AM-04)	9.9
1/30/2024	Leialii Hawaiian Homelands (AM-01)	6.3
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	130
	Lahaina Boys & Girls Club (AM-04)	3.7
1/31/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	9.0

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation
Results from WW Pump Station #4 on 1/29 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
Januay 25 through January 31, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening Level*		0.0030 [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
1/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000462	0.00572	0.0141	0.0000342	ND	0.00806	0.00248	0.0478	0.00401	0.0456	0.00139	0.0123	0.000495	0.00000195	0.00355	0.0876
	WW Pump Station #4 (AM-02)	<0.0024	0.0000427	0.000272	0.000983	ND	ND	ND	0.0000693	0.0199	0.000806	ND	0.000582	ND	0.000356	ND	0.000209	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000628	0.0000959	0.00175	0.00000633	ND	0.00248	0.000234	0.0456	0.00136	0.00383	0.00128	0.00106	0.000335	0.000000624	0.000379	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000459	0.000128	ND	ND	ND	ND	0.0000611	0.0268	0.000375	ND	0.00102	ND	0.00031	ND	0.00016	ND
1/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000566	0.000381	0.00211	0.0000029	ND	ND	0.000129	0.0204	0.000242	0.00255	0.00107	0.000732	0.000113	0.000000563	0.000246	ND
	WW Pump Station #4 (AM-02)	<0.0030	0.0000475	0.000258	0.00129	ND	ND	ND	0.000122	0.0158	0.00454	ND	0.00108	ND	0.000114	0.000000943	0.000114	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000062	0.0000565	0.00162	0.00000437	ND	ND	0.0000974	0.0376	0.000548	0.00163	0.00171	0.000656	0.000115	0.000000737	0.000173	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000049	0.000131	0.00127	ND	ND	ND	0.0000478	0.0313	0.000336	ND	0.00136	ND	0.000114	0.000000612	0.000103	ND
1/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000677	0.000545	0.00401	0.0000103	ND	0.00245	0.000698	0.0342	0.000438	0.013	0.00153	0.00446	0.000223	0.000000711	0.000834	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000463	0.000196	ND	ND	ND	ND	0.0000374	0.0124	0.000196	ND	0.000832	ND	0.000215	ND	0.000141	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000577	0.000061	0.00149	ND	ND	ND	0.0000779	0.025	0.000191	ND	0.0016	0.000794	0.000209	ND	0.00019	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000551	0.000227	0.00106	ND	ND	ND	0.0000589	0.0267	0.000456	ND	0.00111	ND	0.000204	ND	0.000152	ND
1/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000986	0.000749	0.00464	0.00000833	ND	0.0027	0.000485	0.0489	0.00116	0.00951	0.0017	0.00258	0.000399	0.000000798	0.000966	ND
	WW Pump Station #4 (AM-02)	<0.0024	ND	0.000202	ND	ND	ND	ND	0.0000571	0.00618	0.000216	ND	0.000444	ND	0.000371	0.000000513	0.000252	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000429	0.000083	0.00125	0.00000293	ND	ND	0.000106	0.016	0.000184	0.00179	0.000797	0.000568	0.000357	0.000000663	0.000266	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000039	0.000361	ND	ND	ND	ND	0.0000674	0.0183	0.000416	ND	0.000965	ND	0.000348	0.000000651	0.00025	ND
1/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000101	0.00166	0.00548	0.0000187	ND	0.00448	0.000986	0.0366	0.00112	0.0195	0.00157	0.00475	0.000424	0.0000011	0.00208	ND
	WW Pump Station #4 (AM-02)		0.000031	0.000154	ND	ND	ND	ND	0.0000478	0.00736	0.000202	ND	0.000442	ND	0.000312	0.000000474	0.000184	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000532	0.0000987	0.00166	0.0000441	ND	0.00189	0.000186	0.0112	0.000308	0.00302	0.000478	0.00076	0.000368	0.000000604	0.000309	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000378	0.0002	ND	ND	ND	ND	0.0000557	0.0229	0.000365	ND	0.00128	ND	0.000357	0.000000574	0.000187	ND
1/30/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000098	0.00175	0.00566	0.0000156	ND	0.0044	0.000884	0.0348	0.00106	0.0187	0.00158	0.00487	0.000262	0.000000956	0.00165	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000036	0.00022	0.000984	ND	ND	ND	0.0000467	0.0156	0.000211	ND	0.00109	ND	0.000207	0.000000473	0.000157	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000727	0.000065	0.00145	0.0000033	ND	ND	0.000112	0.0273	0.000172	0.00203	0.00134	0.000724	0.000189	ND	0.000246	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000549	0.000121	0.00117	ND	ND	ND	0.0000646	0.0174	0.000246	ND	0.0011	ND	0.000164	ND	0.000189	ND
1/31/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.00012	0.0031	0.00376	0.00000543	ND	0.00229	0.000439	0.0573	0.00216	0.00547	0.0023	0.00112	0.000107	0.00000105	0.000503	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000198	0.000335	0.00585	0.00000802	ND	0.00178	0.000233	0.0398	0.000606	0.00653	0.00188	0.000916	0.000145	0.00000079	0.000663	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000636	0.0000721	0.00189	0.00000665	ND	ND	0.00014	0.0376	ND	0.003	0.00179	0.000758	0.000125	ND	0.000477	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000089	0.000209	0.003	0.00000541	ND	0.00186	0.000195	0.0226	0.000603	0.00501	0.00134	0.000937	0.000147	0.000000509	0.000681	ND
95% Upper Confidence Limit[2]		NA	0.0001	0.00095	0.00414	0.000016	NA	0.00459	0.00044	0.0344	0.00119	0.019	0.00147	0.00416	0.00031	0.000001	0.00075	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
Data unavailable, voided sample due to damaged filter. Asbestos sample from WW pump Station #4 on 1/29 was not analyized due to the damaged filter
Laboratory metals data provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs
mg/m3 = milligrams per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
s/cc = structures per cubic centimeter
The asbestos results in this report have been reanalyzed by the lab in accordance with the updated SSALs
This report has been updated with new SSALs in accordance with CAMSP Rev 2, May 2024

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Da
January 25 through January 3, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
1/25/2024	AM-01	Leialii Hawaiian Homelands	1.8	SE	75	81	757.2
1/25/2024	AM-02	WW Pump Station #4	1.2	SE	75	85	759.8
1/25/2024	AM-03	Lahaina Intermediate School	3.0	SE	78	88	750.3
1/25/2024	AM-04	Lahaina Boys & Girls Club	1.0	SE	74	84	759.4
1/26/2024	AM-01	Leialii Hawaiian Homelands	1.7	SSE	75	79	757.4
1/26/2024	AM-02	WW Pump Station #4	1.1	ESE	76	83	759.9
1/26/2024	AM-03	Lahaina Intermediate School	2.2	ESE	79	85	750.3
1/26/2024	AM-04	Lahaina Boys & Girls Club	1.1	SE	74	82	759.4
1/27/2024	AM-01	Leialii Hawaiian Homelands	2.0	SSE	76	78	757.1
1/27/2024	AM-02	WW Pump Station #4	1.8	SSE	77	81	759.6
1/27/2024	AM-03	Lahaina Intermediate School	2.3	SE	80	86	750.1
1/27/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSE	76	80	759.2
1/28/2024	AM-01	Leialii Hawaiian Homelands	1.9	S	78	77	756.7
1/28/2024	AM-02	WW Pump Station #4	2.2	S	78	81	759.2
1/28/2024	AM-03	Lahaina Intermediate School	2.8	SSE	81	86	749.7
1/28/2024	AM-04	Lahaina Boys & Girls Club	1.7	S	77	80	758.8
1/29/2024	AM-01	Leialii Hawaiian Homelands	2.1	SSE	77	79	756.8
1/29/2024	AM-02	WW Pump Station #4	2.0	SSE	78	83	759.3
1/29/2024	AM-03	Lahaina Intermediate School	3.2	SSE	81	87	749.8
1/29/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSE	78	80	758.9
1/30/2024	AM-01	Leialii Hawaiian Homelands	1.7	SSE	74	80	758.6
1/30/2024	AM-02	WW Pump Station #4	1.1	SE	76	83	761.1
1/30/2024	AM-03	Lahaina Intermediate School	1.0	SSE	79	88	751.5
1/30/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	74	85	760.5
1/31/2024	AM-01	Leialii Hawaiian Homelands	0.8	ESE	76	69	759.1
1/31/2024	AM-02	WW Pump Station #4	0.8	SE	76	77	761.6
1/31/2024	AM-03	Lahaina Intermediate School	1.1	E	80	76	752.0
1/31/2024	AM-04	Lahaina Boys & Girls Club	0.8	SSE	74	77	761.0

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

Appendix 1

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

EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/12/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-012524-AB**

EMSL Sample Number:	042402316-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

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: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0001 **Customer Sample:** MFL-AM01-012524-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					
A1	H4	None Detected									
A2	D3	None Detected									
A2	H6	None Detected									
A3	H5	None Detected									
A3	G3	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/12/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-012524-AB**

EMSL Sample Number:	042402316-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7279.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

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.

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0002 **Customer Sample:** MFL-AM02-012524-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	I4	None Detected									
A5	C5	None Detected									
A6	D7	None Detected									
A6	J3	None Detected									
A7	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/06/2024 & 04/16/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-012524-AB**

EMSL Sample Number:	042402316-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6986.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0003 **Customer Sample:** MFL-AM03-012524-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	D4	None Detected									
B5	G6	None Detected									
B6	J6	None Detected									
B6	B5	None Detected									
B7	C6	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **HDOH Lahaina Community Air / 103S864023206**

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Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/06/2024 & 04/16/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-012524-AB**

EMSL Sample Number:	042402316-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7272.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0004 **Customer Sample:** MFL-AM04-012524-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	G7	None Detected									
C1	J3	None Detected									
C2	A4	None Detected									
C2	I4	None Detected									
C3	D7	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:	1206126
Project ID:	N/A

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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012524-AB**

EMSL Sample Number:	042402316-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0005 **Customer Sample:** MFL-FB01-012524-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	A1	None Detected									
B1	C3	None Detected									
B1	E4	None Detected									
B1	G2	None Detected									
B1	I3	None Detected									
B2	A5	None Detected									
B2	C6	None Detected									
B2	E7	None Detected									
B2	G8	None Detected									
B2	I9	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:	1206126
Project ID:	N/A

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Project: **HDOH Lahaina Community Air / 103S864023206**

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Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/12/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-012624-AB**

EMSL Sample Number:	042402316-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0006 **Customer Sample:** MFL-AM01-012624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I5	None Detected									
B5	D3	None Detected									
B6	C8	None Detected									
B6	G6	None Detected									
B7	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 ID:	TTDC42
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Project ID:	

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Phone:	(703) 489-2674
Fax:	
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/06/2024
Report Date:	02/10/2024

Project: **HDOH Lahaina Community Air / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-012624-AB**		**Sample Description:**	
EMSL Sample Number:	042402316-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7316.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	4
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):	0.003			
Analytical Sensitivity (Structures/cc):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Total All Structures	**-**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**- 0.0030**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Actinolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Amosite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Anthophyllite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Crocidolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Tremolite	ADX	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Other Minerals	-	0	0	< 57.95	< 0.0030	Not Applicable	- 0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 57.95**	**< 0.0030**	**Not Applicable**	**- 0.0030**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0007 **Customer Sample:** MFL-AM02-012624-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	D2	None Detected									
D5	J3	None Detected									
D7	I8	None Detected									
D7	C5	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/16/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-012624-AB**

EMSL Sample Number:	042402316-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0008 **Customer Sample:** MFL-AM03-012624-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	D7	None Detected									
C1	I9	None Detected									
C2	B9	None Detected									
C2	I8	None Detected									
C3	H3	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/16/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-012624-AB**

EMSL Sample Number:	042402316-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6944.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0009 **Customer Sample:** MFL-AM04-012624-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					
C4	B5	None Detected									
C4	I5	None Detected									
C5	C7	None Detected									
C5	I5	None Detected									
C6	E4	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:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012624-AB**

EMSL Sample Number:	042402316-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0010 **Customer Sample:** MFL-FB01-012624-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	G10	None Detected									
D1	F8	None Detected									
D1	E4	None Detected									
D1	D1	None Detected									
D1	D5	None Detected									
D2	A6	None Detected									
D2	C7	None Detected									
D2	E9	None Detected									
D2	G8	None Detected									
D2	I4	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

Attn: **Chelsea Saber**
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Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/16/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-012724-AB**

EMSL Sample Number:	042402316-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0011 **Customer Sample:** MFL-AM01-012724-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	J8	None Detected									
D5	D2	None Detected									
D6	C8	None Detected									
D6	H5	None Detected									
D7	C5	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:	1206126
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/06/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-012724-AB**

EMSL Sample Number:	042402316-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7169.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

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.

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

EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0012 **Customer Sample:** MFL-AM02-012724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A8	None Detected									
G2	G7	None Detected									
G3	C9	None Detected									
G3	H5	None Detected									
G4	E4	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/06/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-012724-AB**

EMSL Sample Number:	042402316-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0013 **Customer Sample:** MFL-AM03-012724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	J3	None Detected									
G6	H6	None Detected									
G7	A5	None Detected									
G7	H2	None Detected									
G7	H6	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/06/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-012724-AB**

EMSL Sample Number:	042402316-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6484.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0014 **Customer Sample:** MFL-AM04-012724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	H8	None Detected									
H1	C6	None Detected									
H2	F2	None Detected									
H2	H6	None Detected									
H3	B7	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:	1206126
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/06/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012724-AB**

EMSL Sample Number:	042402316-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0015 **Customer Sample:** MFL-FB01-012724-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	A6	None Detected									
H5	C7	None Detected									
H5	E4	None Detected									
H5	G5	None Detected									
H5	I8	None Detected									
H6	J6	None Detected									
H6	H8	None Detected									
H6	F9	None Detected									
H6	D2	None Detected									
H6	B4	None Detected									

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

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/06/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-012824-AB**

EMSL Sample Number:	042402316-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7218.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0016 **Customer Sample:** MFL-AM01-012824-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	B4	None Detected									
I2	A7	None Detected									
I2	I10	None Detected									
I3	F3	None Detected									
I3	B4	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-012824-AB**

EMSL Sample Number:	042402316-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7244.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0017 **Customer Sample:** MFL-AM02-012824-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	J2	None Detected									
E1	C6	None Detected									
E2	B6	None Detected									
E2	I4	None Detected									
E3	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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Project: **HDOH Lahaina Community Air / 103S864023206**

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Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-012824-AB**

EMSL Sample Number:	042402316-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0018 **Customer Sample:** MFL-AM03-012824-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	J8	None Detected									
E5	E7	None Detected									
E6	D8	None Detected									
E6	J7	None Detected									
E7	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 ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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Analysis Date:	02/06/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-012824-AB**

EMSL Sample Number:	042402316-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6678.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & 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**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0019 **Customer Sample:** MFL-AM04-012824-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	B5	None Detected									
J5	I6	None Detected									
J6	J6	None Detected									
J6	B5	None Detected									
J6	E4	None Detected									

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

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EMSL Order:	042402316
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Customer PO:	1206126
Project ID:	N/A

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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012824-AB**

EMSL Sample Number:	042402316-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0020 **Customer Sample:** MFL-FB01-012824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I5	None Detected									
F1	G7	None Detected									
F1	F4	None Detected									
F1	D6	None Detected									
F1	A5	None Detected									
F2	A6	None Detected									
F2	C5	None Detected									
F2	E3	None Detected									
F2	H4	None Detected									
F2	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-012924-AB**

EMSL Sample Number:	042402316-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7088.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0021 **Customer Sample:** MFL-AM01-012924-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	G3	None Detected									
F5	C6	None Detected									
F6	H8	None Detected									
F6	B5	None Detected									
F6	E8	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	N/A
Report Date:	04/19/2024

Project: **HDOH Lahaina Community Air / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-012924-AB**

EMSL Sample Number:	042402316-0022	Sample Matrix:	Air
Magnification used for fiber counting:	N/A	Volume (L) :	7283.1
Aspect ratio for fiber definition:	N/A	Area of original collection filter (mm^2):	385
Minimum Length (µm):	N/A	Grid Opening Area (mm^2):	0.0000
Chi^2 Test for Random Distribution on Filter:	N/A	Grid Openings Analyzed:	N/A
Minimum Level of analysis (chrysotile):	CD	Analyst:	N/A
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	N/A		
Target Analytical Sensitivity (Structures/cc):	0.0034		
Analytical Sensitivity (Structures/cc):	**Not Analyzed**	**Limit of Detection (Structures/cc):**	**Not Analyzed**

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**	**Not Analyzed**					
Total Amphibole	**ADX**	**Not Analyzed**					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures	**CD/ADX**	**Not Analyzed**					
Other Minerals	-	Not Analyzed					
Total All Structures	**-**	**Not Analyzed**					

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**	**Not Analyzed**					
Total Amphibole (PCMe)	**ADX**	**Not Analyzed**					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures (PCMe)	**CD/ADX**	**Not Analyzed**					
Other Minerals	-	Not Analyzed					
Total All Structures (PCMe)	**-**	**Not Analyzed**					

Comment

Filter received damaged. Unable to analyze.

Robyn Ray
Approved Signatory

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-012924-AB**

EMSL Sample Number:	042402316-0023		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7109.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0023 **Customer Sample:** MFL-AM03-012924-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	B6	None Detected									
G1	F7	None Detected									
G2	C6	None Detected									
G2	I5	None Detected									
G2	G2	None Detected									

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

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Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-012924-AB**

EMSL Sample Number:	042402316-0024		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6901.3
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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & 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**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.36	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0024 **Customer Sample:** MFL-AM04-012924-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					
B3	A6	None Detected									
B3	C9	None Detected									
B4	H3	None Detected									
B4	B5	None Detected									
B1	I7	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-012924-AB**

EMSL Sample Number:	042402316-0025		Sample Matrix:	Air
Magnification used for fiber counting:	10,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0025 **Customer Sample:** MFL-FB01-012924-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	J7	None Detected									
G5	G8	None Detected									
G5	F9	None Detected									
G5	D7	None Detected									
G5	B8	None Detected									
G6	B6	None Detected									
G6	C4	None Detected									
G6	E2	None Detected									
G6	G3	None Detected									
G6	H5	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-013024-AB**

EMSL Sample Number:	042402316-0026		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7223.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & 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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0026 **Customer Sample:** MFL-AM01-013024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	I6	None Detected									
H2	D5	None Detected									
H3	D7	None Detected									
H3	G4	None Detected									
H3	J6	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-013024-AB**

EMSL Sample Number:	042402316-0027		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7237.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0027 **Customer Sample:** MFL-AM02-013024-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					
H6	B6	None Detected									
H6	F7	None Detected									
H7	C7	None Detected									
H7	J4	None Detected									
H5	F4	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-013024-AB**

EMSL Sample Number:	042402316-0028		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7273.2
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):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0028 **Customer Sample:** MFL-AM03-013024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	I6	None Detected									
D2	B7	None Detected									
D3	C7	None Detected									
D3	J5	None Detected									
D5	G7	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:	1206126
Project ID:	N/A

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Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-013024-AB**

EMSL Sample Number:	042402316-0029		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & 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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0029 **Customer Sample:** MFL-AM04-013024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	E3	None Detected									
F1	B5	None Detected									
F3	D4	None Detected									
F3	G3	None Detected									
F3	J7	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-013024-AB**

EMSL Sample Number:	042402316-0030		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0030 **Customer Sample:** MFL-FB01-013024-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	C6	None Detected									
F5	D4	None Detected									
F5	F3	None Detected									
F5	G4	None Detected									
F5	H7	None Detected									
F6	J5	None Detected									
F6	F8	None Detected									
F6	D9	None Detected									
F6	C7	None Detected									
F6	A8	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-013124-AB**

EMSL Sample Number:	042402316-0031		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7314.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & 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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0031 **Customer Sample:** MFL-AM01-013124-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	I6	None Detected									
G1	E10	None Detected									
G2	I7	None Detected									
G2	D9	None Detected									
G3	C5	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-013124-AB**

EMSL Sample Number:	042402316-0032		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7244.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & 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**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.36	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0032 **Customer Sample:** MFL-AM02-013124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	G8	None Detected									
F1	D5	None Detected									
F2	C6	None Detected									
F2	I5	None Detected									
F3	E7	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:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-013124-AB**

EMSL Sample Number:	042402316-0033		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7082.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & 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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0033 **Customer Sample:** MFL-AM03-013124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	B4	None Detected									
I2	I3	None Detected									
I3	I7	None Detected									
I3	C5	None Detected									
I4	H3	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:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

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Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024 & 04/17/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-013124-AB**

EMSL Sample Number:	042402316-0034		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0034 **Customer Sample:** MFL-AM04-013124-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	H5	None Detected									
I5	D7	None Detected									
I6	J4	None Detected									
I6	E7	None Detected									
I7	I6	None Detected									

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

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EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/09/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-013124-AB**

EMSL Sample Number:	042402316-0035		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0035 **Customer Sample:** MFL-FB01-013124-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	G6	None Detected									
J1	E8	None Detected									
J1	D5	None Detected									
J1	A7	None Detected									
J2	B4	None Detected									
J2	D3	None Detected									
J2	E4	None Detected									
J2	E7	None Detected									
J2	I7	None Detected									

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

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

EMSL Order:	042402316
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **HDOH Lahaina Community Air / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/05/2024 10:00 AM
Analysis Date:	02/05/2024
Report Date:	04/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042402316-0036		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0129
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures	**-**	**0**	**0**	**< 23.18**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**			
Actinolite	ADX	0	0	< 23.18			
Amosite	ADX	0	0	< 23.18			
Anthophyllite	ADX	0	0	< 23.18			
Crocidolite	ADX	0	0	< 23.18			
Tremolite	ADX	0	0	< 23.18			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**			
Other Minerals	-	0	0	< 23.18			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**			

Comment

Approved Signatory

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

EMSL Order ID: 042402316
Client: Tetra Tech
Project ID: HDOH Lahaina Community Air / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402316-0036 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J9	None Detected									
A2	H3	None Detected									
A2	F4	None Detected									
A2	D3	None Detected									
A2	B2	None Detected									
A3	J9	None Detected									
A3	G8	None Detected									
A3	F10	None Detected									
A3	D4	None Detected									
A3	B2	None Detected									

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

OrderID: 042402316

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Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042402316

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

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

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1550 Broadway, St 1400, ~~Denver, CO~~
City, State, Zip: Denver, CO 80202 Country: US
Phone: 703-885-5494
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

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

RECEIVED
EMSL
CINNAMINSON, NJ
2024 FEB -5 A 8:53

Project Information

Project Name/No: HDOH Lahaina Community Air / 103S864023206
Purchase Order:
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: Elia Kuryan Saldaña
Sampled By Signature:
No. of Samples in Shipment: 35

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-AM01-012524-AB		7,175.088 L	01/25/24 1109
MFL-AM02-012524-AB		7,279.344 L	01/25/24 1139
MFL-AM03-012524-AB		6,986.880 L	01/25/24 1321
MFL-AM04-012524-AB		7,272.720 L	01/25/24 1350
MFL-FB01-012524-AB		0 L	01/25/24 0730
MFL-AM01-012624-AB		7,134.431 L	01/26/24 1109
MFL-AM02-012624-AB		7,316.755 L	01/26/24 1140
MFL-AM03-012624-AB		7,162.256 L	01/26/24 1324

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

Sample MFL-AM02-012924-AB received with damaged filter. Unable to analyze.
All other samples received acceptable for analysis.
Report revised 4/19/24 to reach LOD of 0.003 s/cc.

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
	02/01/24 1100		2-5-24
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.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

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

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042402316

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.)

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EMSL
CINNAMINSON NJ
2024 FEB -5 AM 8:53

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-012624-AB		6,944.533L	01/26/24 1130
MFL-FB01-012624-AB		0 L	01/26/24 0730
MFL-AM01-012724-AB		7,207.057L	01/27/24 1104
MFL-AM02-012724-AB		7,169.702L	01/27/24 1133
MFL-AM03-012724-AB		7,160.274L	01/27/24 1309
MFL-AM04-012724-AB		6,484.031L	01/27/24 1346
MFL-FB01-012724-AB		0 L	01/27/24 0730
MFL-AM01-012824-AB		7,218.050L	01/28/24 1103
MFL-AM02-012824-AB		7,244.711L	01/28/24 1132
MFL-AM03-012824-AB		7,203.412L	01/28/24 1307
MFL-AM04-012824-AB		6,678.728L	01/28/24 1335
MFL-FB01-012824-AB		0 L	01/28/24 0730
MFL-AM01-012924-AB		7,088.820L	01/29/24 1107
MFL-AM02-012924-AB		7,283.088L	01/29/24 1134
MFL-AM03-012924-AB		7,108.992L	01/29/24 1312
MFL-AM04-012924-AB		6,901.308L	01/29/24 1342
MFL-FB01-012924-AB		0 L	01/29/24 0730
MFL-AM01-013024-AB		7,223.037L	01/30/24 1105
MFL-AM02-013024-AB		7,237.727L	01/30/24 1132
MFL-AM03-013024-AB		7,273.154L	01/30/24 1318
MFL-AM04-013024-AB		7,195.104L	01/30/24 1348
MFL-FB01-013024-AB		0 L	01/30/24 0730
MFL-AM01-013124-AB		7,314.336L	01/31/24 1108
MFL-AM02-013124-AB		7,244.784L	01/31/24 1134
MFL-AM03-013124-AB		7,082.470L	01/31/24 1318

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/01/24 1100	Received by:	Date/Time
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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200 Route 130 North
Cinnaminson, NJ 08077

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

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042402316

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.)

RECEIVED
EMSL
CINNAMINSON, NJ
2024 FEB -5 A 8:53

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-013124-AB		7,219.916 L	01/31/24 1345
MFL-FB01-013124-AB		0 L	01/31/24 0730

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/01/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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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 04/19/2024 and Shanna Vasser 4/22/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Analysis date: 1/25/2024 – 1/31/2024
Report No: 042402316

√	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:

1. Report was revised on 04/19/2024 to adjust the limit of detection (LOD) to 0.003 s/cc.
2. MFL-AM04-012624-AB was logged in as MFL-AM07-012624-AB. A new report was generated to correct the sample ID. No action was necessary for this discrepancy.
4. Sample MFL-AM02-012924-AB was listed on the CoC; however, no results were present in the laboratory data package. The sample was received at the laboratory with a damaged filter and could not be analyzed. No action was necessary for this discrepancy.

Notes: None.

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

February 13, 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 02/05/24 11:24.

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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-012524-HM	4020650-01	Air	01/25/24 23:59	02/05/24 11:24
MFL-AM02-012524-HM	4020650-02	Air	01/25/24 23:59	02/05/24 11:24
MFL-AM03-012524-HM	4020650-03	Air	01/25/24 23:59	02/05/24 11:24
MFL-AM04-012524-HM	4020650-04	Air	01/25/24 23:59	02/05/24 11:24
MFL-AM01-012624-HM	4020650-05	Air	01/26/24 23:59	02/05/24 11:24
MFL-AM02-012624-HM	4020650-06	Air	01/26/24 23:59	02/05/24 11:24
MFL-AM03-012624-HM	4020650-07	Air	01/26/24 23:59	02/05/24 11:24
MFL-AM04-012624-HM	4020650-08	Air	01/26/24 23:59	02/05/24 11:24
MFL-FB01-012624-HM	4020650-09	Air	01/26/24 00:00	02/05/24 11:24
MFL-AM01-012724-HM	4020650-10	Air	01/27/24 23:59	02/05/24 11:24
MFL-AM02-012724-HM	4020650-11	Air	01/27/24 23:59	02/05/24 11:24
MFL-AM03-012724-HM	4020650-12	Air	01/27/24 23:59	02/05/24 11:24
MFL-AM04-012724-HM	4020650-13	Air	01/27/24 23:59	02/05/24 11:24
MFL-AM01-012824-HM	4020650-14	Air	01/28/24 23:59	02/05/24 11:24
MFL-AM02-012824-HM	4020650-15	Air	01/28/24 23:59	02/05/24 11:24
MFL-AM03-012824-HM	4020650-16	Air	01/28/24 23:59	02/05/24 11:24
MFL-AM04-012824-HM	4020650-17	Air	01/28/24 23:59	02/05/24 11:24
MFL-FB01-012824-HM	4020650-18	Air	01/28/24 00:00	02/05/24 11:24
MFL-AM01-012924-HM	4020650-19	Air	01/29/24 23:59	02/05/24 11:24
MFL-AM02-012924-HM	4020650-20	Air	01/29/24 23:59	02/05/24 11:24
MFL-AM03-012924-HM	4020650-21	Air	01/29/24 23:59	02/05/24 11:24

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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-012924-HM	4020650-22	Air	01/29/24 23:59	02/05/24 11:24
MFL-AM01-013024-HM	4020650-23	Air	01/30/24 23:59	02/05/24 11:24
MFL-AM02-013024-HM	4020650-24	Air	01/30/24 23:59	02/05/24 11:24
MFL-AM03-013024-HM	4020650-25	Air	01/30/24 23:59	02/05/24 11:24
MFL-AM04-013024-HM	4020650-26	Air	01/30/24 23:59	02/05/24 11:24
MFL-FB01-013024-HM	4020650-27	Air	01/30/24 23:59	02/05/24 11:24
MFL-AM01-013124-HM	4020650-28	Air	01/31/24 23:59	02/05/24 11:24
MFL-AM02-013124-HM/MS/I	4020650-29	Air	01/31/24 23:59	02/05/24 11:24
MFL-AM03-013124-HM	4020650-30	Air	01/31/24 23:59	02/05/24 11:24
MFL-AM04-013124-HM	4020650-31	Air	01/31/24 23:59	02/05/24 11:24

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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-012524-HM
Matrix: Air
Comments: TetraTech Q9534264

Lab ID: 4020650-01
Sample Volume: 1816.472 m³
Filter ID:

Sampled: 01/25/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/07/24 21:33

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.462**	SL	**0.0346**
Arsenic	**7440-38-2**	**5.72**		**0.00839**
Barium	**7440-39-3**	**14.1**		**0.958**
Beryllium	**7440-41-7**	**0.0342**		**0.00287**
Cadmium	7440-43-9	0.0585	U	0.0710
Chromium	**7440-47-3**	**8.06**		**1.98**
Cobalt	**7440-48-4**	**2.48**		**0.0391**
Copper	**7440-50-8**	**47.8**		**2.36**
Lead	**7439-92-1**	**4.01**		**0.192**
Manganese	**7439-96-5**	**45.6**		**1.69**
Molybdenum	**7439-98-7**	**1.39**		**0.322**
Nickel	**7440-02-0**	**12.3**		**0.584**
Selenium	**7782-49-2**	**0.495**		**0.00803**
Thallium	**7440-28-0**	**0.00195**	B, QB-01, QB-04	**5.28E-4**
Vanadium	**7440-62-2**	**3.55**		**0.0474**
Zinc	**7440-66-6**	**87.6**		**68.8**

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012524-HM
Matrix: Air
Lab ID: 4020650-02
Sample Volume: 2090.254 m³
Filter ID:
Sampled: 01/25/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/07/24 21:48

Comments: TetraTech Q9534261

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0427**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.272**		**0.00729**
Barium	**7440-39-3**	**0.983**		**0.833**
Beryllium	7440-41-7	0.00219	U	0.00249
Cadmium	7440-43-9	0.00851	U	0.0617
Chromium	7440-47-3	1.60	U	1.72
Cobalt	**7440-48-4**	**0.0693**		**0.0339**
Copper	**7440-50-8**	**19.9**		**2.05**
Lead	**7439-92-1**	**0.806**		**0.167**
Manganese	7439-96-5	1.35	U	1.47
Molybdenum	**7439-98-7**	**0.582**		**0.279**
Nickel	7440-02-0	0.471	U	0.508
Selenium	**7782-49-2**	**0.356**		**0.00697**
Thallium	7440-28-0	4.16E-4	B, QB-01, QB-04, U	4.58E-4
Vanadium	**7440-62-2**	**0.209**		**0.0412**
Zinc	7440-66-6	33.2	U	59.8

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-012524-HM
Matrix: Air
Lab ID: 4020650-03
Sample Volume: 1966.936 m³
Filter ID:
Sampled: 01/25/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/07/24 17:55

Comments: TetraTech Q9534259

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0628**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.0959**		**0.00775**
Barium	**7440-39-3**	**1.75**		**0.885**
Beryllium	**7440-41-7**	**0.00633**		**0.00265**
Cadmium	7440-43-9	0.00836	U	0.0656
Chromium	**7440-47-3**	**2.48**		**1.83**
Cobalt	**7440-48-4**	**0.234**		**0.0361**
Copper	**7440-50-8**	**45.6**	QM-07	**2.18**
Lead	**7439-92-1**	**1.36**		**0.177**
Manganese	**7439-96-5**	**3.83**		**1.56**
Molybdenum	**7439-98-7**	**1.28**		**0.297**
Nickel	**7440-02-0**	**1.06**		**0.539**
Selenium	**7782-49-2**	**0.335**	SRD-01	**0.00741**
Thallium	**7440-28-0**	**6.24E-4**	B, QB-01, QB-04	**4.87E-4**
Vanadium	**7440-62-2**	**0.379**		**0.0438**
Zinc	7440-66-6	46.6	QM-07, U	63.5

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-012524-HM
Matrix: Air
Lab ID: 4020650-04
Sample Volume: 1913.588 m³
Filter ID:
Sampled: 01/25/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/07/24 22:04

Comments: TetraTech Q9534258

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0459**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.128**		**0.00797**
Barium	7440-39-3	0.885	U	0.910
Beryllium	7440-41-7	0.00147	U	0.00272
Cadmium	7440-43-9	0.00808	U	0.0674
Chromium	7440-47-3	1.36	U	1.88
Cobalt	**7440-48-4**	**0.0611**		**0.0371**
Copper	**7440-50-8**	**26.8**		**2.24**
Lead	**7439-92-1**	**0.375**		**0.182**
Manganese	7439-96-5	0.988	U	1.61
Molybdenum	**7439-98-7**	**1.02**		**0.305**
Nickel	7440-02-0	0.425	U	0.554
Selenium	**7782-49-2**	**0.310**		**0.00762**
Thallium	7440-28-0	4.32E-4	B, QB-01, QB-04, U	5.01E-4
Vanadium	**7440-62-2**	**0.160**		**0.0450**
Zinc	7440-66-6	27.8	U	65.3

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FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-012624-HM
Matrix: Air
Comments: TetraTech Q9534256

Lab ID: 4020650-05
Sample Volume: 2031.668 m³
Filter ID:

Sampled: 01/26/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/07/24 22:17

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0566**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.381**		**0.00750**
Barium	**7440-39-3**	**2.11**		**0.857**
Beryllium	**7440-41-7**	**0.00290**		**0.00256**
Cadmium	7440-43-9	0.00857	U	0.0635
Chromium	7440-47-3	1.48	U	1.77
Cobalt	**7440-48-4**	**0.129**		**0.0349**
Copper	**7440-50-8**	**20.4**		**2.11**
Lead	**7439-92-1**	**0.242**		**0.171**
Manganese	**7439-96-5**	**2.55**		**1.51**
Molybdenum	**7439-98-7**	**1.07**		**0.287**
Nickel	**7440-02-0**	**0.732**		**0.522**
Selenium	**7782-49-2**	**0.113**		**0.00718**
Thallium	**7440-28-0**	**5.63E-4**	B, QB-01, QB-04	**4.72E-4**
Vanadium	**7440-62-2**	**0.246**		**0.0424**
Zinc	7440-66-6	27.8	U	61.5

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012624-HM
Matrix: Air
Comments: TetraTech Q9534254

Lab ID: 4020650-06
Sample Volume: 2162.914 m³
Filter ID:

Sampled: 01/26/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/07/24 23:34

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0475**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.258**		**0.00705**
Barium	**7440-39-3**	**1.29**		**0.805**
Beryllium	7440-41-7	0.00185	U	0.00241
Cadmium	7440-43-9	0.0451	U	0.0597
Chromium	7440-47-3	1.40	U	1.66
Cobalt	**7440-48-4**	**0.122**		**0.0328**
Copper	**7440-50-8**	**15.8**		**1.98**
Lead	**7439-92-1**	**0.454**		**0.161**
Manganese	7439-96-5	1.31	U	1.42
Molybdenum	**7439-98-7**	**1.08**		**0.270**
Nickel	7440-02-0	0.471	U	0.490
Selenium	**7782-49-2**	**0.114**		**0.00674**
Thallium	**7440-28-0**	**9.43E-4**	B, QB-01, QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**0.114**		**0.0398**
Zinc	7440-66-6	25.7	U	57.8

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FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-012624-HM
Matrix: Air
Comments: TetraTech Q9534253

Lab ID: 4020650-07
Sample Volume: 2039.37 m³
Filter ID:

Sampled: 01/26/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/07/24 23:48

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0620**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.0565**		**0.00748**
Barium	**7440-39-3**	**1.62**		**0.854**
Beryllium	**7440-41-7**	**0.00437**		**0.00255**
Cadmium	7440-43-9	0.00721	U	0.0633
Chromium	7440-47-3	1.51	U	1.76
Cobalt	**7440-48-4**	**0.0974**		**0.0348**
Copper	**7440-50-8**	**37.6**		**2.10**
Lead	**7439-92-1**	**0.548**		**0.171**
Manganese	**7439-96-5**	**1.63**		**1.51**
Molybdenum	**7439-98-7**	**1.71**		**0.286**
Nickel	**7440-02-0**	**0.656**		**0.520**
Selenium	**7782-49-2**	**0.115**		**0.00715**
Thallium	**7440-28-0**	**7.37E-4**	B, QB-01, QB-04	**4.70E-4**
Vanadium	**7440-62-2**	**0.173**		**0.0422**
Zinc	7440-66-6	30.0	U	61.3

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-012624-HM
Matrix: Air
Lab ID: 4020650-08
Sample Volume: 1931.629 m³
Filter ID:
Sampled: 01/26/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 00:03

Comments: TetraTech Q9534251

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0490**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.131**		**0.00789**
Barium	**7440-39-3**	**1.27**		**0.901**
Beryllium	7440-41-7	0.00180	U	0.00270
Cadmium	7440-43-9	0.00732	U	0.0668
Chromium	7440-47-3	1.45	U	1.86
Cobalt	**7440-48-4**	**0.0478**		**0.0367**
Copper	**7440-50-8**	**31.3**		**2.22**
Lead	**7439-92-1**	**0.336**		**0.180**
Manganese	7439-96-5	0.896	U	1.59
Molybdenum	**7439-98-7**	**1.36**		**0.302**
Nickel	7440-02-0	0.396	U	0.549
Selenium	**7782-49-2**	**0.114**		**0.00755**
Thallium	**7440-28-0**	**6.12E-4**	B, QB-01, QB-04	**4.96E-4**
Vanadium	**7440-62-2**	**0.103**		**0.0446**
Zinc	7440-66-6	31.0	U	64.7

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-012624-HM
Matrix: Air
Comments: TetraTech Q9534245 Field Blank

Lab ID: 4020650-09
Sample Volume: 2031.668 m³
Filter ID:

Sampled: 01/26/24 00:00
Received: 02/05/24 11:24
Analysis Date: 02/08/24 00:17

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0147	SL, U	0.0309
Arsenic	**7440-38-2**	**0.00806**	FB-01	**0.00750**
Barium	7440-39-3	0.517	U	0.857
Beryllium	7440-41-7	7.22E-4	U	0.00256
Cadmium	7440-43-9	0.00442	U	0.0635
Chromium	7440-47-3	1.25	U	1.77
Cobalt	**7440-48-4**	**0.0662**	FB-01	**0.0349**
Copper	**7440-50-8**	**3.06**	FB-01	**2.11**
Lead	7439-92-1	0.132	U	0.171
Manganese	7439-96-5	0.159	U	1.51
Molybdenum	7439-98-7	0.191	U	0.287
Nickel	7440-02-0	0.442	U	0.522
Selenium	7782-49-2	0.00522	U	0.00718
Thallium	7440-28-0	2.51E-4	B, QB-01, QB-04, U	4.72E-4
Vanadium	7440-62-2	0.0150	U	0.0424
Zinc	7440-66-6	24.0	U	61.5

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-012724-HM
Matrix: Air
Comments: TetraTech Q9534250

Lab ID: 4020650-10
Sample Volume: 2026.54 m³
Filter ID:

Sampled: 01/27/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 00:31

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0677**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.545**		**0.00752**
Barium	**7440-39-3**	**4.01**		**0.859**
Beryllium	**7440-41-7**	**0.0103**		**0.00257**
Cadmium	7440-43-9	0.0106	U	0.0637
Chromium	**7440-47-3**	**2.45**		**1.77**
Cobalt	**7440-48-4**	**0.698**		**0.0350**
Copper	**7440-50-8**	**34.2**		**2.11**
Lead	**7439-92-1**	**0.438**		**0.172**
Manganese	**7439-96-5**	**13.0**		**1.52**
Molybdenum	**7439-98-7**	**1.53**		**0.288**
Nickel	**7440-02-0**	**4.46**		**0.523**
Selenium	**7782-49-2**	**0.223**		**0.00719**
Thallium	**7440-28-0**	**7.11E-4**	B, QB-01, QB-04	**4.73E-4**
Vanadium	**7440-62-2**	**0.834**		**0.0425**
Zinc	7440-66-6	32.0	U	61.7

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012724-HM
Matrix: Air
Lab ID: 4020650-11
Sample Volume: 2090.36 m³
Filter ID:
Sampled: 01/27/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 00:45

Comments: TetraTech Q9534248

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	**0.0300**
Arsenic	**7440-38-2**	**0.196**		**0.00729**
Barium	7440-39-3	0.801	U	0.833
Beryllium	7440-41-7	0.00114	U	0.00249
Cadmium	7440-43-9	0.0297	U	0.0617
Chromium	7440-47-3	1.36	U	1.72
Cobalt	**7440-48-4**	**0.0374**		**0.0339**
Copper	**7440-50-8**	**12.4**		**2.05**
Lead	**7439-92-1**	**0.196**		**0.167**
Manganese	7439-96-5	0.629	U	1.47
Molybdenum	**7439-98-7**	**0.832**		**0.279**
Nickel	7440-02-0	0.438	U	0.507
Selenium	**7782-49-2**	**0.215**		**0.00697**
Thallium	7440-28-0	4.54E-4	B, QB-01, QB-04, U	4.58E-4
Vanadium	**7440-62-2**	**0.141**		**0.0412**
Zinc	7440-66-6	22.0	U	59.8

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-012724-HM
Matrix: Air
Comments: TetraTech Q9534247

Lab ID: 4020650-12
Sample Volume: 2018.848 m³
Filter ID:

Sampled: 01/27/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 00:58

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0577**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.0610**		**0.00755**
Barium	**7440-39-3**	**1.49**		**0.862**
Beryllium	7440-41-7	0.00249	U	0.00258
Cadmium	7440-43-9	0.00579	U	0.0639
Chromium	7440-47-3	1.35	U	1.78
Cobalt	**7440-48-4**	**0.0779**		**0.0351**
Copper	**7440-50-8**	**25.0**		**2.12**
Lead	**7439-92-1**	**0.191**		**0.172**
Manganese	7439-96-5	1.28	U	1.52
Molybdenum	**7439-98-7**	**1.60**		**0.289**
Nickel	**7440-02-0**	**0.794**		**0.525**
Selenium	**7782-49-2**	**0.209**		**0.00722**
Thallium	7440-28-0	4.69E-4	B, QB-01, QB-04, U	4.75E-4
Vanadium	**7440-62-2**	**0.190**		**0.0426**
Zinc	7440-66-6	31.0	U	61.9

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-012724-HM
Matrix: Air
Lab ID: 4020650-13
Sample Volume: 1890.667 m³
Filter ID:
Sampled: 01/27/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 01:12

Comments: TetraTech Q9534246

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0551**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.227**		**0.00806**
Barium	**7440-39-3**	**1.06**		**0.921**
Beryllium	7440-41-7	0.00149	U	0.00275
Cadmium	7440-43-9	0.00714	U	0.0682
Chromium	7440-47-3	1.38	U	1.90
Cobalt	**7440-48-4**	**0.0589**		**0.0375**
Copper	**7440-50-8**	**26.7**		**2.26**
Lead	**7439-92-1**	**0.456**		**0.184**
Manganese	7439-96-5	0.891	U	1.63
Molybdenum	**7439-98-7**	**1.11**		**0.309**
Nickel	7440-02-0	0.447	U	0.561
Selenium	**7782-49-2**	**0.204**		**0.00771**
Thallium	7440-28-0	3.66E-4	B, QB-01, QB-04, U	5.07E-4
Vanadium	**7440-62-2**	**0.152**		**0.0455**
Zinc	7440-66-6	27.0	U	66.1

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-012824-HM
Matrix: Air
Comments: TetraTech Q9534244

Lab ID: 4020650-14
Sample Volume: 1996.114 m³
Filter ID:

Sampled: 01/28/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 01:26

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0986**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.749**		**0.00764**
Barium	**7440-39-3**	**4.64**		**0.872**
Beryllium	**7440-41-7**	**0.00833**		**0.00261**
Cadmium	7440-43-9	0.0208	U	0.0646
Chromium	**7440-47-3**	**2.70**		**1.80**
Cobalt	**7440-48-4**	**0.485**		**0.0355**
Copper	**7440-50-8**	**48.9**		**2.14**
Lead	**7439-92-1**	**1.16**		**0.174**
Manganese	**7439-96-5**	**9.51**		**1.54**
Molybdenum	**7439-98-7**	**1.70**		**0.293**
Nickel	**7440-02-0**	**2.58**		**0.531**
Selenium	**7782-49-2**	**0.399**		**0.00730**
Thallium	**7440-28-0**	**7.98E-4**	B, QB-01, QB-04	**4.80E-4**
Vanadium	**7440-62-2**	**0.966**		**0.0431**
Zinc	7440-66-6	44.8	U	62.6

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012824-HM
Matrix: Air
Lab ID: 4020650-15
Sample Volume: 2084.134 m³
Filter ID:
Sampled: 01/28/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 01:39

Comments: TetraTech Q9534243

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0299	SL, U	0.0301
Arsenic	**7440-38-2**	**0.202**		**0.00731**
Barium	7440-39-3	0.685	U	0.835
Beryllium	7440-41-7	0.00157	U	0.00250
Cadmium	7440-43-9	0.00669	U	0.0619
Chromium	7440-47-3	1.18	U	1.73
Cobalt	**7440-48-4**	**0.0571**		**0.0340**
Copper	**7440-50-8**	**6.18**		**2.05**
Lead	**7439-92-1**	**0.216**		**0.167**
Manganese	7439-96-5	1.18	U	1.48
Molybdenum	**7439-98-7**	**0.444**		**0.280**
Nickel	7440-02-0	0.373	U	0.509
Selenium	**7782-49-2**	**0.371**		**0.00699**
Thallium	**7440-28-0**	**5.13E-4**	B, QB-01, QB-04	**4.60E-4**
Vanadium	**7440-62-2**	**0.252**		**0.0413**
Zinc	7440-66-6	22.4	U	60.0

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-012824-HM
Matrix: Air
Comments: TetraTech Q9534241

Lab ID: 4020650-16
Sample Volume: 2040.225 m³
Filter ID:

Sampled: 01/28/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 19:18

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0429**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.0830**		**0.00747**
Barium	**7440-39-3**	**1.25**		**0.853**
Beryllium	**7440-41-7**	**0.00293**		**0.00255**
Cadmium	7440-43-9	0.00669	U	0.0632
Chromium	7440-47-3	1.49	U	1.76
Cobalt	**7440-48-4**	**0.106**		**0.0348**
Copper	**7440-50-8**	**16.0**		**2.10**
Lead	**7439-92-1**	**0.184**		**0.171**
Manganese	**7439-96-5**	**1.79**		**1.51**
Molybdenum	**7439-98-7**	**0.797**		**0.286**
Nickel	**7440-02-0**	**0.568**		**0.520**
Selenium	**7782-49-2**	**0.357**		**0.00715**
Thallium	**7440-28-0**	**6.63E-4**	B, QB-01	**4.70E-4**
Vanadium	**7440-62-2**	**0.266**		**0.0422**
Zinc	7440-66-6	36.5	U	61.2

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-012824-HM
Matrix: Air
Lab ID: 4020650-17
Sample Volume: 1904.321 m³
Filter ID:
Sampled: 01/28/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 19:32

Comments: TetraTech Q9534240

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0390**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.361**		**0.00801**
Barium	7440-39-3	0.913	U	0.914
Beryllium	7440-41-7	0.00185	U	0.00273
Cadmium	7440-43-9	0.00710	U	0.0678
Chromium	7440-47-3	1.46	U	1.89
Cobalt	**7440-48-4**	**0.0674**		**0.0373**
Copper	**7440-50-8**	**18.3**		**2.25**
Lead	**7439-92-1**	**0.416**		**0.183**
Manganese	7439-96-5	1.41	U	1.61
Molybdenum	**7439-98-7**	**0.965**		**0.307**
Nickel	7440-02-0	0.399	U	0.557
Selenium	**7782-49-2**	**0.348**		**0.00766**
Thallium	**7440-28-0**	**6.51E-4**	B, QB-01	**5.03E-4**
Vanadium	**7440-62-2**	**0.250**		**0.0452**
Zinc	7440-66-6	36.3	U	65.6

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-012824-HM
Matrix: Air
Lab ID: 4020650-18
Sample Volume: 1996.114 m³
Filter ID:
Sampled: 01/28/24 00:00
Received: 02/05/24 11:24
Analysis Date: 02/08/24 19:46

Comments: TetraTech Q9534234 Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00664	SL, U	0.0315
Arsenic	7440-38-2	0.00358	U	0.00764
Barium	7440-39-3	0.555	U	0.872
Beryllium	7440-41-7	0.00109	U	0.00261
Cadmium	7440-43-9	0.00208	U	0.0646
Chromium	7440-47-3	1.47	U	1.80
Cobalt	7440-48-4	0.0203	U	0.0355
Copper	7440-50-8	0.839	U	2.14
Lead	7439-92-1	0.0791	U	0.174
Manganese	7439-96-5	0.125	U	1.54
Molybdenum	7439-98-7	0.242	U	0.293
Nickel	7440-02-0	0.297	U	0.531
Selenium	7782-49-2	0.00640	U	0.00730
Thallium	7440-28-0	2.26E-4	B, QB-01, U	4.80E-4
Vanadium	7440-62-2	0.0117	U	0.0431
Zinc	7440-66-6	21.4	U	62.6

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-012924-HM
Matrix: Air
Comments: TetraTech Q9534239

Lab ID: 4020650-19
Sample Volume: 1999.456 m³
Filter ID:

Sampled: 01/29/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 19:59

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0314**
Arsenic	**7440-38-2**	**1.66**		**0.00762**
Barium	**7440-39-3**	**5.48**		**0.871**
Beryllium	**7440-41-7**	**0.0187**		**0.00260**
Cadmium	7440-43-9	0.0258	U	0.0645
Chromium	**7440-47-3**	**4.48**		**1.80**
Cobalt	**7440-48-4**	**0.986**		**0.0355**
Copper	**7440-50-8**	**36.6**		**2.14**
Lead	**7439-92-1**	**1.12**		**0.174**
Manganese	**7439-96-5**	**19.5**		**1.54**
Molybdenum	**7439-98-7**	**1.57**		**0.292**
Nickel	**7440-02-0**	**4.75**		**0.531**
Selenium	**7782-49-2**	**0.424**		**0.00729**
Thallium	**7440-28-0**	**0.00110**	B, QB-01	**4.79E-4**
Vanadium	**7440-62-2**	**2.08**		**0.0430**
Zinc	7440-66-6	49.1	U	62.5

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-012924-HM
Matrix: Air
Lab ID: 4020650-20
Sample Volume: 2082.122 m³
Filter ID:
Sampled: 01/29/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 20:14

Comments: TetraTech Q9534238

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0310**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.154**		**0.00732**
Barium	7440-39-3	0.776	U	0.836
Beryllium	7440-41-7	0.00120	U	0.00250
Cadmium	7440-43-9	0.00529	U	0.0620
Chromium	7440-47-3	1.46	U	1.73
Cobalt	**7440-48-4**	**0.0478**		**0.0341**
Copper	**7440-50-8**	**7.36**		**2.06**
Lead	**7439-92-1**	**0.202**		**0.167**
Manganese	7439-96-5	0.780	U	1.48
Molybdenum	**7439-98-7**	**0.442**		**0.281**
Nickel	7440-02-0	0.459	U	0.509
Selenium	**7782-49-2**	**0.312**		**0.00700**
Thallium	**7440-28-0**	**4.74E-4**	B, QB-01	**4.60E-4**
Vanadium	**7440-62-2**	**0.184**		**0.0413**
Zinc	7440-66-6	27.3	U	60.0

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-012924-HM
Matrix: Air
Comments: TetraTech Q9534237

Lab ID: 4020650-21
Sample Volume: 2031.318 m³
Filter ID:

Sampled: 01/29/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 20:28

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0532**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.0987**		**0.00750**
Barium	**7440-39-3**	**1.66**		**0.857**
Beryllium	**7440-41-7**	**0.00441**		**0.00256**
Cadmium	7440-43-9	0.00569	U	0.0635
Chromium	**7440-47-3**	**1.89**		**1.77**
Cobalt	**7440-48-4**	**0.186**		**0.0349**
Copper	**7440-50-8**	**11.2**		**2.11**
Lead	**7439-92-1**	**0.308**		**0.171**
Manganese	**7439-96-5**	**3.02**		**1.51**
Molybdenum	**7439-98-7**	**0.478**		**0.288**
Nickel	**7440-02-0**	**0.760**		**0.522**
Selenium	**7782-49-2**	**0.368**		**0.00718**
Thallium	**7440-28-0**	**6.04E-4**	B, QB-01	**4.72E-4**
Vanadium	**7440-62-2**	**0.309**		**0.0424**
Zinc	7440-66-6	30.8	U	61.5

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-012924-HM
Matrix: Air
Lab ID: 4020650-22
Sample Volume: 1889.206 m³
Filter ID:
Sampled: 01/29/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 20:42

Comments: TetraTech Q9534236

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0378**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.200**		**0.00807**
Barium	7440-39-3	0.917	U	0.921
Beryllium	7440-41-7	0.00171	U	0.00276
Cadmium	7440-43-9	0.00684	U	0.0683
Chromium	7440-47-3	1.68	U	1.90
Cobalt	**7440-48-4**	**0.0557**		**0.0375**
Copper	**7440-50-8**	**22.9**		**2.26**
Lead	**7439-92-1**	**0.365**		**0.184**
Manganese	7439-96-5	1.20	U	1.63
Molybdenum	**7439-98-7**	**1.28**		**0.309**
Nickel	7440-02-0	0.476	U	0.562
Selenium	**7782-49-2**	**0.357**		**0.00772**
Thallium	**7440-28-0**	**5.74E-4**	B, QB-01	**5.07E-4**
Vanadium	**7440-62-2**	**0.187**		**0.0456**
Zinc	7440-66-6	29.3	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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-013024-HM
Matrix: Air
Comments: TetraTech Q9534233

Lab ID: 4020650-23
Sample Volume: 2034.232 m³
Filter ID:

Sampled: 01/30/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 20:55

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0980**	SL	**0.0309**
Arsenic	**7440-38-2**	**1.75**		**0.00749**
Barium	**7440-39-3**	**5.66**		**0.856**
Beryllium	**7440-41-7**	**0.0156**		**0.00256**
Cadmium	7440-43-9	0.0270	U	0.0634
Chromium	**7440-47-3**	**4.40**		**1.77**
Cobalt	**7440-48-4**	**0.884**		**0.0349**
Copper	**7440-50-8**	**34.8**		**2.10**
Lead	**7439-92-1**	**1.06**		**0.171**
Manganese	**7439-96-5**	**18.7**		**1.51**
Molybdenum	**7439-98-7**	**1.58**		**0.287**
Nickel	**7440-02-0**	**4.87**		**0.521**
Selenium	**7782-49-2**	**0.262**		**0.00717**
Thallium	**7440-28-0**	**9.56E-4**	B, QB-01	**4.71E-4**
Vanadium	**7440-62-2**	**1.65**		**0.0423**
Zinc	7440-66-6	44.3	U	61.4

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-013024-HM
Matrix: Air
Lab ID: 4020650-24
Sample Volume: 2085.883 m³
Filter ID:
Sampled: 01/30/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 22:01
Comments: TetraTech Q9534229

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0360**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.220**		**0.00731**
Barium	**7440-39-3**	**0.984**		**0.835**
Beryllium	7440-41-7	0.00192	U	0.00250
Cadmium	7440-43-9	0.00490	U	0.0619
Chromium	7440-47-3	1.46	U	1.72
Cobalt	**7440-48-4**	**0.0467**		**0.0340**
Copper	**7440-50-8**	**15.6**		**2.05**
Lead	**7439-92-1**	**0.211**		**0.167**
Manganese	7439-96-5	1.14	U	1.47
Molybdenum	**7439-98-7**	**1.09**		**0.280**
Nickel	7440-02-0	0.454	U	0.509
Selenium	**7782-49-2**	**0.207**		**0.00699**
Thallium	**7440-28-0**	**4.73E-4**	B, QB-01	**4.59E-4**
Vanadium	**7440-62-2**	**0.157**		**0.0413**
Zinc	7440-66-6	20.9	U	59.9

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-013024-HM
Matrix: Air
Comments: TetraTech Q9534227

Lab ID: 4020650-25
Sample Volume: 2020.319 m³
Filter ID:

Sampled: 01/30/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 22:15

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0727**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.0650**		**0.00755**
Barium	**7440-39-3**	**1.45**		**0.862**
Beryllium	**7440-41-7**	**0.00330**		**0.00258**
Cadmium	7440-43-9	0.0175	U	0.0639
Chromium	7440-47-3	1.77	U	1.78
Cobalt	**7440-48-4**	**0.112**		**0.0351**
Copper	**7440-50-8**	**27.3**		**2.12**
Lead	**7439-92-1**	**0.172**		**0.172**
Manganese	**7439-96-5**	**2.03**		**1.52**
Molybdenum	**7439-98-7**	**1.34**		**0.289**
Nickel	**7440-02-0**	**0.724**		**0.525**
Selenium	**7782-49-2**	**0.189**		**0.00722**
Thallium	7440-28-0	4.64E-4	B, QB-01, U	4.74E-4
Vanadium	**7440-62-2**	**0.246**		**0.0426**
Zinc	7440-66-6	27.2	U	61.8

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-013024-HM
Matrix: Air
Lab ID: 4020650-26
Sample Volume: 1925.203 m³
Filter ID:
Sampled: 01/30/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 22:29

Comments: TetraTech Q9534224

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0549**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.121**		**0.00792**
Barium	**7440-39-3**	**1.17**		**0.904**
Beryllium	7440-41-7	0.00192	U	0.00270
Cadmium	7440-43-9	0.00604	U	0.0670
Chromium	7440-47-3	1.38	U	1.87
Cobalt	**7440-48-4**	**0.0646**		**0.0368**
Copper	**7440-50-8**	**17.4**		**2.22**
Lead	**7439-92-1**	**0.246**		**0.181**
Manganese	7439-96-5	1.39	U	1.60
Molybdenum	**7439-98-7**	**1.10**		**0.303**
Nickel	7440-02-0	0.468	U	0.551
Selenium	**7782-49-2**	**0.164**		**0.00757**
Thallium	7440-28-0	3.57E-4	B, QB-01, U	4.98E-4
Vanadium	**7440-62-2**	**0.189**		**0.0447**
Zinc	7440-66-6	22.4	U	64.9

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-013024-HM
Matrix: Air
Comments: TetraTech Q9534220 Field Blank

Lab ID: 4020650-27
Sample Volume: 2034.232 m³
Filter ID:

Sampled: 01/30/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 22:43

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0173	SL, U	0.0309
Arsenic	7440-38-2	0.00627	U	0.00749
Barium	7440-39-3	0.460	U	0.856
Beryllium	7440-41-7	7.83E-4	U	0.00256
Cadmium	7440-43-9	0.00891	U	0.0634
Chromium	7440-47-3	1.41	U	1.77
Cobalt	7440-48-4	0.0288	U	0.0349
Copper	7440-50-8	1.01	U	2.10
Lead	7439-92-1	0.0694	U	0.171
Manganese	7439-96-5	0.151	U	1.51
Molybdenum	7439-98-7	0.190	U	0.287
Nickel	7440-02-0	0.357	U	0.521
Selenium	7782-49-2	0.00287	U	0.00717
Thallium	7440-28-0	1.54E-4	B, QB-01, U	4.71E-4
Vanadium	7440-62-2	0.0170	U	0.0423
Zinc	7440-66-6	22.3	U	61.4

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-013124-HM
Matrix: Air
Comments: TetraTech Q9534223

Lab ID: 4020650-28
Sample Volume: 2052.181 m³
Filter ID:

Sampled: 01/31/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 22:57

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.120**	SL	**0.0306**
Arsenic	**7440-38-2**	**3.10**		**0.00743**
Barium	**7440-39-3**	**3.76**		**0.848**
Beryllium	**7440-41-7**	**0.00543**		**0.00254**
Cadmium	7440-43-9	0.0482	U	0.0629
Chromium	**7440-47-3**	**2.29**		**1.75**
Cobalt	**7440-48-4**	**0.439**		**0.0346**
Copper	**7440-50-8**	**57.3**		**2.09**
Lead	**7439-92-1**	**2.16**		**0.170**
Manganese	**7439-96-5**	**5.47**		**1.50**
Molybdenum	**7439-98-7**	**2.30**		**0.285**
Nickel	**7440-02-0**	**1.12**		**0.517**
Selenium	**7782-49-2**	**0.107**		**0.00710**
Thallium	**7440-28-0**	**0.00105**	B, QB-01	**4.67E-4**
Vanadium	**7440-62-2**	**0.503**		**0.0419**
Zinc	7440-66-6	34.1	U	60.9

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-013124-HM/MS/MS
Matrix: Air
Lab ID: 4020650-29
Sample Volume: 2102.688 m³
Filter ID:
Sampled: 01/31/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 16:19
Comments: TetraTech Q9534222

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.198**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.335**		**0.00725**
Barium	**7440-39-3**	**5.85**		**0.828**
Beryllium	**7440-41-7**	**0.00802**		**0.00248**
Cadmium	7440-43-9	0.0120	U	0.0614
Chromium	**7440-47-3**	**1.78**		**1.71**
Cobalt	**7440-48-4**	**0.233**		**0.0337**
Copper	**7440-50-8**	**39.8**		**2.04**
Lead	**7439-92-1**	**0.606**		**0.166**
Manganese	**7439-96-5**	**6.53**		**1.46**
Molybdenum	**7439-98-7**	**1.88**		**0.278**
Nickel	**7440-02-0**	**0.916**		**0.504**
Selenium	**7782-49-2**	**0.145**		**0.00693**
Thallium	**7440-28-0**	**7.90E-4**	B, QB-01	**4.56E-4**
Vanadium	**7440-62-2**	**0.663**		**0.0409**
Zinc	7440-66-6	51.0	U	59.4

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-013124-HM
Matrix: Air
Comments: TetraTech Q9534221

Lab ID: 4020650-30
Sample Volume: 2019.473 m³
Filter ID:

Sampled: 01/31/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 23:12

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0636**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.0721**		**0.00755**
Barium	**7440-39-3**	**1.89**		**0.862**
Beryllium	**7440-41-7**	**0.00665**		**0.00258**
Cadmium	7440-43-9	0.00630	U	0.0639
Chromium	7440-47-3	1.67	U	1.78
Cobalt	**7440-48-4**	**0.140**		**0.0351**
Copper	**7440-50-8**	**37.6**		**2.12**
Lead	7439-92-1	0.160	U	0.172
Manganese	**7439-96-5**	**3.00**		**1.52**
Molybdenum	**7439-98-7**	**1.79**		**0.289**
Nickel	**7440-02-0**	**0.758**		**0.525**
Selenium	**7782-49-2**	**0.125**		**0.00722**
Thallium	7440-28-0	3.47E-4	B, QB-01, U	4.75E-4
Vanadium	**7440-62-2**	**0.477**		**0.0426**
Zinc	7440-66-6	22.2	U	61.9

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-013124-HM
Matrix: Air
Comments: TetraTech Q9534218

Lab ID: 4020650-31
Sample Volume: 1939.879 m³
Filter ID:

Sampled: 01/31/24 23:59
Received: 02/05/24 11:24
Analysis Date: 02/08/24 23:26

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0890**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.209**		**0.00786**
Barium	**7440-39-3**	**3.00**		**0.897**
Beryllium	**7440-41-7**	**0.00541**		**0.00268**
Cadmium	7440-43-9	0.00802	U	0.0665
Chromium	**7440-47-3**	**1.86**		**1.85**
Cobalt	**7440-48-4**	**0.195**		**0.0366**
Copper	**7440-50-8**	**22.6**		**2.21**
Lead	**7439-92-1**	**0.603**		**0.179**
Manganese	**7439-96-5**	**5.01**		**1.59**
Molybdenum	**7439-98-7**	**1.34**		**0.301**
Nickel	**7440-02-0**	**0.937**		**0.547**
Selenium	**7782-49-2**	**0.147**		**0.00751**
Thallium	**7440-28-0**	**5.09E-4**	B, QB-01	**4.94E-4**
Vanadium	**7440-62-2**	**0.681**		**0.0444**
Zinc	7440-66-6	28.5	U	64.4

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
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 2402012 - B4B0704										
Calibration Blank (2402012-CCB1)				Prepared & Analyzed: 02/07/24						
Antimony	0.594		ng/l							
Arsenic	5.87		ng/l							
Barium	1.33		ng/l							
Beryllium	0.151		ng/l							
Cadmium	0.216		ng/l							
Chromium	3.74		ng/l							
Cobalt	0.290		ng/l							
Copper	83.4		ng/l							
Lead	4.40		ng/l							
Manganese	4.72		ng/l							
Molybdenum	8.95		ng/l							
Nickel	-1.19		ng/l							U
Selenium	0.689		ng/l							
Thallium	1.44		ng/l							
Vanadium	-64.5		ng/l							U
Zinc	-30.6		ng/l							U
Calibration Blank (2402012-CCB2)				Prepared & Analyzed: 02/07/24						
Antimony	1.85		ng/l							
Arsenic	12.5		ng/l							
Barium	13.2		ng/l							
Beryllium	0.472		ng/l							
Cadmium	0.736		ng/l							
Chromium	16.4		ng/l							
Cobalt	2.13		ng/l							
Copper	108		ng/l							
Lead	11.0		ng/l							
Manganese	25.5		ng/l							
Molybdenum	11.6		ng/l							
Nickel	3.61		ng/l							
Selenium	19.0		ng/l							
Thallium	3.61		ng/l							QB-04
Vanadium	-63.2		ng/l							U
Zinc	58.5		ng/l							
Calibration Blank (2402012-CCB3)				Prepared & Analyzed: 02/07/24						
Antimony	1.74		ng/l							
Arsenic	9.23		ng/l							
Barium	9.78		ng/l							
Beryllium	0.291		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
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 2402012 - B4B0704										
Calibration Blank (2402012-CCB3) Contin				Prepared & Analyzed: 02/07/24						
Cadmium	0.789		ng/l							
Chromium	13.8		ng/l							
Cobalt	1.85		ng/l							
Copper	98.6		ng/l							
Lead	8.46		ng/l							
Manganese	24.8		ng/l							
Molybdenum	9.65		ng/l							
Nickel	4.16		ng/l							
Selenium	9.23		ng/l							
Thallium	3.46		ng/l							QB-04
Vanadium	-63.6		ng/l							U
Zinc	37.7		ng/l							
Calibration Blank (2402012-CCB4)				Prepared: 02/07/24 Analyzed: 02/08/24						
Antimony	1.91		ng/l							
Arsenic	12.5		ng/l							
Barium	18.5		ng/l							
Beryllium	0.483		ng/l							
Cadmium	1.86		ng/l							
Chromium	25.8		ng/l							
Cobalt	4.03		ng/l							
Copper	179		ng/l							
Lead	15.8		ng/l							
Manganese	43.5		ng/l							
Molybdenum	12.7		ng/l							
Nickel	9.95		ng/l							
Selenium	5.19		ng/l							
Thallium	3.99		ng/l							QB-04
Vanadium	-59.7		ng/l							U
Zinc	77.4		ng/l							
Calibration Check (2402012-CCV1)				Prepared & Analyzed: 02/07/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
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 2402012 - B4B0704										
Calibration Check (2402012-CCV1) Contin				Prepared & Analyzed: 02/07/24						
Lead	200000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	494		ng/l	500.00		98.7	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2402012-CCV2)				Prepared & Analyzed: 02/07/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	4690		ng/l	5000.0		93.9	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	517000		ng/l	500000		103	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	495		ng/l	500.00		99.1	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2402012-CCV3)				Prepared & Analyzed: 02/07/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	4670		ng/l	5000.0		93.3	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	49600		ng/l	50000		99.2	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
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 2402012 - B4B0704										
Calibration Check (2402012-CCV3) Contin					Prepared & Analyzed: 02/07/24					
Selenium	20300		ng/l	20000		102	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Vanadium	20000		ng/l	20000		99.8	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2402012-CCV4)					Prepared: 02/07/24 Analyzed: 02/08/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	4780		ng/l	5000.0		95.6	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.11E6		ng/l	2.0000E6		106	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	531000		ng/l	500000		106	90-110			
Molybdenum	52100		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	486		ng/l	500.00		97.3	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	520000		ng/l	500000		104	90-110			
High Cal Check (2402012-HCV1)					Prepared & Analyzed: 02/07/24					
Antimony	39800		ng/l	40000		99.6	95-105			
Arsenic	39400		ng/l	40000		98.5	95-105			
Barium	405000		ng/l	400000		101	95-105			
Beryllium	10400		ng/l	10000		104	95-105			
Cadmium	39200		ng/l	40000		98.1	95-105			
Chromium	463000		ng/l	480000		96.5	95-105			
Cobalt	97500		ng/l	100000		97.5	95-105			
Copper	3.86E6		ng/l	4.0000E6		96.4	95-105			
Lead	394000		ng/l	400000		98.6	95-105			
Manganese	972000		ng/l	1.0000E6		97.2	95-105			
Molybdenum	99100		ng/l	100000		99.1	95-105			
Nickel	232000		ng/l	240000		96.8	95-105			
Selenium	39500		ng/l	40000		98.8	95-105			
Thallium	986		ng/l	1000.0		98.6	95-105			
Vanadium	39500		ng/l	40000		98.6	95-105			
Zinc	968000		ng/l	1.0000E6		96.8	95-105			

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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 2402012 - B4B0704										
Initial Cal Blank (2402012-ICB1)				Prepared & Analyzed: 02/07/24						
Antimony	0.960		ng/l							
Arsenic	2.10		ng/l							
Barium	1.60		ng/l							
Beryllium	0.0676		ng/l							
Cadmium	0.198		ng/l							
Chromium	3.43		ng/l							
Cobalt	0.288		ng/l							
Copper	59.0		ng/l							
Lead	4.89		ng/l							
Manganese	8.18		ng/l							
Molybdenum	6.54		ng/l							
Nickel	-0.111		ng/l							U
Selenium	18.8		ng/l							
Thallium	1.09		ng/l							
Vanadium	-68.1		ng/l							U
Zinc	-11.1		ng/l							U
Initial Cal Check (2402012-ICV1)				Prepared & Analyzed: 02/07/24						
Antimony	19400		ng/l	20000		96.9	90-110			
Arsenic	19600		ng/l	20000		98.2	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	232000		ng/l	240000		96.5	90-110			
Cobalt	48600		ng/l	50000		97.3	90-110			
Copper	1.96E6		ng/l	2.0000E6		97.9	90-110			
Lead	191000		ng/l	200000		95.3	90-110			
Manganese	472000		ng/l	500000		94.4	90-110			
Molybdenum	48900		ng/l	50000		97.7	90-110			
Nickel	116000		ng/l	120000		96.4	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	497		ng/l	500.00		99.3	90-110			
Vanadium	19600		ng/l	20000		97.8	90-110			
Zinc	490000		ng/l	500000		97.9	90-110			
Interference Check A (2402012-IFA1)				Prepared & Analyzed: 02/07/24						
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

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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 2402012 - B4B0704										
Interference Check A (2402012-IFA1) Co				Prepared & Analyzed: 02/07/24						
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	332000		ng/l	300000		111	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
Interference Check B (2402012-IFB1)				Prepared & Analyzed: 02/07/24						
Antimony	21000		ng/l	20000		105	80-120			
Arsenic	20800		ng/l	20000		104	80-120			
Barium	212000		ng/l	200000		106	80-120			
Beryllium	4470		ng/l	5000.0		89.5	80-120			
Cadmium	20400		ng/l	20000		102	80-120			
Chromium	239000		ng/l	240000		99.4	80-120			
Cobalt	50400		ng/l	50000		101	80-120			
Copper	1.94E6		ng/l	2.0000E6		97.2	80-120			
Lead	211000		ng/l	200000		105	80-120			
Manganese	522000		ng/l	500000		104	80-120			
Molybdenum	392000		ng/l	350000		112	80-120			
Nickel	118000		ng/l	120000		98.5	80-120			
Selenium	19300		ng/l	20000		96.7	80-120			
Thallium	527		ng/l	500.00		105	80-120			
Vanadium	19600		ng/l	20000		97.8	80-120			
Zinc	469000		ng/l	500000		93.8	80-120			
Batch 2402018 - B4B0801										
Calibration Blank (2402018-CCB1)				Prepared & Analyzed: 02/08/24						
Antimony	0.0501		ng/l							
Arsenic	1.50		ng/l							
Barium	1.16		ng/l							
Beryllium	0.0483		ng/l							
Cadmium	0.264		ng/l							
Chromium	0.836		ng/l							
Cobalt	-0.00629		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 2402018 - B4B0801										
Calibration Blank (2402018-CCB1) Contin				Prepared & Analyzed: 02/08/24						
Copper	48.2		ng/l							
Lead	1.00		ng/l							
Manganese	0.440		ng/l							
Molybdenum	9.64		ng/l							
Nickel	1.10		ng/l							
Selenium	10.8		ng/l							
Thallium	1.14		ng/l							
Vanadium	-50.9		ng/l							U
Zinc	-1.95		ng/l							U
Calibration Blank (2402018-CCB2)				Prepared & Analyzed: 02/08/24						
Antimony	-0.0694		ng/l							U
Arsenic	2.55		ng/l							
Barium	-4.70		ng/l							U
Beryllium	-0.133		ng/l							U
Cadmium	-0.663		ng/l							U
Chromium	-4.91		ng/l							U
Cobalt	-1.19		ng/l							U
Copper	-40.5		ng/l							U
Lead	-4.68		ng/l							U
Manganese	-10.3		ng/l							U
Molybdenum	1.83		ng/l							
Nickel	-2.28		ng/l							U
Selenium	12.1		ng/l							
Thallium	0.799		ng/l							
Vanadium	-54.2		ng/l							U
Zinc	-141		ng/l							U
Calibration Blank (2402018-CCB3)				Prepared & Analyzed: 02/08/24						
Antimony	-0.245		ng/l							U
Arsenic	-0.117		ng/l							U
Barium	-4.89		ng/l							U
Beryllium	-0.106		ng/l							U
Cadmium	-0.763		ng/l							U
Chromium	-4.38		ng/l							U
Cobalt	-1.05		ng/l							U
Copper	-45.2		ng/l							U
Lead	-4.95		ng/l							U
Manganese	-9.67		ng/l							U
Molybdenum	1.04		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402018 - B4B0801										
Calibration Blank (2402018-CCB3) Contin				Prepared & Analyzed: 02/08/24						
Nickel	-2.32		ng/l							U
Selenium	8.50		ng/l							
Thallium	0.718		ng/l							
Vanadium	-59.7		ng/l							U
Zinc	-161		ng/l							U
Calibration Blank (2402018-CCB4)				Prepared: 02/08/24 Analyzed: 02/09/24						
Antimony	0.0376		ng/l							
Arsenic	1.73		ng/l							
Barium	-5.19		ng/l							U
Beryllium	-0.00813		ng/l							U
Cadmium	-0.660		ng/l							U
Chromium	-4.27		ng/l							U
Cobalt	-0.945		ng/l							U
Copper	-29.8		ng/l							U
Lead	-3.93		ng/l							U
Manganese	-6.31		ng/l							U
Molybdenum	2.14		ng/l							
Nickel	-2.20		ng/l							U
Selenium	10.2		ng/l							
Thallium	0.781		ng/l							
Vanadium	-59.3		ng/l							U
Zinc	-140		ng/l							U
Calibration Check (2402018-CCV1)				Prepared & Analyzed: 02/08/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5230		ng/l	5000.0		105	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	489000		ng/l	500000		97.8	90-110			
Molybdenum	48900		ng/l	50000		97.9	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	19400		ng/l	20000		97.2	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 2402018 - B4B0801										
Calibration Check (2402018-CCV1) Contin					Prepared & Analyzed: 02/08/24					
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2402018-CCV2)					Prepared & Analyzed: 02/08/24					
Antimony	19900		ng/l	20000		99.4	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5110		ng/l	5000.0		102	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	235000		ng/l	240000		97.8	90-110			
Cobalt	49300		ng/l	50000		98.6	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	49000		ng/l	50000		98.1	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			
Vanadium	19600		ng/l	20000		97.8	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2402018-CCV3)					Prepared & Analyzed: 02/08/24					
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	49600		ng/l	50000		99.2	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	495000		ng/l	500000		99.0	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	489		ng/l	500.00		97.8	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2402018-CCV4)					Prepared & Analyzed: 02/08/24					
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	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 2402018 - B4B0801										
Calibration Check (2402018-CCV4) Contin					Prepared & Analyzed: 02/08/24					
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	4770		ng/l	5000.0		95.5	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	49400		ng/l	50000		98.8	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	517000		ng/l	500000		103	90-110			
High Cal Check (2402018-HCV1)					Prepared & Analyzed: 02/08/24					
Antimony	39200		ng/l	40000		97.9	95-105			
Arsenic	39000		ng/l	40000		97.4	95-105			
Barium	388000		ng/l	400000		97.0	95-105			
Beryllium	9730		ng/l	10000		97.3	95-105			
Cadmium	39000		ng/l	40000		97.4	95-105			
Chromium	461000		ng/l	480000		96.1	95-105			
Cobalt	96300		ng/l	100000		96.3	95-105			
Copper	3.83E6		ng/l	4.0000E6		95.8	95-105			
Lead	390000		ng/l	400000		97.6	95-105			
Manganese	956000		ng/l	1.0000E6		95.6	95-105			
Molybdenum	96600		ng/l	100000		96.6	95-105			
Nickel	230000		ng/l	240000		96.0	95-105			
Selenium	39000		ng/l	40000		97.5	95-105			
Thallium	972		ng/l	1000.0		97.2	95-105			
Vanadium	38800		ng/l	40000		96.9	95-105			
Zinc	987000		ng/l	1.0000E6		98.7	95-105			
Initial Cal Blank (2402018-ICB1)					Prepared & Analyzed: 02/08/24					
Antimony	0.233		ng/l							
Arsenic	-2.33		ng/l							U
Barium	0.434		ng/l							
Beryllium	0.0631		ng/l							
Cadmium	0.222		ng/l							
Chromium	1.60		ng/l							

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
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 2402018 - B4B0801										
Initial Cal Blank (2402018-ICB1) Continu				Prepared & Analyzed: 02/08/24						
Cobalt	0.168		ng/l							
Copper	51.8		ng/l							
Lead	0.902		ng/l							
Manganese	3.09		ng/l							
Molybdenum	5.89		ng/l							
Nickel	1.71		ng/l							
Selenium	4.50		ng/l							
Thallium	1.04		ng/l							
Vanadium	-59.8		ng/l							U
Zinc	-8.83		ng/l							U
Initial Cal Check (2402018-ICV1)				Prepared & Analyzed: 02/08/24						
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	4980		ng/l	5000.0		99.5	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	49800		ng/l	50000		99.7	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	485000		ng/l	500000		96.9	90-110			
Molybdenum	49800		ng/l	50000		99.7	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	512		ng/l	500.00		102	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Interference Check A (2402018-IFA1)				Prepared & Analyzed: 02/08/24						
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

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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 2402018 - B4B0801										
Interference Check A (2402018-IFA1) Co					Prepared & Analyzed: 02/08/24					
Molybdenum	301000		ng/l	300000		100	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
Interference Check B (2402018-IFB1)					Prepared & Analyzed: 02/08/24					
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	199000		ng/l	200000		99.5	80-120			
Beryllium	5300		ng/l	5000.0		106	80-120			
Cadmium	19600		ng/l	20000		97.8	80-120			
Chromium	231000		ng/l	240000		96.2	80-120			
Cobalt	48100		ng/l	50000		96.2	80-120			
Copper	1.87E6		ng/l	2.0000E6		93.3	80-120			
Lead	203000		ng/l	200000		102	80-120			
Manganese	497000		ng/l	500000		99.3	80-120			
Molybdenum	350000		ng/l	350000		100	80-120			
Nickel	113000		ng/l	120000		94.2	80-120			
Selenium	19100		ng/l	20000		95.6	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	18800		ng/l	20000		94.1	80-120			
Zinc	464000		ng/l	500000		92.9	80-120			
Batch 2402024 - B4B0801										
Calibration Blank (2402024-CCB1)					Prepared & Analyzed: 02/09/24					
Antimony	0.866		ng/l							
Arsenic	0.781		ng/l							
Barium	-0.301		ng/l							U
Beryllium	-0.0319		ng/l							U
Cadmium	0.0307		ng/l							
Chromium	1.20		ng/l							
Cobalt	0.137		ng/l							
Copper	72.6		ng/l							
Lead	1.57		ng/l							
Manganese	-0.235		ng/l							U
Molybdenum	9.83		ng/l							
Nickel	-0.797		ng/l							U
Selenium	10.0		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402024 - B4B0801										
Calibration Blank (2402024-CCB1) Contin				Prepared & Analyzed: 02/09/24						
Thallium	1.64		ng/l							QB-04
Vanadium	-46.1		ng/l							U
Zinc	-7.34		ng/l							U
Calibration Blank (2402024-CCB2)				Prepared & Analyzed: 02/09/24						
Antimony	0.788		ng/l							
Arsenic	1.32		ng/l							
Barium	2.30		ng/l							
Beryllium	0.176		ng/l							
Cadmium	0.0546		ng/l							
Chromium	3.46		ng/l							
Cobalt	0.198		ng/l							
Copper	24.5		ng/l							
Lead	1.93		ng/l							
Manganese	1.78		ng/l							
Molybdenum	2.95		ng/l							
Nickel	0.228		ng/l							
Selenium	9.00		ng/l							
Thallium	1.00		ng/l							
Vanadium	-48.0		ng/l							U
Zinc	-62.3		ng/l							U
Calibration Blank (2402024-CCB3)				Prepared: 02/09/24 Analyzed: 02/10/24						
Antimony	0.634		ng/l							
Arsenic	3.46		ng/l							
Barium	0.712		ng/l							
Beryllium	0.0665		ng/l							
Cadmium	0.0514		ng/l							
Chromium	0.872		ng/l							
Cobalt	-0.0906		ng/l							U
Copper	42.0		ng/l							
Lead	1.52		ng/l							
Manganese	-0.594		ng/l							U
Molybdenum	4.88		ng/l							
Nickel	0.240		ng/l							
Selenium	7.54		ng/l							
Thallium	1.26		ng/l							
Vanadium	-53.6		ng/l							U
Zinc	-64.3		ng/l							U
Calibration Blank (2402024-CCB4)				Prepared: 02/09/24 Analyzed: 02/10/24						

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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 2402024 - B4B0801										
Calibration Blank (2402024-CCB4) Contin				Prepared: 02/09/24 Analyzed: 02/10/24						
Antimony	0.521		ng/l							
Arsenic	-0.503		ng/l							U
Barium	1.14		ng/l							
Beryllium	0.0693		ng/l							
Cadmium	0.0886		ng/l							
Chromium	2.67		ng/l							
Cobalt	0.238		ng/l							
Copper	31.5		ng/l							
Lead	1.81		ng/l							
Manganese	0.754		ng/l							
Molybdenum	3.33		ng/l							
Nickel	1.02		ng/l							
Selenium	5.83		ng/l							
Thallium	0.888		ng/l							
Vanadium	-47.8		ng/l							U
Zinc	-52.8		ng/l							U
Calibration Check (2402024-CCV1)				Prepared & Analyzed: 02/09/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	4790		ng/l	5000.0		95.8	90-110			
Cadmium	19900		ng/l	20000		99.6	90-110			
Chromium	234000		ng/l	240000		97.6	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	492000		ng/l	500000		98.3	90-110			
Molybdenum	49400		ng/l	50000		98.7	90-110			
Nickel	120000		ng/l	120000		99.9	90-110			
Selenium	19800		ng/l	20000		99.2	90-110			
Thallium	498		ng/l	500.00		99.7	90-110			
Vanadium	19700		ng/l	20000		98.4	90-110			
Zinc	527000		ng/l	500000		105	90-110			
Calibration Check (2402024-CCV2)				Prepared & Analyzed: 02/09/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4910		ng/l	5000.0		98.3	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 2402024 - B4B0801										
Calibration Check (2402024-CCV2) Contin					Prepared & Analyzed: 02/09/24					
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	49600		ng/l	50000		99.1	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	490000		ng/l	500000		98.0	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		99.7	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	496		ng/l	500.00		99.1	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	527000		ng/l	500000		105	90-110			
Calibration Check (2402024-CCV3)					Prepared: 02/09/24 Analyzed: 02/10/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	264000		ng/l	240000		110	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	501000		ng/l	500000		100	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	497		ng/l	500.00		99.5	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	535000		ng/l	500000		107	90-110			
Calibration Check (2402024-CCV4)					Prepared: 02/09/24 Analyzed: 02/10/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	4940		ng/l	5000.0		98.8	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	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 2402024 - B4B0801										
Calibration Check (2402024-CCV4) Contin					Prepared: 02/09/24 Analyzed: 02/10/24					
Lead	203000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	535000		ng/l	500000		107	90-110			
High Cal Check (2402024-HCV1)					Prepared & Analyzed: 02/09/24					
Antimony	39600		ng/l	40000		99.1	95-105			
Arsenic	39400		ng/l	40000		98.4	95-105			
Barium	395000		ng/l	400000		98.7	95-105			
Beryllium	10300		ng/l	10000		103	95-105			
Cadmium	38700		ng/l	40000		96.9	95-105			
Chromium	458000		ng/l	480000		95.4	95-105			
Cobalt	96400		ng/l	100000		96.4	95-105			
Copper	3.82E6		ng/l	4.0000E6		95.4	95-105			
Lead	395000		ng/l	400000		98.7	95-105			
Manganese	959000		ng/l	1.0000E6		95.9	95-105			
Molybdenum	96500		ng/l	100000		96.5	95-105			
Nickel	230000		ng/l	240000		95.7	95-105			
Selenium	39300		ng/l	40000		98.2	95-105			
Thallium	995		ng/l	1000.0		99.5	95-105			
Vanadium	39000		ng/l	40000		97.4	95-105			
Zinc	1.02E6		ng/l	1.0000E6		102	95-105			
Initial Cal Blank (2402024-ICB1)					Prepared & Analyzed: 02/09/24					
Antimony	0.646		ng/l							
Arsenic	-1.20		ng/l							U
Barium	0.366		ng/l							
Beryllium	0.0725		ng/l							
Cadmium	0.114		ng/l							
Chromium	0.835		ng/l							
Cobalt	0.288		ng/l							
Copper	77.4		ng/l							
Lead	2.01		ng/l							
Manganese	1.07		ng/l							
Molybdenum	4.14		ng/l							
Nickel	0.846		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402024 - B4B0801										
Initial Cal Blank (2402024-ICB1) Continu					Prepared & Analyzed: 02/09/24					
Selenium	1.39		ng/l							
Thallium	1.18		ng/l							
Vanadium	-50.0		ng/l							U
Zinc	-27.9		ng/l							U
Initial Cal Check (2402024-ICV1)					Prepared & Analyzed: 02/09/24					
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	4830		ng/l	5000.0		96.6	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	485000		ng/l	500000		97.1	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	523		ng/l	500.00		105	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Interference Check A (2402024-IFA1)					Prepared & Analyzed: 02/09/24					
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	305000		ng/l	300000		102	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 2402024 - B4B0801										
Interference Check B (2402024-IFB1)					Prepared & Analyzed: 02/09/24					
Antimony	21000		ng/l	20000		105	80-120			
Arsenic	20800		ng/l	20000		104	80-120			
Barium	205000		ng/l	200000		102	80-120			
Beryllium	4790		ng/l	5000.0		95.7	80-120			
Cadmium	20100		ng/l	20000		100	80-120			
Chromium	228000		ng/l	240000		95.1	80-120			
Cobalt	49400		ng/l	50000		98.8	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.5	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	509000		ng/l	500000		102	80-120			
Molybdenum	357000		ng/l	350000		102	80-120			
Nickel	115000		ng/l	120000		96.1	80-120			
Selenium	19700		ng/l	20000		98.3	80-120			
Thallium	529		ng/l	500.00		106	80-120			
Vanadium	19200		ng/l	20000		96.2	80-120			
Zinc	490000		ng/l	500000		98.0	80-120			
Batch B4B0704 - ICP-MS Extraction										
Blank (B4B0704-BLK1)					Prepared & Analyzed: 02/07/24					
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	0.0793	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	7.20E-4	5.89E-4	ng/m³ Air							B, QB-01, QB-04
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4B0704-BS1)					Prepared & Analyzed: 02/07/24					
Antimony	0.642	0.0386	ng/m³ Air	1.3829		46.4	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		97.0	80-120			

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
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 B4B0704 - ICP-MS Extraction										
LCS (B4B0704-BS1) Continued					Prepared & Analyzed: 02/07/24					
Barium	27.5	1.07	ng/m³ Air	27.658		99.3	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		99.8	80-120			
Cadmium	1.36	0.0793	ng/m³ Air	1.3829		98.5	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	28.1	2.63	ng/m³ Air	27.658		102	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.9	80-120			
Manganese	8.42	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.61	0.359	ng/m³ Air	1.3829		116	80-120			
Nickel	3.01	0.652	ng/m³ Air	2.7658		109	80-120			
Selenium	2.69	0.00896	ng/m³ Air	2.7658		97.1	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.5	80-120			B, QB-01, QB-04
Vanadium	2.69	0.0529	ng/m³ Air	2.7658		97.1	80-120			
Zinc	133	76.8	ng/m³ Air	82.975		160	80-120			
Duplicate (B4B0704-DUP1)		**Source: 4020650-03**			Prepared & Analyzed: 02/07/24					
Antimony	0.0639	0.0319	ng/m³ Air		0.0628			1.82	10	SL
Arsenic	0.0862	0.00775	ng/m³ Air		0.0959			10.7	10	
Barium	1.78	0.885	ng/m³ Air		1.75			1.89	10	
Beryllium	0.00635	0.00265	ng/m³ Air		0.00633			0.166	10	
Cadmium	ND	0.0656	ng/m³ Air		ND				10	U
Chromium	2.48	1.83	ng/m³ Air		2.48			0.340	10	
Cobalt	0.249	0.0361	ng/m³ Air		0.234			6.37	10	
Copper	46.0	2.18	ng/m³ Air		45.6			1.00	10	
Lead	1.40	0.177	ng/m³ Air		1.36			3.39	10	
Manganese	4.24	1.56	ng/m³ Air		3.83			10.1	10	
Molybdenum	1.35	0.297	ng/m³ Air		1.28			5.47	10	
Nickel	0.985	0.539	ng/m³ Air		1.06			7.78	10	
Selenium	0.346	0.00741	ng/m³ Air		0.335			3.12	10	
Thallium	6.89E-4	4.87E-4	ng/m³ Air		6.24E-4			9.88	10	B, QB-01, QB-04
Vanadium	0.417	0.0438	ng/m³ Air		0.379			9.62	10	
Zinc	ND	63.5	ng/m³ Air		ND				10	U
Duplicate (B4B0704-DUP2)		**Source: 4020650-05**			Prepared & Analyzed: 02/07/24					
Antimony	0.0578	0.0309	ng/m³ Air		0.0566			1.99	10	SL
Arsenic	0.390	0.00750	ng/m³ Air		0.381			2.22	10	
Barium	2.19	0.857	ng/m³ Air		2.11			3.77	10	
Beryllium	0.00272	0.00256	ng/m³ Air		0.00290			6.37	10	

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FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4B0704 - ICP-MS Extraction										
Duplicate (B4B0704-DUP2) Continued		**Source: 4020650-05**			Prepared & Analyzed: 02/07/24					
Cadmium	ND	0.0635	ng/m³ Air		ND				10	U
Chromium	ND	1.77	ng/m³ Air		ND				10	U
Cobalt	0.133	0.0349	ng/m³ Air		0.129			2.64	10	
Copper	20.7	2.11	ng/m³ Air		20.4			1.46	10	
Lead	0.245	0.171	ng/m³ Air		0.242			1.38	10	
Manganese	2.63	1.51	ng/m³ Air		2.55			3.03	10	
Molybdenum	1.11	0.287	ng/m³ Air		1.07			3.08	10	
Nickel	0.746	0.522	ng/m³ Air		0.732			1.94	10	
Selenium	0.112	0.00718	ng/m³ Air		0.113			0.707	10	
Thallium	5.23E-4	4.72E-4	ng/m³ Air		5.63E-4			7.35	10	B, QB-01, QB-04
Vanadium	0.253	0.0424	ng/m³ Air		0.246			2.76	10	
Zinc	ND	61.5	ng/m³ Air		ND				10	U
Matrix Spike (B4B0704-MS1)		**Source: 4020650-03**			Prepared & Analyzed: 02/07/24					
Antimony	0.737	0.0319	ng/m³ Air	1.1439	0.0628	59.0	80-120			SL
Arsenic	2.37	0.00775	ng/m³ Air	2.2878	0.0959	99.4	80-120			
Barium	24.8	0.885	ng/m³ Air	22.878	1.75	101	80-120			
Beryllium	1.13	0.00265	ng/m³ Air	1.1439	0.00633	97.8	80-120			
Cadmium	1.18	0.0656	ng/m³ Air	1.1439	ND	103	80-120			
Chromium	14.0	1.83	ng/m³ Air	11.439	2.48	101	80-120			
Cobalt	1.38	0.0361	ng/m³ Air	1.1439	0.234	100	80-120			
Copper	59.6	2.18	ng/m³ Air	22.878	45.6	61.4	80-120			QM-07
Lead	12.5	0.177	ng/m³ Air	11.439	1.36	97.8	80-120			
Manganese	10.8	1.56	ng/m³ Air	6.8635	3.83	102	80-120			
Molybdenum	2.46	0.297	ng/m³ Air	1.1439	1.28	103	80-120			
Nickel	3.37	0.539	ng/m³ Air	2.2878	1.06	101	80-120			
Selenium	2.57	0.00741	ng/m³ Air	2.2878	0.335	97.6	80-120			
Thallium	0.115	4.87E-4	ng/m³ Air	0.11439	6.24E-4	99.8	80-120			B, QB-01, QB-04
Vanadium	2.62	0.0438	ng/m³ Air	2.2878	0.379	98.0	80-120			
Zinc	108	63.5	ng/m³ Air	68.635	ND	157	80-120			
Matrix Spike Dup (B4B0704-MSD1)		**Source: 4020650-03**			Prepared & Analyzed: 02/07/24					
Antimony	0.728	0.0319	ng/m³ Air	1.1439	0.0628	58.2	80-120	1.28	20	SL
Arsenic	2.32	0.00775	ng/m³ Air	2.2878	0.0959	97.2	80-120	2.13	20	
Barium	24.5	0.885	ng/m³ Air	22.878	1.75	99.6	80-120	1.04	20	
Beryllium	1.12	0.00265	ng/m³ Air	1.1439	0.00633	97.0	80-120	0.844	20	
Cadmium	1.16	0.0656	ng/m³ Air	1.1439	ND	102	80-120	1.47	20	
Chromium	13.8	1.83	ng/m³ Air	11.439	2.48	99.1	80-120	1.54	20	

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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 B4B0704 - ICP-MS Extraction										
Matrix Spike Dup (B4B0704-MSD1) Conti			**Source: 4020650-03**		Prepared & Analyzed: 02/07/24					
Cobalt	1.35	0.0361	ng/m³ Air	1.1439	0.234	97.9	80-120	1.83	20	
Copper	51.9	2.18	ng/m³ Air	22.878	45.6	27.5	80-120	13.9	20	QM-07
Lead	12.0	0.177	ng/m³ Air	11.439	1.36	93.1	80-120	4.44	20	
Manganese	10.7	1.56	ng/m³ Air	6.8635	3.83	100	80-120	1.10	20	
Molybdenum	2.54	0.297	ng/m³ Air	1.1439	1.28	110	80-120	3.10	20	
Nickel	3.12	0.539	ng/m³ Air	2.2878	1.06	89.7	80-120	7.83	20	
Selenium	2.60	0.00741	ng/m³ Air	2.2878	0.335	99.0	80-120	1.21	20	
Thallium	0.113	4.87E-4	ng/m³ Air	0.11439	6.24E-4	98.5	80-120	1.25	20	B, QB-01, QB-04
Vanadium	2.59	0.0438	ng/m³ Air	2.2878	0.379	96.6	80-120	1.27	20	
Zinc	99.3	63.5	ng/m³ Air	68.635	ND	145	80-120	8.20	20	QM-07
Post Spike (B4B0704-PS1)			**Source: 4020650-03**		Prepared & Analyzed: 02/07/24					
Antimony	0.294	0.0319	ng/m³ Air	0.22878	0.0628	101	75-125			SL
Arsenic	1.22	0.00775	ng/m³ Air	1.1439	0.0959	98.4	75-125			
Barium	4.03	0.885	ng/m³ Air	2.2878	1.75	99.8	75-125			
Beryllium	0.238	0.00265	ng/m³ Air	0.22878	0.00633	101	75-125			
Cadmium	0.125	0.0656	ng/m³ Air	0.11439	ND	109	75-125			
Chromium	3.59	1.83	ng/m³ Air	1.1439	2.48	97.1	75-125			
Cobalt	0.461	0.0361	ng/m³ Air	0.22878	0.234	99.4	75-125			
Copper	57.6	2.18	ng/m³ Air	11.439	45.6	105	75-125			
Lead	24.1	0.177	ng/m³ Air	22.878	1.36	99.6	75-125			
Manganese	6.10	1.56	ng/m³ Air	2.2878	3.83	99.1	75-125			
Molybdenum	2.40	0.297	ng/m³ Air	1.1439	1.28	97.6	75-125			
Nickel	3.31	0.539	ng/m³ Air	2.2878	1.06	98.1	75-125			
Selenium	1.45	0.00741	ng/m³ Air	1.1439	0.335	97.3	75-125			
Thallium	0.0579	4.87E-4	ng/m³ Air	5.7196E-2	6.24E-4	100	75-125			B, QB-01, QB-04
Vanadium	1.50	0.0438	ng/m³ Air	1.1439	0.379	98.0	75-125			
Zinc	70.4	63.5	ng/m³ Air	22.878	ND	308	75-125			
Dilution Check (B4B0704-SRL1)			**Source: 4020650-03**		Prepared & Analyzed: 02/07/24					
Antimony	ND	0.160	ng/m³ Air		ND				10	SL, U
Arsenic	0.104	0.0388	ng/m³ Air		0.0959			7.85	10	
Barium	ND	4.43	ng/m³ Air		ND				10	U
Beryllium	0.0143	0.0132	ng/m³ Air		ND			77.0	10	
Cadmium	ND	0.328	ng/m³ Air		ND				10	U
Chromium	ND	9.14	ng/m³ Air		ND				10	U
Cobalt	0.237	0.180	ng/m³ Air		0.234			1.53	10	
Copper	46.2	10.9	ng/m³ Air		45.6			1.27	10	

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FILE #: 4205.00.003.001
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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 B4B0704 - ICP-MS Extraction										
Dilution Check (B4B0704-SRL1) ContinueSource: 4020650-03 Prepared & Analyzed: 02/07/24										
Lead	1.37	0.885	ng/m³ Air		1.36			0.947	10	
Manganese	ND	7.82	ng/m³ Air		ND				10	U
Molybdenum	ND	1.48	ng/m³ Air		ND				10	U
Nickel	ND	2.70	ng/m³ Air		ND				10	U
Selenium	0.374	0.0371	ng/m³ Air		0.335			11.0	10	SRD-01
Thallium	0.00443	0.00244	ng/m³ Air		ND			151	10	B, QB-01, QB-04
Vanadium	0.366	0.219	ng/m³ Air		0.379			3.56	10	
Zinc	ND	318	ng/m³ Air		ND				10	U
Batch B4B0801 - ICP-MS Extraction										
Blank (B4B0801-BLK1) Prepared & Analyzed: 02/08/24										
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	0.0793	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	6.29E-4	5.89E-4	ng/m³ Air							B, QB-01
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4B0801-BS1) Prepared & Analyzed: 02/08/24										
Antimony	0.669	0.0386	ng/m³ Air	1.3829		48.4	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.2	80-120			
Barium	27.4	1.07	ng/m³ Air	27.658		98.9	80-120			
Beryllium	1.35	0.00320	ng/m³ Air	1.3829		97.6	80-120			
Cadmium	1.36	0.0793	ng/m³ Air	1.3829		98.4	80-120			
Chromium	16.3	2.21	ng/m³ Air	13.829		118	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.2	80-120			
Copper	30.0	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.0	80-120			
Manganese	8.68	1.89	ng/m³ Air	8.2975		105	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 B4B0801 - ICP-MS Extraction										
LCS (B4B0801-BS1) Continued					Prepared & Analyzed: 02/08/24					
Molybdenum	1.60	0.359	ng/m³ Air	1.3829		116	80-120			
Nickel	3.00	0.652	ng/m³ Air	2.7658		108	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		98.9	80-120			
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		96.5	80-120			B, QB-01
Vanadium	2.67	0.0529	ng/m³ Air	2.7658		96.5	80-120			
Zinc	128	76.8	ng/m³ Air	82.975		154	80-120			
Duplicate (B4B0801-DUP1)		**Source: 4020650-29**			Prepared & Analyzed: 02/08/24					
Antimony	0.203	0.0299	ng/m³ Air		0.198			2.85	10	SL
Arsenic	0.326	0.00725	ng/m³ Air		0.335			2.83	10	
Barium	5.95	0.828	ng/m³ Air		5.85			1.64	10	
Beryllium	0.00786	0.00248	ng/m³ Air		0.00802			2.04	10	
Cadmium	ND	0.0614	ng/m³ Air		ND				10	U
Chromium	1.84	1.71	ng/m³ Air		1.78			3.42	10	
Cobalt	0.229	0.0337	ng/m³ Air		0.233			1.60	10	
Copper	38.7	2.04	ng/m³ Air		39.8			2.64	10	
Lead	0.610	0.166	ng/m³ Air		0.606			0.553	10	
Manganese	6.64	1.46	ng/m³ Air		6.53			1.56	10	
Molybdenum	1.84	0.278	ng/m³ Air		1.88			1.92	10	
Nickel	0.990	0.504	ng/m³ Air		0.916			7.79	10	
Selenium	0.136	0.00693	ng/m³ Air		0.145			6.61	10	
Thallium	6.71E-4	4.56E-4	ng/m³ Air		7.90E-4			16.3	10	B, QB-01
Vanadium	0.675	0.0409	ng/m³ Air		0.663			1.80	10	
Zinc	ND	59.4	ng/m³ Air		ND				10	U
Duplicate (B4B0801-DUP2)		**Source: 4020650-19**			Prepared: 02/08/24 Analyzed: 02/10/24					
Antimony	0.104	0.0314	ng/m³ Air		0.101			3.37	10	SL
Arsenic	1.70	0.00762	ng/m³ Air		1.66			2.52	10	
Barium	5.56	0.871	ng/m³ Air		5.48			1.42	10	
Beryllium	0.0176	0.00260	ng/m³ Air		0.0187			6.60	10	
Cadmium	ND	0.0645	ng/m³ Air		ND				10	U
Chromium	4.63	1.80	ng/m³ Air		4.48			3.28	10	
Cobalt	1.02	0.0355	ng/m³ Air		0.986			3.49	10	
Copper	37.9	2.14	ng/m³ Air		36.6			3.35	10	
Lead	1.13	0.174	ng/m³ Air		1.12			1.27	10	
Manganese	20.0	1.54	ng/m³ Air		19.5			2.53	10	
Molybdenum	1.61	0.292	ng/m³ Air		1.57			2.85	10	
Nickel	4.87	0.531	ng/m³ Air		4.75			2.60	10	
Selenium	0.417	0.00729	ng/m³ Air		0.424			1.81	10	
Thallium	0.00117	4.79E-4	ng/m³ Air		0.00110			6.15	10	

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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: 02/13/24 16:40
SUBMITTED: 02/05/24
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 B4B0801 - ICP-MS Extraction										
Duplicate (B4B0801-DUP2) Continued		**Source: 4020650-19**		Prepared: 02/08/24 Analyzed: 02/10/24						
Vanadium	2.13	0.0430	ng/m³ Air		2.08			2.49	10	
Zinc	ND	62.5	ng/m³ Air		ND				10	U
Matrix Spike (B4B0801-MS1)		**Source: 4020650-29**		Prepared & Analyzed: 02/08/24						
Antimony	0.732	0.0299	ng/m³ Air	1.0701	0.198	49.9	80-120			SL
Arsenic	2.36	0.00725	ng/m³ Air	2.1401	0.335	94.5	80-120			
Barium	26.7	0.828	ng/m³ Air	21.401	5.85	97.6	80-120			
Beryllium	1.09	0.00248	ng/m³ Air	1.0701	0.00802	101	80-120			
Cadmium	1.04	0.0614	ng/m³ Air	1.0701	ND	97.5	80-120			
Chromium	12.6	1.71	ng/m³ Air	10.701	1.78	101	80-120			
Cobalt	1.26	0.0337	ng/m³ Air	1.0701	0.233	96.3	80-120			
Copper	57.8	2.04	ng/m³ Air	21.401	39.8	84.1	80-120			
Lead	11.3	0.166	ng/m³ Air	10.701	0.606	99.5	80-120			
Manganese	12.9	1.46	ng/m³ Air	6.4204	6.53	98.7	80-120			
Molybdenum	2.88	0.278	ng/m³ Air	1.0701	1.88	93.9	80-120			
Nickel	2.98	0.504	ng/m³ Air	2.1401	0.916	96.4	80-120			
Selenium	2.26	0.00693	ng/m³ Air	2.1401	0.145	98.7	80-120			
Thallium	0.105	4.56E-4	ng/m³ Air	0.10701	7.90E-4	97.6	80-120			B, QB-01
Vanadium	2.65	0.0409	ng/m³ Air	2.1401	0.663	92.8	80-120			
Zinc	108	59.4	ng/m³ Air	64.204	ND	168	80-120			
Matrix Spike Dup (B4B0801-MSD1)		**Source: 4020650-29**		Prepared & Analyzed: 02/08/24						
Antimony	0.791	0.0299	ng/m³ Air	1.0701	0.198	55.4	80-120	7.76	20	SL
Arsenic	2.40	0.00725	ng/m³ Air	2.1401	0.335	96.6	80-120	1.88	20	
Barium	27.4	0.828	ng/m³ Air	21.401	5.85	100	80-120	2.23	20	
Beryllium	1.01	0.00248	ng/m³ Air	1.0701	0.00802	93.5	80-120	7.56	20	
Cadmium	1.08	0.0614	ng/m³ Air	1.0701	ND	100	80-120	3.04	20	
Chromium	17.3	1.71	ng/m³ Air	10.701	1.78	145	80-120	31.4	20	QM-4X
Cobalt	1.32	0.0337	ng/m³ Air	1.0701	0.233	102	80-120	4.53	20	
Copper	58.1	2.04	ng/m³ Air	21.401	39.8	85.6	80-120	0.573	20	
Lead	11.5	0.166	ng/m³ Air	10.701	0.606	102	80-120	1.90	20	
Manganese	13.3	1.46	ng/m³ Air	6.4204	6.53	106	80-120	3.37	20	
Molybdenum	2.99	0.278	ng/m³ Air	1.0701	1.88	104	80-120	3.75	20	
Nickel	4.96	0.504	ng/m³ Air	2.1401	0.916	189	80-120	49.8	20	QM-07
Selenium	2.29	0.00693	ng/m³ Air	2.1401	0.145	100	80-120	1.29	20	
Thallium	0.106	4.56E-4	ng/m³ Air	0.10701	7.90E-4	98.6	80-120	1.03	20	B, QB-01
Vanadium	2.72	0.0409	ng/m³ Air	2.1401	0.663	96.3	80-120	2.83	20	
Zinc	110	59.4	ng/m³ Air	64.204	ND	171	80-120	2.22	20	
Post Spike (B4B0801-PS1)		**Source: 4020650-29**		Prepared & Analyzed: 02/08/24						
Antimony	0.409	0.0299	ng/m³ Air	0.21401	0.198	99.0	75-125			SL

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
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 B4B0801 - ICP-MS Extraction										
Post Spike (B4B0801-PS1) Continued		**Source: 4020650-29**		Prepared & Analyzed: 02/08/24						
Arsenic	1.35	0.00725	ng/m³ Air	1.0701	0.335	95.0	75-125			
Barium	7.87	0.828	ng/m³ Air	2.1401	5.85	94.1	75-125			
Beryllium	0.219	0.00248	ng/m³ Air	0.21401	0.00802	98.6	75-125			
Cadmium	0.116	0.0614	ng/m³ Air	0.10701	ND	108	75-125			
Chromium	2.81	1.71	ng/m³ Air	1.0701	1.78	96.2	75-125			
Cobalt	0.439	0.0337	ng/m³ Air	0.21401	0.233	96.1	75-125			
Copper	50.3	2.04	ng/m³ Air	10.701	39.8	98.2	75-125			
Lead	21.5	0.166	ng/m³ Air	21.401	0.606	97.7	75-125			
Manganese	8.67	1.46	ng/m³ Air	2.1401	6.53	99.7	75-125			
Molybdenum	2.88	0.278	ng/m³ Air	1.0701	1.88	93.4	75-125			
Nickel	2.93	0.504	ng/m³ Air	2.1401	0.916	94.2	75-125			
Selenium	1.19	0.00693	ng/m³ Air	1.0701	0.145	97.9	75-125			
Thallium	0.0544	4.56E-4	ng/m³ Air	5.3503E-2	7.90E-4	100	75-125			B, QB-01
Vanadium	1.66	0.0409	ng/m³ Air	1.0701	0.663	93.2	75-125			
Zinc	72.4	59.4	ng/m³ Air	21.401	ND	338	75-125			
Dilution Check (B4B0801-SRL1)		**Source: 4020650-29**		Prepared & Analyzed: 02/08/24						
Antimony	0.200	0.149	ng/m³ Air		0.198			1.43	10	SL
Arsenic	0.334	0.0363	ng/m³ Air		0.335			0.328	10	
Barium	5.99	4.14	ng/m³ Air		5.85			2.25	10	
Beryllium	ND	0.0124	ng/m³ Air		ND				10	U
Cadmium	ND	0.307	ng/m³ Air		ND				10	U
Chromium	ND	8.55	ng/m³ Air		ND				10	U
Cobalt	0.239	0.169	ng/m³ Air		0.233			2.77	10	
Copper	41.4	10.2	ng/m³ Air		39.8			4.08	10	
Lead	ND	0.828	ng/m³ Air		ND				10	U
Manganese	ND	7.31	ng/m³ Air		ND				10	U
Molybdenum	1.95	1.39	ng/m³ Air		1.88			3.86	10	
Nickel	ND	2.52	ng/m³ Air		ND				10	U
Selenium	0.147	0.0347	ng/m³ Air		0.145			1.15	10	
Thallium	ND	0.00228	ng/m³ Air		ND				10	B, QB-01, U
Vanadium	0.691	0.205	ng/m³ Air		0.663			4.21	10	
Zinc	ND	297	ng/m³ Air		ND				10	U

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

FILE #: 4205.00.003.001
REPORTED: 02/13/24 16:40
SUBMITTED: 02/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

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.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
FB-01	Analyte exceeds Field Blank criteria.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

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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 2/14/2024 and Shanna Vasser 2/15/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 1/25/2024 – 1/31/2024
Report No: 4020650

√	1.	Chain of custody (CoC) documentation is present.
X	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 MFL-FB01-012624-HM had detections above the method detection limit.

Notes:

2 No sample receipt information was included.

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

February 1 through February 7, 2024
[Report Updated: December 4, 2024]

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

Particulate monitoring and air sampling occurred from February 1 through February 7, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from February 1 through February 7 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

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

laboratory included the comment “Numerous gypsum fibers present” for samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on February 1 through 7
- WW Pump Station #4 on February 1 through 7
- Lahaina Intermediate School on February 1, and 3 through 7
- Lahaina Boys & Girls Club on February 1 through 7

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

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.5 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

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

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

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

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

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

- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

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

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

Attachments

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
February 1 through February 7, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
2/1/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	9.7
2/2/2024	Leialii Hawaiian Homelands (AM-01)	8.1
	WW Pump Station #4 (AM-02)	9.1
	Lahaina Intermediate School (AM-03)	88
	Lahaina Boys & Girls Club (AM-04)	5.9
2/3/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.3
	Lahaina Intermediate School (AM-03)	8.3
	Lahaina Boys & Girls Club (AM-04)	8.2
2/4/2024	Leialii Hawaiian Homelands (AM-01)	8.2
	WW Pump Station #4 (AM-02)	7.8
	Lahaina Intermediate School (AM-03)	7.5
	Lahaina Boys & Girls Club (AM-04)	6.3
2/5/2024	Leialii Hawaiian Homelands (AM-01)	9.2
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	7.7
2/6/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	8.0
2/7/2024	Leialii Hawaiian Homelands (AM-01)	8.4
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	8.0
	Lahaina Boys & Girls Club (AM-04)	7.7

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation
Results from Leialii Hawaiian Homelands on 2/7 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
February 1 through February 7, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
2/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000354	0.0128	0.00943	0.0000218	0.000105	0.00536	0.000808	0.109	0.00786	0.0211	0.00450	0.00343	0.000272	0.00000252	0.00256	0.0822
	WW Pump Station #4 (AM-02)	<0.00275	0.000240	0.000341	0.00593	0.00000709	ND	0.00187	0.000227	0.0460	0.000735	0.00638	0.00226	0.00129	0.000244	0.000000894	0.00166	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.000113	0.0000990	0.00401	0.0000113	ND	0.00190	0.000221	0.0375	0.000224	0.00463	0.00189	0.00114	0.000169	0.000000714	0.00139	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000472	0.000245	0.00310	0.00000529	ND	ND	0.000155	0.0216	0.000730	0.00441	0.00119	0.000959	0.000227	0.000000757	0.00155	ND
2/2/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000936	0.00301	0.00500	0.0000179	ND	0.00308	0.000362	0.0650	0.00113	0.0131	0.00240	0.00177	0.000129	0.00000225	0.00149	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000734	0.000192	0.00226	0.00000349	ND	ND	0.000104	0.0509	0.000575	0.00294	0.00171	0.000751	0.0000882	0.000000583	0.000635	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000338	0.0000532	0.00133	0.00000478	ND	ND	0.000104	0.0237	0.000525	0.00224	0.00124	0.000799	0.0000606	ND	0.000238	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000893	0.000225	0.00242	0.00000759	ND	0.00233	0.000251	0.0137	0.000811	0.00727	0.000511	0.000866	0.0000851	0.000000667	0.000558	ND
2/3/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000436	0.000341	0.00199	0.00000537	0.0000968	0.00199	0.000191	0.0395	0.000615	0.00608	0.00181	0.000740	0.000174	0.00000158	0.000402	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000908	0.000704	0.00528	0.0000118	ND	0.00319	0.000472	0.0393	0.00199	0.0129	0.00128	0.00181	0.000199	0.00000161	0.00109	ND
	Lahaina Intermediate School (AM-03)	<0.0024	ND	0.0000716	0.00107	0.00000362	ND	0.00205	0.0000861	0.0393	0.000377	0.00203	0.00176	0.000847	0.000146	0.00000116	0.000172	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000802	0.000663	0.00353	0.0000177	ND	0.00431	0.000645	0.0173	0.000943	0.0177	0.000799	0.00195	0.000183	0.00000170	0.00128	ND
2/4/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000928	0.000828	0.00435	0.0000156	ND	0.00349	0.000735	0.0773	0.00129	0.0247	0.00248	0.00126	0.000229	0.00000176	0.00145	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000105	0.000216	0.00415	0.00000625	0.0000795	0.00205	0.000218	0.0581	0.000862	0.00657	0.00174	0.000767	0.000174	0.00000132	0.000523	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000406	0.0000872	0.00133	0.00000588	ND	ND	0.000121	0.0570	0.000457	0.00289	0.00228	0.000822	0.000169	0.00000127	0.000227	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000809	0.000274	0.00227	0.00000440	ND	ND	0.000125	0.0226	0.000614	0.00374	0.00123	0.000705	0.000176	0.00000114	0.000272	ND
2/5/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000724	0.000322	0.00207	0.00000432	ND	ND	0.0002	0.113	0.000848	0.00414	0.00410	0.000695	0.000136	0.0000000852	0.000326	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000308	0.000176	0.00528	0.00000688	ND	ND	0.000213	0.0408	0.000692	0.00617	0.00154	0.000839	0.000177	0.000000827	0.000589	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.000062	0.000100	0.00196	0.00000796	ND	ND	0.000199	0.0404	0.000275	0.00452	0.00183	0.00107	0.000150	0.000000755	0.000409	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000119	0.000140	0.00245	0.00000519	ND	ND	0.000135	0.0198	0.000523	0.00429	0.00117	0.000570	0.000152	0.000000706	0.000389	ND
2/6/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000789	0.000413	0.00240	0.00000510	ND	ND	0.000349	0.125	0.00118	0.00557	0.00396	0.000881	0.000186	0.000000935	0.000791	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000193	0.000299	0.00602	0.0000162	ND	0.00212	0.000407	0.0443	0.00101	0.0143	0.00132	0.00137	0.000254	0.00000120	0.00149	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000114	0.000120	0.00263	0.0000104	ND	ND	0.000251	0.0494	0.000555	0.00659	0.00203	0.00116	0.000180	0.00000109	0.000904	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000933	0.000165	0.00238	0.00000569	ND	ND	0.000143	0.0239	0.000664	0.00537	0.00131	0.000628	0.000189	0.00000094	0.000733	ND
2/7/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000756	0.000345	0.00261	0.00000523	ND	ND	0.000603	0.119	0.000874	0.00603	0.00434	0.000902	0.000198	0.00000114	0.000649	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000180	0.000255	0.00408	0.00000973	ND	ND	0.000245	0.0545	0.00121	0.00871	0.00142	0.000926	0.000215	0.00000132	0.000899	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000108	0.000144	0.00273	0.0000137	ND	ND	0.000259	0.0469	0.000621	0.00709	0.00182	0.000957	0.000195	0.00000109	0.000794	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000122	0.000263	0.00285	0.00000619	ND	ND	0.000160	0.0276	0.00104	0.00562	0.00107	0.000706	0.000176	0.00000107	0.000619	ND
95% Upper Confidence Limit[2]		NA	0.000170	0.000900	0.00410	0.0000110	0.000127	0.00346	0.000360	0.0641	0.00124	0.009584	0.00230	0.00124	0.000200	0.00000140	0.00116	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
mg/m3 = milligrams 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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs
This report has been updated with new SSALs in accordance with the updated CAMSP
The asbestos results in this report have been reanalyzed by the lab in accordance with the updated SSALs

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
February 1 through February 7, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
2/1/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	75	74	760.5
2/1/2024	AM-02	WW Pump Station #4	1.0	SSE	76	77	763.1
2/1/2024	AM-03	Lahaina Intermediate School	1.4	SSE	79	77	753.3
2/1/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	74	77	762.3
2/2/2024	AM-01	Leialii Hawaiian Homelands	2.4	SE	69	78	762.7
2/2/2024	AM-02	WW Pump Station #4	2.3	E	71	78	765.1
2/2/2024	AM-03	Lahaina Intermediate School	3.8	SE	74	79	755.1
2/2/2024	AM-04	Lahaina Boys & Girls Club	4.0	SSW	71	74	764.2
2/3/2024	AM-01	Leialii Hawaiian Homelands	2.5	ESE	71	56	763.5
2/3/2024	AM-02	WW Pump Station #4	2.1	E	73	57	766.0
2/3/2024	AM-03	Lahaina Intermediate School	2.1	ESE	76	59	756.0
2/3/2024	AM-04	Lahaina Boys & Girls Club	1.8	SSE	71	59	765.1
2/4/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	74	56	762.5
2/4/2024	AM-02	WW Pump Station #4	0.9	SSE	73	61	765.1
2/4/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	64	755.3
2/4/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	71	63	764.4
2/5/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	74	57	762.4
2/5/2024	AM-02	WW Pump Station #4	1.0	SSE	74	60	764.9
2/5/2024	AM-03	Lahaina Intermediate School	1.0	SE	77	63	755.2
2/5/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	72	62	764.2
2/6/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	74	61	762.8
2/6/2024	AM-02	WW Pump Station #4	1.0	SE	75	63	765.3
2/6/2024	AM-03	Lahaina Intermediate School	1.0	ESE	78	66	755.6
2/6/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	73	65	764.6
2/7/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	75	58	763.8
2/7/2024	AM-02	WW Pump Station #4	1.1	SSE	76	61	766.3
2/7/2024	AM-03	Lahaina Intermediate School	1.1	SE	78	64	756.6
2/7/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	73	63	765.7

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

Appendix 1

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

EMSL Order:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/09/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-020124-AB**

EMSL Sample Number:	042402495-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	5731.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	6
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**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**	**< 38.93**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 38.93**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 38.93**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 38.93**	**< 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**	**< 38.93**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 38.93**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 38.93**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 38.93	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 38.93**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

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:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0001 **Customer Sample:** MFL-AM01-020124-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					
A6	I4	None Detected									
A6	A5	None Detected									
A7	I4	None Detected									
A7	E4	None Detected									
A7	B9	None Detected									
A5	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:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024 & 02/16/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-020124-AB**

EMSL Sample Number:	042402495-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6514.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	Random	*(4.00)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**0.00092**		**Limit of Detection (Structures/cc):**	**0.00275**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**1**	**1**	**< 46.72**	**< 0.00275**	**Not Applicable**	**0.00275**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.00275**	**Not Applicable**	**0.00436**
Actinolite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Amosite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Anthophyllite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Crocidolite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Tremolite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Total Asbestos Structures	**CD/ADX**	**1**	**1**	**< 46.72**	**< 0.00275**	**Not Applicable**	**0.00275**
Other Minerals	-	0	0	< 46.72	< 0.00275	Not Applicable	0.00436
Total All Structures	**-**	**1**	**1**	**< 46.72**	**< 0.00275**	**Not Applicable**	**0.00275**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.00275**	**Not Applicable**	**0.00275**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.00275**	**Not Applicable**	**0.00275**
Actinolite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Amosite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Anthophyllite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Crocidolite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Tremolite	ADX	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.00275**	**Not Applicable**	**0.00275**
Other Minerals	-	0	0	< 46.72	< 0.00275	Not Applicable	0.00275
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.00275**	**Not Applicable**	**0.00275**

Comment

Numerous gypsum fibers present.

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.

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EMSL Order ID: 042402495
Client: Tetra Tech
Project ID: Maui Fires - Lahaina / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0002 **Customer Sample:** MFL-AM02-020124-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	H6	None Detected									
B1	C5	None Detected									
B2	I7	F	1	1	2.1	0.09	CD	Chrysotile		MG_16, MG_17	
B2	E4	None Detected									
B2	B6	None Detected									

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

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EMSL Order:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-020124-AB**

EMSL Sample Number:	042402495-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6868.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & 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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0003 **Customer Sample:** MFL-AM03-020124-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	G4	None Detected									
B5	B8	None Detected									
B6	B5	None Detected									
B6	F6	None Detected									
B7	D5	None Detected									

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

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EMSL Order:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-020124-AB**

EMSL Sample Number:	042402495-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7239.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0004 **Customer Sample:** MFL-AM04-020124-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	H6	None Detected									
C1	D5	None Detected									
C2	H8	None Detected									
C2	C4	None Detected									
C3	E4	None Detected									

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

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EMSL Order:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020124-AB**

EMSL Sample Number:	042402495-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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EMSL Order ID: 042402495
Client: Tetra Tech
Project ID: Maui Fires - Lahaina / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0005 **Customer Sample:** MFL-FB01-020124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B7	None Detected									
C5	C3	None Detected									
C5	F3	None Detected									
C5	G5	None Detected									
C5	I6	None Detected									
C6	A6	None Detected									
C6	C7	None Detected									
C6	E8	None Detected									
C6	G7	None Detected									
C6	I4	None Detected									

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

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EMSL Order:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-020224-AB**

EMSL Sample Number:	042402495-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6688.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A Burke & 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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0006 **Customer Sample:** MFL-AM01-020224-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	B5	None Detected									
D1	E3	None Detected									
D2	C5	None Detected									
D2	H4	None Detected									
D3	D&	None Detected									

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

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Phone:	(703) 489-2674
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Analysis Date:	02/12/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-020224-AB**

EMSL Sample Number:	042402495-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7151.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & 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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0007 **Customer Sample:** MFL-AM02-020224-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	D4	None Detected									
D6	H4	None Detected									
D6	D5	None Detected									
D6	A4	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:	1206126
Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-020224-AB**

EMSL Sample Number:	042402495-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7023.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0008 **Customer Sample:** MFL-AM03-020224-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	J2	None Detected									
E1	B7	None Detected									
E2	B5	None Detected									
E2	I8	None Detected									
E3	B6	None Detected									

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

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EMSL Order:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-020224-AB**

EMSL Sample Number:	042402495-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7228.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0009 **Customer Sample:** MFL-AM04-020224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J4	None Detected									
E5	C3	None Detected									
E6	I3	None Detected									
E6	B1	None Detected									
E7	G6	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:	1206126
Project ID:	N/A

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Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020224-AB**

EMSL Sample Number:	042402495-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0010 **Customer Sample:** MFL-FB01-020224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	A10	None Detected									
F1	C7	None Detected									
F1	E8	None Detected									
F1	G9	None Detected									
F1	I10	None Detected									
F2	A10	None Detected									
F2	C1	None Detected									
F2	E4	None Detected									
F2	G5	None Detected									
F2	I6	None Detected									

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

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EMSL Order:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina / 103S864023206**

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Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-020324-AB**

EMSL Sample Number:	042402495-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7236.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0011 **Customer Sample:** MFL-AM01-020324-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	J6	None Detected									
F5	B8	None Detected									
F6	B2	None Detected									
F6	I4	None Detected									
F7	F8	None Detected									

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

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/12/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-020324-AB**

EMSL Sample Number:	042402495-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7338.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0012 **Customer Sample:** MFL-AM02-020324-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	G4	None Detected									
G1	C5	None Detected									
G3	B7	None Detected									
G3	H5	None Detected									
G4	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:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/13/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-020324-AB**

EMSL Sample Number:	042402495-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0013 **Customer Sample:** MFL-AM03-020324-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	G7	None Detected									
G5	D9	None Detected									
G6	B2	None Detected									
G6	G4	None Detected									
G7	F4	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	02/13/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-020324-AB**

EMSL Sample Number:	042402495-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0014 **Customer Sample:** MFL-AM04-020324-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	E2	None Detected									
H1	H3	None Detected									
H2	B2	None Detected									
H2	G5	None Detected									
H3	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 ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/13/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020324-AB**

EMSL Sample Number:	042402495-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0015 **Customer Sample:** MFL-FB01-020324-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	J5	None Detected									
H5	H4	None Detected									
H5	F7	None Detected									
H5	D7	None Detected									
H5	B2	None Detected									
H6	A9	None Detected									
H6	C8	None Detected									
H6	E9	None Detected									
H6	G6	None Detected									
H6	I4	None Detected									

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

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Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	02/13/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-020424-AB**

EMSL Sample Number:	042402495-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0016 **Customer Sample:** MFL-AM01-020424-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	E7	None Detected									
I2	B8	None Detected									
I2	J4	None Detected									
I3	H8	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:	1206126
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	02/13/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-020424-AB**

EMSL Sample Number:	042402495-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7091.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0017 **Customer Sample:** MFL-AM02-020424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J8	None Detected									
I5	D6	None Detected									
I6	H5	None Detected									
I6	C3	None Detected									
I6	E8	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:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/13/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-020424-AB**

EMSL Sample Number:	042402495-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7087.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0018 **Customer Sample:** MFL-AM03-020424-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	J2	None Detected									
J1	C3	None Detected									
J2	I3	None Detected									
J2	C2	None Detected									
J3	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:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/13/2024 & 04/12/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-020424-AB**

EMSL Sample Number:	042402495-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison & G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0019 **Customer Sample:** MFL-AM04-020424-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	I2	None Detected									
J5	A2	None Detected									
J6	H2	None Detected									
J6	C4	None Detected									
J7	G5	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:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/13/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020424-AB**

EMSL Sample Number:	042402495-0020		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):	0.1280
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):	0.0034			
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**	**< 2.34**			
Total Amphibole	**ADX**	**0**	**0**	**< 2.34**			
Actinolite	ADX	0	0	< 2.34			
Amosite	ADX	0	0	< 2.34			
Anthophyllite	ADX	0	0	< 2.34			
Crocidolite	ADX	0	0	< 2.34			
Tremolite	ADX	0	0	< 2.34			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 2.34**			
Other Minerals	-	0	0	< 2.34			
Total All Structures	**-**	**0**	**0**	**< 2.34**			

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**	**< 2.34**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 2.34**			
Actinolite	ADX	0	0	< 2.34			
Amosite	ADX	0	0	< 2.34			
Anthophyllite	ADX	0	0	< 2.34			
Crocidolite	ADX	0	0	< 2.34			
Tremolite	ADX	0	0	< 2.34			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 2.34**			
Other Minerals	-	0	0	< 2.34			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 2.34**			

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042402495
Client: Tetra Tech
Project ID: Maui Fires - Lahaina / 103S864023206

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0020 **Customer Sample:** MFL-FB01-020424-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	J7	None Detected									
K1	H6	None Detected									
K1	F7	None Detected									
K1	D6	None Detected									
K1	B4	None Detected									
K2	A8	None Detected									
K2	C9	None Detected									
K2	E10	None Detected									
K2	G7	None Detected									
K2	I10	None Detected									

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

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EMSL Order:	042402495
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/07/2024 09:30 AM
Analysis Date:	02/09/2024
Report Date:	04/13/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

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

EMSL Sample Number:	042402495-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402495**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402495-0021 **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	A3	None Detected									
A1	C4	None Detected									
A1	E7	None Detected									
A1	G8	None Detected									
A1	I9	None Detected									
A2	J2	None Detected									
A2	H3	None Detected									
A2	F4	None Detected									
A2	D3	None Detected									
A2	B4	None Detected									

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

OrderID: 042402495

Asbestos Chain of Custody (Air, Bulk, Soil)

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RECEIVED EMSL CINNAMINSON, NJ 24 FEB -7 AM 10:03

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

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

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway, Suite 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	703-885-5495
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

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

Project Information

Project Name/No:	Maui Fires - Lahaina / 1038864023206
Purchase Order:	
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:	
Sampled By Signature:	
No. of Samples in Shipment	

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-020124-AB			02/01/24 1103
MFL-AM02-020124-AB			02/01/24 1125
MFL-AM03-020124-AB			02/01/24 1317
MFL-AM04-020124-AB			02/01/24 1348
MFL-FB01-020124-AB			02/01/24 1200
MFL-AM01-020224-AB			02/02/24 1108
MFL-AM02-020224-AB			02/02/24 1127
MFL-AM03-020224-AB			02/02/24 1318

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

All samples received acceptable for analysis.
Report revised 4/13/24 to reach LOD of 0.003 s/cc.

20 yr

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 02/05/24 1100	Received by: FedEx
Date/Time: 2/7/24 9:30 Am			
Relinquished by:		Date/Time:	Received by:
Date/Time			

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

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

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

OrderID: 042402495

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042402495

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-AM04-020224-AB			02/02/24 1351
MFL-FB01-020224-AB			02/02/24 1200
MFL-AM01-020324-AB			02/03/24 1102
MFL-AM02-020324-AB			02/03/24 1141
MFL-AM03-020324-AB			02/03/24 1314
MFL-AM04-020324-AB			02/03/24 1349
MFL-FB01-020324-AB			02/03/24 1200
MFL-AM01-020424-AB			02/04/24 1102
MFL-AM02-020424-AB			02/04/24 1126
MFL-AM03-020424-AB			02/04/24 1316
MFL-AM04-020424-AB			02/04/24 1340
MFL-FB01-020424-AB			02/04/24 1200

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EMSL
CINNAMINSON, NJ
24 FEB -7 AM 10:03

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/05/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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OrderID: 042402495

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

EMSL Order Number / Lab Use Only

#042402495

RECEIVED
EMSL
CINNAMINSON, NJ
24 FEB -7 AM 10:03

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

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway, Suite 1400
City, State, Zip: Denver, CO 80202
Country: USA
Phone: 703-885-5495
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

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

Project Information

Project Name/No: Maui Fires - Lahaina / 103S864023206
Purchase Order:
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:
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 198.8 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-AM01-020124-AB		5,731.679 L	02/01/24 1103
MFL-AM02-020124-AB		6,514.773 L	02/01/24 1125
MFL-AM03-020124-AB		6,868.150 L	02/01/24 1317
MFL-AM04-020124-AB		7,239.897 L	02/01/24 1348
MFL-FB01-020124-AB		0 L	02/01/24 1200
MFL-AM01-020224-AB		6,688.416 L	02/02/24 1108
MFL-AM02-020224-AB		7,151.760 L	02/02/24 1127
MFL-AM03-020224-AB		7,023.875 L	02/02/24 1318

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

Rec'd 2/7/24 - revised w/ sample volumes

20 sp

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by: [signature] Date/Time: 02/05/24 1100
Received by: FedEX Date/Time: 2/7/24 9:30 AM

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

Controlled Document - COC-06 Asbestos R18 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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Page 1 of

Page 1 of 2

OrderID: 042402495

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042402495

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-AM04-020224-AB		7,228.512 L	02/02/24 1351
MFL-FB01-020224-AB		0 L	02/02/24 1200
MFL-AM01-020324-AB		7,236.468 L	02/03/24 1102
MFL-AM02-020324-AB		7,338.481 L	02/03/24 1141
MFL-AM03-020324-AB		7,122.687 L	02/03/24 1314
MFL-AM04-020324-AB		7,208.491 L	02/03/24 1349
MFL-FB01-020324-AB		0 L	02/03/24 1200
MFL-AM01-020424-AB		7,186.293 L	02/04/24 1102
MFL-AM02-020424-AB		7,091.643 L	02/04/24 1126
MFL-AM03-020424-AB		7,087.680 L	02/04/24 1316
MFL-AM04-020424-AB		7,216.398 L	02/04/24 1340
MFL-FB01-020424-AB		0 L	02/04/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 FEB -7 AM 10: 03

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/05/24 1100	Received by:	Date/Time:
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 4/15/2024 and Shanna Vasser 4/16/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection Date: 2/1/2024 – 2/4/2024
Report No: 42402495

√	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:

1. Report was revised on 04/13/2024 to adjust the limit of detection (LOD) to 0.003 s/cc. The CoC was revised to include sampling volumes.

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:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/13/2024 & 04/05/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-020524-AB**

EMSL Sample Number:	042402809-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0001 **Customer Sample:** MFL-AM01-020524-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	B6	None Detected									
A7	G7	None Detected									
A8	C7	None Detected									
A8	H5	None Detected									
A8	F8	None Detected									

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

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

EMSL Order:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/13/2024 & 04/05/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-020524-AB**

EMSL Sample Number:	042402809-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0002 **Customer Sample:** MFL-AM02-020524-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	I6	None Detected									
B1	D5	None Detected									
B2	F7	None Detected									
B2	C3	None Detected									
B3	F3	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:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/13/2024 & 04/05/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-020524-AB**

EMSL Sample Number:	042402809-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7069.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0003 **Customer Sample:** MFL-AM03-020524-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	D7	None Detected									
B5	G4	None Detected									
B7	C5	None Detected									
B7	F4	None Detected									
B7	I9	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	02/13/2024 & 04/05/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-020524-AB**

EMSL Sample Number:	042402809-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7217.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0004 **Customer Sample:** MFL-AM04-020524-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	B6	None Detected									
C1	J5	None Detected									
C2	H5	None Detected									
C2	A4	None Detected									
C3	E4	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:	1206126
Project ID:	N/A

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Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/13/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020524-AB**

EMSL Sample Number:	042402809-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0005 **Customer Sample:** MFL-FB01-020524-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					
C7	A5	None Detected									
C7	C6	None Detected									
C7	E8	None Detected									
C7	H7	None Detected									
C7	J6	None Detected									
C8	B7	None Detected									
C8	D5	None Detected									
C8	F3	None Detected									
C8	G6	None Detected									
C8	I8	None Detected									

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

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Phone:	(703) 489-2674
Fax:	N/A
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Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-020624-AB**

EMSL Sample Number:	042402809-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7252.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0006 **Customer Sample:** MFL-AM01-020624-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	D6	None Detected									
D1	I4	None Detected									
D3	H7	None Detected									
D3	D5	None Detected									
D3	A8	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:	1206126
Project ID:	N/A

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Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-020624-AB**

EMSL Sample Number:	042402809-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0007 **Customer Sample:** MFL-AM02-020624-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	C6	None Detected									
D5	I4	None Detected									
D6	B5	None Detected									
D6	F3	None Detected									
D7	G8	None Detected									

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

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EMSL Order:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/14/2024 & 04/08/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-020624-AB**

EMSL Sample Number:	042402809-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7139.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0008 **Customer Sample:** MFL-AM03-020624-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	H7	None Detected									
I1	C8	None Detected									
I2	B6	None Detected									
I2	G7	None Detected									
I3	F3	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:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/15/2024 & 04/08/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-020624-AB**

EMSL Sample Number:	042402809-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0009 **Customer Sample:** MFL-AM04-020624-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	H6	None Detected									
K1	C3	None Detected									
K2	C7	None Detected									
K2	E1	None Detected									
K3	C10	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:	1206126
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/15/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020624-AB**

EMSL Sample Number:	042402809-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0010 **Customer Sample:** MFL-FB01-020624-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					
K7	I7	None Detected									
K7	I5	None Detected									
K7	G4	None Detected									
K7	D4	None Detected									
K7	D8	None Detected									
K8	A3	None Detected									
K8	B5	None Detected									
K8	D5	None Detected									
K8	G3	None Detected									
K8	J3	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:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/14/2024 & 04/09/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-020724-AB**

EMSL Sample Number:	042402809-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7283.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0011 **Customer Sample:** MFL-AM01-020724-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	I3	None Detected									
J5	D5	None Detected									
J6	A3	None Detected									
J6	F1	None Detected									
J7	I7	None Detected									

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

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EMSL Order:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/14/2024 & 04/09/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-020724-AB**

EMSL Sample Number:	042402809-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7123.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0012 **Customer Sample:** MFL-AM02-020724-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	A6	None Detected									
K1	I3	None Detected									
K2	C3	None Detected									
K2	G4	None Detected									
K3	B6	None Detected									

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

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EMSL Order:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/14/2024 & 04/09/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-020724-AB**

EMSL Sample Number:	042402809-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7171.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0013 **Customer Sample:** MFL-AM03-020724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J8	None Detected									
K5	F5	None Detected									
K6	D7	None Detected									
K6	I6	None Detected									
K7	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:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/14/2024 & 04/09/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-020724-AB**

EMSL Sample Number:	042402809-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7304.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke & P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0014 **Customer Sample:** MFL-AM04-020724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	B6	None Detected									
H2	H3	None Detected									
H3	H7	None Detected									
H3	E10	None Detected									
H3	A8	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:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/14/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-020724-AB**

EMSL Sample Number:	042402809-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-0015 **Customer Sample:** MFL-FB01-020724-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	I5	None Detected									
H5	G8	None Detected									
H5	E7	None Detected									
H5	D5	None Detected									
H5	A4	None Detected									
H6	A8	None Detected									
H6	C9	None Detected									
H6	E8	None Detected									
H6	G6	None Detected									
H6	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:	042402809
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	N/A

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

Project: **Maui Fires - Lahaina / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	02/12/2024 08:40 AM
Analysis Date:	02/13/2024
Report Date:	04/09/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**LabBlank**		**Sample Description:**	**Labblank**
EMSL Sample Number:	042402809-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.0034			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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:	**042402809**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042402809-LB **Customer Sample:** LabBlank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	I4	None Detected									
A2	H6	None Detected									
A2	F7	None Detected									
A2	D6	None Detected									
A2	A5	None Detected									
A3	B6	None Detected									
A3	D7	None Detected									
A3	E8	None Detected									
A3	G9	None Detected									
A3	J7	None Detected									

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

OrderID: 042402809

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042402809

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

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

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: TetraTech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway, Suite 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-885-5495
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

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

RECEIVED
24 FEB 12 AM 9:08
EMSL
CINNAMINSON, NJ

Project Information

Project Name/No: Maui Fires - Lahaina / 1038864023206
Purchase Order:
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: Elia Kenyon Saldana
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-020524-AB		7,207,056	02/05/24 1104
MFL-AM02-020524-AB		7,196.112	02/05/24 1130
MFL-AM03-020524-AB		7,068.954	02/05/24 1315
MFL-AM04-020524-AB		7,217.753	02/05/24 1340
MFL-FB01-020524-AB		0	02/05/24 1200
MFL-AM01-020624-AB		7,252.413	02/06/24 1105
MFL-AM02-020624-AB		7,200.066	02/06/24 1132
MFL-AM03-020624-AB		7,139.312	02/06/24 1316

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

All samples received acceptable for analysis.
Report revised 4/10/24 to reach LOD of 0.003 s/cc.

15

Method of Shipment: FedEx
Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time
	02/08/24 1100	FedEx	2/12/24 8:40A
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

OrderID: 042402809

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042402809

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-AM04-020624-AB		7,231.826	02/06/24 1339
MFL-FB01-020624-AB		0	02/06/24 1200
MFL-AM01-020724-AB		7,283.152	02/07/24 1102
MFL-AM02-020724-AB		7,123.007	02/07/24 1123
MFL-AM03-020724-AB		7,171.004	02/07/24 1314
MFL-AM04-020724-AB		7,304.544	02/07/24 1340
MFL-FB01-020724-AB		0	02/07/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 FEB 12 AM 9:31

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/08/24 1100	Received by:	Date/Time
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 4/19/2024 and Shanna Vasser 4/19/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 02/05/2024 - 02/07/2024
Report No: 42402809

√	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:

1. Report was revised on 04/10/2024 to adjust the limit of detection (LOD) to 0.003 s/cc.

Notes: None

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

February 21, 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 02/12/24 10:36.

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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-020124-HM	4021308-01	Air	02/01/24 23:59	02/12/24 10:36
MFL-AM02-020124-HM	4021308-02	Air	02/01/24 23:59	02/12/24 10:36
MFL-AM03-020124-HM	4021308-03	Air	02/01/24 23:59	02/12/24 10:36
MFL-AM04-020124-HM	4021308-04	Air	02/01/24 23:59	02/12/24 10:36
MFL-FB01-020124-HM	4021308-05	Air	02/01/24 00:00	02/12/24 10:36
MFL-AM01-020224-HM	4021308-06	Air	02/02/24 23:59	02/12/24 10:36
MFL-AM02-020224-HM	4021308-07	Air	02/02/24 23:59	02/12/24 10:36
MFL-AM03-020224-HM	4021308-08	Air	02/02/24 23:59	02/12/24 10:36
MFL-AM04-020224-HM	4021308-09	Air	02/02/24 23:59	02/12/24 10:36
MFL-AM01-020324-HM	4021308-10	Air	02/03/24 23:59	02/12/24 10:36
MFL-AM02-020324-HM	4021308-11	Air	02/03/24 23:59	02/12/24 10:36
MFL-AM03-020324-HM	4021308-12	Air	02/03/24 23:59	02/12/24 10:36
MFL-AM04-020324-HM	4021308-13	Air	02/03/24 23:59	02/12/24 10:36
MFL-FB01-020324-HM	4021308-14	Air	02/03/24 00:00	02/12/24 10:36
MFL-AM01-020424-HM	4021308-15	Air	02/04/24 23:59	02/12/24 10:36
MFL-AM02-020424-HM	4021308-16	Air	02/04/24 23:59	02/12/24 10:36
MFL-AM03-020424-HM/MS/I	4021308-17	Air	02/04/24 23:59	02/12/24 10:36
MFL-AM04-020424-HM	4021308-18	Air	02/04/24 23:59	02/12/24 10:36
MFL-AM01-020524-HM	4021308-19	Air	02/05/24 23:59	02/12/24 10:36
MFL-AM02-020524-HM	4021308-20	Air	02/05/24 23:59	02/12/24 10:36
MFL-AM03-020524-HM	4021308-21	Air	02/05/24 23:59	02/12/24 10:36

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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-020524-HM	4021308-22	Air	02/05/24 23:59	02/12/24 10:36
MFL-FB01-020524-HM	4021308-23	Air	02/05/24 00:00	02/12/24 10:36
MFL-AM01-020624-HM	4021308-24	Air	02/06/24 23:59	02/12/24 10:36
MFL-AM02-020624-HM	4021308-25	Air	02/06/24 23:59	02/12/24 10:36
MFL-AM03-020624-HM	4021308-26	Air	02/06/24 23:59	02/12/24 10:36
MFL-AM04-020624-HM	4021308-27	Air	02/06/24 23:59	02/12/24 10:36
MFL-AM01-020724-HM	4021308-28	Air	02/07/24 23:59	02/12/24 10:36
MFL-AM02-020724-HM	4021308-29	Air	02/07/24 23:59	02/12/24 10:36
MFL-AM03-020724-HM	4021308-30	Air	02/07/24 23:59	02/12/24 10:36
MFL-AM04-020724-HM	4021308-31	Air	02/07/24 23:59	02/12/24 10:36
MFL-FB01-020724-HM	4021308-32	Air	02/07/24 00:00	02/12/24 10:36

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020124-HM
Matrix: Air
Lab ID: 4021308-01
Sample Volume: 2031.668 m³
Filter ID:
Sampled: 02/01/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 20:49

Comments: Q9534217 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.354	SL	0.0309
Barium	7440-39-3	9.43		0.857
Beryllium	7440-41-7	0.0218		0.00256
Cadmium	7440-43-9	0.105		0.0635
Chromium	7440-47-3	5.36		1.77
Cobalt	7440-48-4	0.808		0.0349
Copper	7440-50-8	109		2.11
Lead	7439-92-1	7.86		0.171
Manganese	7439-96-5	21.1		1.51
Molybdenum	7439-98-7	4.50		0.287
Nickel	7440-02-0	3.43		0.522
Selenium	7782-49-2	0.272		0.00718
Thallium	7440-28-0	0.00252	QB-01, B	4.72E-4
Vanadium	7440-62-2	2.56		0.0424
Zinc	7440-66-6	82.2		61.5

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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020124-HM
Matrix: Air
Lab ID: 4021308-01RE1
Sample Volume: 2031.668 m³
Filter ID:
Sampled: 02/01/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/16/24 01:21

Comments: Q9534217 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**12.8**	D	**0.0150**

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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020124-HM
Matrix: Air
Lab ID: 4021308-02
Sample Volume: 2088.599 m³
Filter ID:
Sampled: 02/01/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 21:09

Comments: Q9534216 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.240**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.341**		**0.00730**
Barium	**7440-39-3**	**5.93**		**0.834**
Beryllium	**7440-41-7**	**0.00709**		**0.00249**
Cadmium	7440-43-9	0.0103	U	0.0618
Chromium	**7440-47-3**	**1.87**		**1.72**
Cobalt	**7440-48-4**	**0.227**		**0.0340**
Copper	**7440-50-8**	**46.0**		**2.05**
Lead	**7439-92-1**	**0.735**		**0.167**
Manganese	**7439-96-5**	**6.38**		**1.47**
Molybdenum	**7439-98-7**	**2.26**		**0.280**
Nickel	**7440-02-0**	**1.29**		**0.508**
Selenium	**7782-49-2**	**0.244**		**0.00698**
Thallium	**7440-28-0**	**8.94E-4**	B, QB-01	**4.59E-4**
Vanadium	**7440-62-2**	**1.66**		**0.0412**
Zinc	7440-66-6	36.5	U	59.8

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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020124-HM
Matrix: Air
Lab ID: 4021308-03
Sample Volume: 2025.396 m³
Filter ID:
Sampled: 02/01/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 21:24

Comments: Q9534215 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.0990**		**0.00753**
Barium	**7440-39-3**	**4.01**		**0.860**
Beryllium	**7440-41-7**	**0.0113**		**0.00257**
Cadmium	7440-43-9	0.00702	U	0.0637
Chromium	**7440-47-3**	**1.90**		**1.78**
Cobalt	**7440-48-4**	**0.221**		**0.0350**
Copper	**7440-50-8**	**37.5**		**2.11**
Lead	**7439-92-1**	**0.224**		**0.172**
Manganese	**7439-96-5**	**4.63**		**1.52**
Molybdenum	**7439-98-7**	**1.89**		**0.288**
Nickel	**7440-02-0**	**1.14**		**0.524**
Selenium	**7782-49-2**	**0.169**		**0.00720**
Thallium	**7440-28-0**	**7.14E-4**	B, QB-01	**4.73E-4**
Vanadium	**7440-62-2**	**1.39**		**0.0425**
Zinc	7440-66-6	20.0	U	61.7

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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020124-HM
Matrix: Air
Lab ID: 4021308-04
Sample Volume: 1920.385 m³
Filter ID:
Sampled: 02/01/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 21:39

Comments: Q9534212 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.472**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.245**		**0.00794**
Barium	**7440-39-3**	**3.10**		**0.907**
Beryllium	**7440-41-7**	**0.00529**		**0.00271**
Cadmium	7440-43-9	0.00897	U	0.0672
Chromium	7440-47-3	1.71	U	1.87
Cobalt	**7440-48-4**	**0.155**		**0.0369**
Copper	**7440-50-8**	**21.6**		**2.23**
Lead	**7439-92-1**	**0.730**		**0.181**
Manganese	**7439-96-5**	**4.41**		**1.60**
Molybdenum	**7439-98-7**	**1.19**		**0.304**
Nickel	**7440-02-0**	**0.959**		**0.552**
Selenium	**7782-49-2**	**0.227**		**0.00759**
Thallium	**7440-28-0**	**7.57E-4**	B, QB-01	**4.99E-4**
Vanadium	**7440-62-2**	**1.55**		**0.0448**
Zinc	7440-66-6	30.5	U	65.1

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020124-HM
Matrix: Air
Lab ID: 4021308-05
Sample Volume: 2031.668 m³
Filter ID:
Sampled: 02/01/24 00:00
Received: 02/12/24 10:36
Analysis Date: 02/14/24 22:08

Comments: Q9537205 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00665	U, SL	0.0309
Arsenic	7440-38-2	0.00478	U	0.00750
Barium	7440-39-3	0.538	U	0.857
Beryllium	7440-41-7	7.69E-4	U	0.00256
Cadmium	7440-43-9	0.00263	U	0.0635
Chromium	7440-47-3	1.49	U	1.77
Cobalt	**7440-48-4**	**0.0395**	FB-01	**0.0349**
Copper	7440-50-8	1.95	U	2.11
Lead	7439-92-1	0.112	U	0.171
Manganese	7439-96-5	0.134	U	1.51
Molybdenum	7439-98-7	0.244	U	0.287
Nickel	7440-02-0	0.278	U	0.522
Selenium	7782-49-2	4.98E-4	U	0.00718
Thallium	7440-28-0	1.89E-4	B, QB-01, U	4.72E-4
Vanadium	7440-62-2	0.0180	U	0.0424
Zinc	7440-66-6	14.3	U	61.5

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020224-HM
Matrix: Air
Lab ID: 4021308-06
Sample Volume: 2081.251 m³
Filter ID:
Sampled: 02/02/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 20:25

Comments: Q9537213 - Filter received damp with visible signs of mold.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0936**	SL	**0.0302**
Arsenic	**7440-38-2**	**3.01**		**0.00732**
Barium	**7440-39-3**	**5.00**		**0.836**
Beryllium	**7440-41-7**	**0.0179**		**0.00250**
Cadmium	7440-43-9	0.0382	U	0.0620
Chromium	**7440-47-3**	**3.08**		**1.73**
Cobalt	**7440-48-4**	**0.362**		**0.0341**
Copper	**7440-50-8**	**65.0**		**2.06**
Lead	**7439-92-1**	**1.13**		**0.167**
Manganese	**7439-96-5**	**13.1**		**1.48**
Molybdenum	**7439-98-7**	**2.40**		**0.281**
Nickel	**7440-02-0**	**1.77**		**0.510**
Selenium	**7782-49-2**	**0.129**	LJ, QX	**0.00700**
Thallium	**7440-28-0**	**0.00225**	B, QB-01	**4.60E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0414**
Zinc	7440-66-6	45.5	U	60.0

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020224-HM
Matrix: Air
Lab ID: 4021308-07
Sample Volume: 2161.199 m³
Filter ID:
Sampled: 02/02/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 22:21

Comments: Q9537212 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0734**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.192**		**0.00705**
Barium	**7440-39-3**	**2.26**		**0.806**
Beryllium	**7440-41-7**	**0.00349**		**0.00241**
Cadmium	7440-43-9	0.0258	U	0.0597
Chromium	7440-47-3	1.60	U	1.66
Cobalt	**7440-48-4**	**0.104**		**0.0328**
Copper	**7440-50-8**	**50.9**		**1.98**
Lead	**7439-92-1**	**0.575**		**0.161**
Manganese	**7439-96-5**	**2.94**		**1.42**
Molybdenum	**7439-98-7**	**1.71**		**0.270**
Nickel	**7440-02-0**	**0.751**		**0.491**
Selenium	**7782-49-2**	**0.0882**		**0.00675**
Thallium	**7440-28-0**	**5.83E-4**	B, QB-01	**4.43E-4**
Vanadium	**7440-62-2**	**0.635**		**0.0398**
Zinc	7440-66-6	27.3	U	57.8

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020224-HM
Matrix: Air
Lab ID: 4021308-08
Sample Volume: 2037.656 m³
Filter ID:
Sampled: 02/02/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 22:37

Comments: Q9537210 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0338**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.0532**		**0.00748**
Barium	**7440-39-3**	**1.33**		**0.854**
Beryllium	**7440-41-7**	**0.00478**		**0.00256**
Cadmium	7440-43-9	0.00520	U	0.0633
Chromium	7440-47-3	1.68	U	1.76
Cobalt	**7440-48-4**	**0.104**		**0.0348**
Copper	**7440-50-8**	**23.7**		**2.10**
Lead	**7439-92-1**	**0.525**		**0.171**
Manganese	**7439-96-5**	**2.24**		**1.51**
Molybdenum	**7439-98-7**	**1.24**		**0.287**
Nickel	**7440-02-0**	**0.799**		**0.521**
Selenium	**7782-49-2**	**0.0606**		**0.00715**
Thallium	7440-28-0	4.63E-4	B, QB-01, U	4.70E-4
Vanadium	**7440-62-2**	**0.238**		**0.0422**
Zinc	7440-66-6	24.1	U	61.3

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020224-HM
Matrix: Air
Lab ID: 4021308-09
Sample Volume: 1974.12 m³
Filter ID:
Sampled: 02/02/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 22:51

Comments: Q9537206 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0893**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.225**		**0.00772**
Barium	**7440-39-3**	**2.42**		**0.882**
Beryllium	**7440-41-7**	**0.00759**		**0.00264**
Cadmium	7440-43-9	0.0100	U	0.0654
Chromium	**7440-47-3**	**2.33**		**1.82**
Cobalt	**7440-48-4**	**0.251**		**0.0359**
Copper	**7440-50-8**	**13.7**		**2.17**
Lead	**7439-92-1**	**0.811**		**0.176**
Manganese	**7439-96-5**	**7.27**		**1.56**
Molybdenum	**7439-98-7**	**0.511**		**0.296**
Nickel	**7440-02-0**	**0.866**		**0.537**
Selenium	**7782-49-2**	**0.0851**		**0.00738**
Thallium	**7440-28-0**	**6.67E-4**	B, QB-01	**4.85E-4**
Vanadium	**7440-62-2**	**0.558**		**0.0436**
Zinc	7440-66-6	24.0	U	63.3

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020324-HM
Matrix: Air
Lab ID: 4021308-10
Sample Volume: 2074.626 m³
Filter ID:
Sampled: 02/03/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 18:09

Comments: Q9537203 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0436**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.341**		**0.00735**
Barium	**7440-39-3**	**1.99**		**0.839**
Beryllium	**7440-41-7**	**0.00537**		**0.00251**
Cadmium	**7440-43-9**	**0.0968**		**0.0622**
Chromium	**7440-47-3**	**1.99**		**1.73**
Cobalt	**7440-48-4**	**0.191**		**0.0342**
Copper	**7440-50-8**	**39.5**		**2.06**
Lead	**7439-92-1**	**0.615**		**0.168**
Manganese	**7439-96-5**	**6.08**		**1.48**
Molybdenum	**7439-98-7**	**1.81**		**0.282**
Nickel	**7440-02-0**	**0.740**		**0.511**
Selenium	**7782-49-2**	**0.174**		**0.00703**
Thallium	**7440-28-0**	**0.00158**	B, QB-01, QB-04	**4.62E-4**
Vanadium	**7440-62-2**	**0.402**		**0.0415**
Zinc	7440-66-6	27.3	U	60.2

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020324-HM
Matrix: Air
Lab ID: 4021308-11
Sample Volume: 1963.791 m³
Filter ID:
Sampled: 02/03/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/14/24 23:06

Comments: Q9537202 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0908**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.704**		**0.00776**
Barium	**7440-39-3**	**5.28**		**0.886**
Beryllium	**7440-41-7**	**0.0118**		**0.00265**
Cadmium	7440-43-9	0.0370	U	0.0657
Chromium	**7440-47-3**	**3.19**		**1.83**
Cobalt	**7440-48-4**	**0.472**		**0.0361**
Copper	**7440-50-8**	**39.3**		**2.18**
Lead	**7439-92-1**	**1.99**		**0.177**
Manganese	**7439-96-5**	**12.9**		**1.57**
Molybdenum	**7439-98-7**	**1.28**		**0.297**
Nickel	**7440-02-0**	**1.81**		**0.540**
Selenium	**7782-49-2**	**0.199**		**0.00742**
Thallium	**7440-28-0**	**0.00161**	B, QB-01	**4.88E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0438**
Zinc	7440-66-6	49.0	U	63.6

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020324-HM
Matrix: Air
Lab ID: 4021308-12
Sample Volume: 1843.831 m³
Filter ID:
Sampled: 02/03/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 00:17

Comments: Q9537201 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0223	SL, U	0.0341
Arsenic	**7440-38-2**	**0.0716**		**0.00827**
Barium	**7440-39-3**	**1.07**		**0.944**
Beryllium	**7440-41-7**	**0.00362**		**0.00282**
Cadmium	7440-43-9	0.00974	U	0.0700
Chromium	**7440-47-3**	**2.05**		**1.95**
Cobalt	**7440-48-4**	**0.0861**		**0.0385**
Copper	**7440-50-8**	**39.3**		**2.32**
Lead	**7439-92-1**	**0.377**		**0.189**
Manganese	**7439-96-5**	**2.03**		**1.67**
Molybdenum	**7439-98-7**	**1.76**		**0.317**
Nickel	**7440-02-0**	**0.847**		**0.575**
Selenium	**7782-49-2**	**0.146**		**0.00791**
Thallium	**7440-28-0**	**0.00116**	B, QB-01	**5.20E-4**
Vanadium	**7440-62-2**	**0.172**		**0.0467**
Zinc	7440-66-6	18.7	U	67.8

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020324-HM
Matrix: Air
Lab ID: 4021308-13
Sample Volume: 1470.905 m³
Filter ID:
Sampled: 02/03/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 00:32

Comments: Q9537200 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0802**	SL	**0.0427**
Arsenic	**7440-38-2**	**0.663**		**0.0104**
Barium	**7440-39-3**	**3.53**		**1.18**
Beryllium	**7440-41-7**	**0.0177**		**0.00354**
Cadmium	7440-43-9	0.0234	U	0.0877
Chromium	**7440-47-3**	**4.31**		**2.44**
Cobalt	**7440-48-4**	**0.645**		**0.0482**
Copper	**7440-50-8**	**17.3**		**2.91**
Lead	**7439-92-1**	**0.943**		**0.237**
Manganese	**7439-96-5**	**17.7**		**2.09**
Molybdenum	**7439-98-7**	**0.799**		**0.397**
Nickel	**7440-02-0**	**1.95**		**0.721**
Selenium	**7782-49-2**	**0.183**		**0.00991**
Thallium	**7440-28-0**	**0.00170**	B, QB-01	**6.52E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0585**
Zinc	7440-66-6	36.6	U	85.0

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020324-HM
Matrix: Air
Lab ID: 4021308-14
Sample Volume: 2074.626 m³
Filter ID:
Sampled: 02/03/24 00:00
Received: 02/12/24 10:36
Analysis Date: 02/15/24 00:48

Comments: Q9534209 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0243	SL, U	0.0303
Arsenic	**7440-38-2**	**0.00746**	FB-01	**0.00735**
Barium	7440-39-3	0.545	U	0.839
Beryllium	7440-41-7	8.06E-4	U	0.00251
Cadmium	7440-43-9	0.00509	U	0.0622
Chromium	7440-47-3	1.38	U	1.73
Cobalt	7440-48-4	0.0290	U	0.0342
Copper	**7440-50-8**	**3.54**	FB-01	**2.06**
Lead	7439-92-1	0.167	U	0.168
Manganese	7439-96-5	0.234	U	1.48
Molybdenum	7439-98-7	0.196	U	0.282
Nickel	7440-02-0	0.450	U	0.511
Selenium	7782-49-2	0.00218	U	0.00703
Thallium	7440-28-0	1.92E-4	B, QB-01, U	4.62E-4
Vanadium	7440-62-2	0.0235	U	0.0415
Zinc	7440-66-6	15.7	U	60.2

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020424-HM
Matrix: Air
Lab ID: 4021308-15
Sample Volume: 1943.884 m³
Filter ID:
Sampled: 02/04/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 01:02

Comments: Q9537199 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0928**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.828**		**0.00784**
Barium	**7440-39-3**	**4.35**		**0.896**
Beryllium	**7440-41-7**	**0.0156**		**0.00268**
Cadmium	7440-43-9	0.0238	U	0.0664
Chromium	**7440-47-3**	**3.49**		**1.85**
Cobalt	**7440-48-4**	**0.735**		**0.0365**
Copper	**7440-50-8**	**77.3**		**2.20**
Lead	**7439-92-1**	**1.29**		**0.179**
Manganese	**7439-96-5**	**24.7**		**1.58**
Molybdenum	**7439-98-7**	**2.48**		**0.300**
Nickel	**7440-02-0**	**1.26**		**0.546**
Selenium	**7782-49-2**	**0.229**		**0.00750**
Thallium	**7440-28-0**	**0.00176**	B, QB-01	**4.93E-4**
Vanadium	**7440-62-2**	**1.45**		**0.0443**
Zinc	7440-66-6	36.1	U	64.3

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020424-HM
Matrix: Air
Lab ID: 4021308-16
Sample Volume: 2060.364 m³
Filter ID:
Sampled: 02/04/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 01:18

Comments: Q9537198 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.105**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.216**		**0.00740**
Barium	**7440-39-3**	**4.15**		**0.845**
Beryllium	**7440-41-7**	**0.00625**		**0.00253**
Cadmium	**7440-43-9**	**0.0795**		**0.0626**
Chromium	**7440-47-3**	**2.05**		**1.75**
Cobalt	**7440-48-4**	**0.218**		**0.0344**
Copper	**7440-50-8**	**58.1**		**2.08**
Lead	**7439-92-1**	**0.862**		**0.169**
Manganese	**7439-96-5**	**6.57**		**1.49**
Molybdenum	**7439-98-7**	**1.74**		**0.283**
Nickel	**7440-02-0**	**0.767**		**0.515**
Selenium	**7782-49-2**	**0.174**		**0.00708**
Thallium	**7440-28-0**	**0.00132**	B, QB-01	**4.65E-4**
Vanadium	**7440-62-2**	**0.523**		**0.0418**
Zinc	7440-66-6	23.2	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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020424-HM/MS/MS **Lab ID:** 4021308-17 **Sampled:** 02/04/24 23:59
Matrix: Air **Sample Volume:** 1864.102 m³ **Received:** 02/12/24 10:36
Filter ID: **Analysis Date:** 02/15/24 17:36

Comments: Q9534211 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0406**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.0872**		**0.00818**
Barium	**7440-39-3**	**1.33**		**0.934**
Beryllium	**7440-41-7**	**0.00588**		**0.00279**
Cadmium	7440-43-9	0.0177	U	0.0692
Chromium	7440-47-3	1.68	U	1.93
Cobalt	**7440-48-4**	**0.121**		**0.0381**
Copper	**7440-50-8**	**57.0**		**2.30**
Lead	**7439-92-1**	**0.457**		**0.187**
Manganese	**7439-96-5**	**2.89**		**1.65**
Molybdenum	**7439-98-7**	**2.28**		**0.313**
Nickel	**7440-02-0**	**0.822**		**0.569**
Selenium	**7782-49-2**	**0.169**	LJ, QX	**0.00782**
Thallium	**7440-28-0**	**0.00127**	B, QB-01, QB-04	**5.14E-4**
Vanadium	**7440-62-2**	**0.227**		**0.0462**
Zinc	7440-66-6	34.3	U	67.0

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020424-HM
Matrix: Air
Lab ID: 4021308-18
Sample Volume: 1886.436 m³
Filter ID:
Sampled: 02/04/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 20:41

Comments: Q9534207 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0809**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.274**		**0.00808**
Barium	**7440-39-3**	**2.27**		**0.923**
Beryllium	**7440-41-7**	**0.00440**		**0.00276**
Cadmium	7440-43-9	0.0112	U	0.0684
Chromium	7440-47-3	1.72	U	1.91
Cobalt	**7440-48-4**	**0.125**		**0.0376**
Copper	**7440-50-8**	**22.6**		**2.27**
Lead	**7439-92-1**	**0.614**		**0.185**
Manganese	**7439-96-5**	**3.74**		**1.63**
Molybdenum	**7439-98-7**	**1.23**		**0.310**
Nickel	**7440-02-0**	**0.705**		**0.562**
Selenium	**7782-49-2**	**0.176**	LJ, QX	**0.00773**
Thallium	**7440-28-0**	**0.00114**	B, QB-01	**5.08E-4**
Vanadium	**7440-62-2**	**0.272**		**0.0456**
Zinc	7440-66-6	34.4	U	66.2

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020524-HM
Matrix: Air
Lab ID: 4021308-19
Sample Volume: 1973.449 m³
Filter ID:
Sampled: 02/05/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 20:56

Comments: Q9534206 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0724**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.322**		**0.00773**
Barium	**7440-39-3**	**2.07**		**0.882**
Beryllium	**7440-41-7**	**0.00432**		**0.00264**
Cadmium	7440-43-9	0.0104	U	0.0654
Chromium	7440-47-3	1.76	U	1.82
Cobalt	**7440-48-4**	**0.200**		**0.0359**
Copper	**7440-50-8**	**113**		**2.17**
Lead	**7439-92-1**	**0.848**		**0.176**
Manganese	**7439-96-5**	**4.14**		**1.56**
Molybdenum	**7439-98-7**	**4.10**		**0.296**
Nickel	**7440-02-0**	**0.695**		**0.538**
Selenium	**7782-49-2**	**0.136**	LJ, QX	**0.00739**
Thallium	**7440-28-0**	**8.52E-4**	B, QB-01	**4.86E-4**
Vanadium	**7440-62-2**	**0.326**		**0.0436**
Zinc	7440-66-6	30.2	U	63.3

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020524-HM
Matrix: Air
Lab ID: 4021308-20
Sample Volume: 2133.91 m³
Filter ID:
Sampled: 02/05/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 21:10

Comments: Q9516875 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.308**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.176**		**0.00714**
Barium	**7440-39-3**	**5.28**		**0.816**
Beryllium	**7440-41-7**	**0.00688**		**0.00244**
Cadmium	7440-43-9	0.00811	U	0.0605
Chromium	7440-47-3	1.42	U	1.69
Cobalt	**7440-48-4**	**0.213**		**0.0332**
Copper	**7440-50-8**	**40.8**		**2.01**
Lead	**7439-92-1**	**0.692**		**0.163**
Manganese	**7439-96-5**	**6.17**		**1.44**
Molybdenum	**7439-98-7**	**1.54**		**0.274**
Nickel	**7440-02-0**	**0.839**		**0.497**
Selenium	**7782-49-2**	**0.177**	LJ, QX	**0.00683**
Thallium	**7440-28-0**	**8.27E-4**	B, QB-01	**4.49E-4**
Vanadium	**7440-62-2**	**0.589**		**0.0403**
Zinc	7440-66-6	36.4	U	58.6

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020524-HM
Matrix: Air
Lab ID: 4021308-21
Sample Volume: 1860.983 m³
Filter ID:
Sampled: 02/05/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 21:25

Comments: Q9516874 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0620**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.100**		**0.00819**
Barium	**7440-39-3**	**1.96**		**0.935**
Beryllium	**7440-41-7**	**0.00796**		**0.00280**
Cadmium	7440-43-9	0.00533	U	0.0693
Chromium	7440-47-3	1.26	U	1.93
Cobalt	**7440-48-4**	**0.199**		**0.0381**
Copper	**7440-50-8**	**40.4**		**2.30**
Lead	**7439-92-1**	**0.275**		**0.187**
Manganese	**7439-96-5**	**4.52**		**1.65**
Molybdenum	**7439-98-7**	**1.83**		**0.314**
Nickel	**7440-02-0**	**1.07**		**0.570**
Selenium	**7782-49-2**	**0.150**	LJ, QX	**0.00783**
Thallium	**7440-28-0**	**7.55E-4**	B, QB-01	**5.15E-4**
Vanadium	**7440-62-2**	**0.409**		**0.0462**
Zinc	7440-66-6	32.1	U	67.1

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020524-HM
Matrix: Air
Lab ID: 4021308-22
Sample Volume: 1923.122 m³
Filter ID:
Sampled: 02/05/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 21:39

Comments: Q9516873 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.140**		**0.00793**
Barium	**7440-39-3**	**2.45**		**0.905**
Beryllium	**7440-41-7**	**0.00519**		**0.00271**
Cadmium	7440-43-9	0.00682	U	0.0671
Chromium	7440-47-3	1.28	U	1.87
Cobalt	**7440-48-4**	**0.135**		**0.0369**
Copper	**7440-50-8**	**19.8**		**2.23**
Lead	**7439-92-1**	**0.523**		**0.181**
Manganese	**7439-96-5**	**4.29**		**1.60**
Molybdenum	**7439-98-7**	**1.17**		**0.304**
Nickel	**7440-02-0**	**0.570**		**0.552**
Selenium	**7782-49-2**	**0.152**	LJ, QX	**0.00758**
Thallium	**7440-28-0**	**7.06E-4**	B, QB-01	**4.98E-4**
Vanadium	**7440-62-2**	**0.389**		**0.0448**
Zinc	7440-66-6	29.5	U	65.0

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020524-HM
Matrix: Air
Lab ID: 4021308-23
Sample Volume: 1973.449 m³
Filter ID:
Sampled: 02/05/24 00:00
Received: 02/12/24 10:36
Analysis Date: 02/15/24 21:53

Comments: Q9516871 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0154	SL, U	0.0318
Arsenic	**7440-38-2**	**0.0238**	FB-01	**0.00773**
Barium	7440-39-3	0.512	U	0.882
Beryllium	7440-41-7	4.45E-4	U	0.00264
Cadmium	7440-43-9	7.43E-4	U	0.0654
Chromium	7440-47-3	0.624	U	1.82
Cobalt	7440-48-4	0.00960	U	0.0359
Copper	7440-50-8	1.64	U	2.17
Lead	7439-92-1	0.0842	U	0.176
Manganese	7439-96-5	0.169	U	1.56
Molybdenum	7439-98-7	0.0976	U	0.296
Nickel	7440-02-0	0.276	U	0.538
Selenium	7782-49-2	9.75E-4	LJ, QX, U	0.00739
Thallium	7440-28-0	2.28E-4	B, QB-01, U	4.86E-4
Vanadium	7440-62-2	0.0161	U	0.0436
Zinc	7440-66-6	28.5	U	63.3

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020624-HM
Matrix: Air
Lab ID: 4021308-24
Sample Volume: 1960.309 m³
Filter ID:
Sampled: 02/06/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 22:07

Comments: Q9516872 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0789**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.413**		**0.00778**
Barium	**7440-39-3**	**2.40**		**0.888**
Beryllium	**7440-41-7**	**0.00510**		**0.00266**
Cadmium	7440-43-9	0.0136	U	0.0658
Chromium	7440-47-3	1.42	U	1.83
Cobalt	**7440-48-4**	**0.349**		**0.0362**
Copper	**7440-50-8**	**125**		**2.18**
Lead	**7439-92-1**	**1.18**		**0.178**
Manganese	**7439-96-5**	**5.57**		**1.57**
Molybdenum	**7439-98-7**	**3.96**		**0.298**
Nickel	**7440-02-0**	**0.881**		**0.541**
Selenium	**7782-49-2**	**0.186**	LJ, QX	**0.00744**
Thallium	**7440-28-0**	**9.35E-4**	B, QB-01	**4.89E-4**
Vanadium	**7440-62-2**	**0.791**		**0.0439**
Zinc	7440-66-6	41.7	U	63.7

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020624-HM
Matrix: Air
Lab ID: 4021308-25
Sample Volume: 2134.201 m³
Filter ID:
Sampled: 02/06/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 22:21

Comments: Q9516870 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.193**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.299**		**0.00714**
Barium	**7440-39-3**	**6.02**		**0.816**
Beryllium	**7440-41-7**	**0.0162**		**0.00244**
Cadmium	7440-43-9	0.0112	U	0.0605
Chromium	**7440-47-3**	**2.12**		**1.68**
Cobalt	**7440-48-4**	**0.407**		**0.0332**
Copper	**7440-50-8**	**44.3**		**2.00**
Lead	**7439-92-1**	**1.01**		**0.163**
Manganese	**7439-96-5**	**14.3**		**1.44**
Molybdenum	**7439-98-7**	**1.32**		**0.274**
Nickel	**7440-02-0**	**1.37**		**0.497**
Selenium	**7782-49-2**	**0.254**	LJ, QX	**0.00683**
Thallium	**7440-28-0**	**0.00120**	B, QB-01	**4.49E-4**
Vanadium	**7440-62-2**	**1.49**		**0.0403**
Zinc	7440-66-6	34.4	U	58.5

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020624-HM
Matrix: Air
Lab ID: 4021308-26
Sample Volume: 1846.373 m³
Filter ID:
Sampled: 02/06/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 23:29

Comments: Q9516869 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.114**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.120**		**0.00826**
Barium	**7440-39-3**	**2.63**		**0.943**
Beryllium	**7440-41-7**	**0.0104**		**0.00282**
Cadmium	7440-43-9	0.00632	U	0.0699
Chromium	7440-47-3	1.68	U	1.95
Cobalt	**7440-48-4**	**0.251**		**0.0384**
Copper	**7440-50-8**	**49.4**		**2.32**
Lead	**7439-92-1**	**0.555**		**0.189**
Manganese	**7439-96-5**	**6.59**		**1.67**
Molybdenum	**7439-98-7**	**2.03**		**0.316**
Nickel	**7440-02-0**	**1.16**		**0.575**
Selenium	**7782-49-2**	**0.180**	LJ, QX	**0.00790**
Thallium	**7440-28-0**	**0.00109**	B, QB-01	**5.19E-4**
Vanadium	**7440-62-2**	**0.904**		**0.0466**
Zinc	7440-66-6	25.4	U	67.7

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020624-HM **Lab ID:** 4021308-27 **Sampled:** 02/06/24 23:59
Matrix: Air **Sample Volume:** 1811.418 m³ **Received:** 02/12/24 10:36
Filter ID: **Analysis Date:** 02/15/24 23:42

Comments: Q9516868 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0933**	SL	**0.0347**
Arsenic	**7440-38-2**	**0.165**		**0.00842**
Barium	**7440-39-3**	**2.38**		**0.961**
Beryllium	**7440-41-7**	**0.00569**		**0.00287**
Cadmium	7440-43-9	0.00719	U	0.0712
Chromium	7440-47-3	1.48	U	1.99
Cobalt	**7440-48-4**	**0.143**		**0.0392**
Copper	**7440-50-8**	**23.9**		**2.36**
Lead	**7439-92-1**	**0.664**		**0.192**
Manganese	**7439-96-5**	**5.37**		**1.70**
Molybdenum	**7439-98-7**	**1.31**		**0.322**
Nickel	**7440-02-0**	**0.628**		**0.586**
Selenium	**7782-49-2**	**0.189**	LJ, QX	**0.00805**
Thallium	**7440-28-0**	**9.40E-4**	B, QB-01	**5.29E-4**
Vanadium	**7440-62-2**	**0.733**		**0.0475**
Zinc	7440-66-6	31.8	U	69.0

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020724-HM
Matrix: Air
Lab ID: 4021308-28
Sample Volume: 1951.276 m³
Filter ID:
Sampled: 02/07/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/15/24 23:56

Comments: Q9516867 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0756**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.345**		**0.00781**
Barium	**7440-39-3**	**2.61**		**0.892**
Beryllium	**7440-41-7**	**0.00523**		**0.00267**
Cadmium	7440-43-9	0.0140	U	0.0661
Chromium	7440-47-3	1.39	U	1.84
Cobalt	**7440-48-4**	**0.603**		**0.0364**
Copper	**7440-50-8**	**119**		**2.19**
Lead	**7439-92-1**	**0.874**		**0.178**
Manganese	**7439-96-5**	**6.03**		**1.58**
Molybdenum	**7439-98-7**	**4.34**		**0.299**
Nickel	**7440-02-0**	**0.902**		**0.544**
Selenium	**7782-49-2**	**0.198**	LJ, QX	**0.00747**
Thallium	**7440-28-0**	**0.00114**	B, QB-01	**4.91E-4**
Vanadium	**7440-62-2**	**0.649**		**0.0441**
Zinc	7440-66-6	29.8	U	64.0

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020724-HM
Matrix: Air
Lab ID: 4021308-29
Sample Volume: 2116.372 m³
Filter ID:
Sampled: 02/07/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/16/24 00:10

Comments: Q9516866 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.180**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.255**		**0.00720**
Barium	**7440-39-3**	**4.08**		**0.823**
Beryllium	**7440-41-7**	**0.00973**		**0.00246**
Cadmium	7440-43-9	0.0163	U	0.0610
Chromium	7440-47-3	1.66	U	1.70
Cobalt	**7440-48-4**	**0.245**		**0.0335**
Copper	**7440-50-8**	**54.5**		**2.02**
Lead	**7439-92-1**	**1.21**		**0.165**
Manganese	**7439-96-5**	**8.71**		**1.45**
Molybdenum	**7439-98-7**	**1.42**		**0.276**
Nickel	**7440-02-0**	**0.926**		**0.501**
Selenium	**7782-49-2**	**0.215**	LJ, QX	**0.00689**
Thallium	**7440-28-0**	**0.00132**	B, QB-01	**4.53E-4**
Vanadium	**7440-62-2**	**0.899**		**0.0407**
Zinc	7440-66-6	43.5	U	59.0

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020724-HM
Matrix: Air
Lab ID: 4021308-30
Sample Volume: 1826.289 m³
Filter ID:
Sampled: 02/07/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/16/24 00:25

Comments: Q9516885 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.108**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.144**		**0.00835**
Barium	**7440-39-3**	**2.73**		**0.953**
Beryllium	**7440-41-7**	**0.0137**		**0.00285**
Cadmium	7440-43-9	0.00886	U	0.0706
Chromium	7440-47-3	1.62	U	1.97
Cobalt	**7440-48-4**	**0.259**		**0.0388**
Copper	**7440-50-8**	**46.9**		**2.34**
Lead	**7439-92-1**	**0.621**		**0.191**
Manganese	**7439-96-5**	**7.09**		**1.68**
Molybdenum	**7439-98-7**	**1.82**		**0.320**
Nickel	**7440-02-0**	**0.957**		**0.581**
Selenium	**7782-49-2**	**0.195**	LJ, QX	**0.00798**
Thallium	**7440-28-0**	**0.00109**	B, QB-01	**5.25E-4**
Vanadium	**7440-62-2**	**0.794**		**0.0471**
Zinc	7440-66-6	31.1	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: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020724-HM
Matrix: Air
Lab ID: 4021308-31
Sample Volume: 1736.112 m³
Filter ID:
Sampled: 02/07/24 23:59
Received: 02/12/24 10:36
Analysis Date: 02/16/24 00:39

Comments: Q9516884 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0362**
Arsenic	**7440-38-2**	**0.263**		**0.00878**
Barium	**7440-39-3**	**2.85**		**1.00**
Beryllium	**7440-41-7**	**0.00619**		**0.00300**
Cadmium	7440-43-9	0.00964	U	0.0743
Chromium	7440-47-3	1.36	U	2.07
Cobalt	**7440-48-4**	**0.160**		**0.0409**
Copper	**7440-50-8**	**27.6**		**2.46**
Lead	**7439-92-1**	**1.04**		**0.201**
Manganese	**7439-96-5**	**5.62**		**1.77**
Molybdenum	**7439-98-7**	**1.07**		**0.336**
Nickel	**7440-02-0**	**0.706**		**0.611**
Selenium	**7782-49-2**	**0.176**	LJ, QX	**0.00840**
Thallium	**7440-28-0**	**0.00107**	B, QB-01	**5.52E-4**
Vanadium	**7440-62-2**	**0.619**		**0.0496**
Zinc	7440-66-6	36.5	U	72.0

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FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020724-HM
Matrix: Air
Lab ID: 4021308-32
Sample Volume: 1951.276 m³
Filter ID:
Sampled: 02/07/24 00:00
Received: 02/12/24 10:36
Analysis Date: 02/16/24 01:08

Comments: Q9516882 Field Blank - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0139	SL, U	0.0322
Arsenic	7440-38-2	0.00642	U	0.00781
Barium	7440-39-3	0.511	U	0.892
Beryllium	7440-41-7	7.39E-4	U	0.00267
Cadmium	**7440-43-9**	**0.212**	FB-01	**0.0661**
Chromium	7440-47-3	0.636	U	1.84
Cobalt	7440-48-4	0.00865	U	0.0364
Copper	7440-50-8	0.508	U	2.19
Lead	7439-92-1	0.0465	U	0.178
Manganese	7439-96-5	0.200	U	1.58
Molybdenum	7439-98-7	0.0844	U	0.299
Nickel	7440-02-0	0.217	U	0.544
Selenium	7782-49-2	0.00534	LJ, QX, U	0.00747
Thallium	7440-28-0	2.00E-4	B, QB-01, U	4.91E-4
Vanadium	7440-62-2	0.0183	U	0.0441
Zinc	7440-66-6	29.8	U	64.0

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
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 2402037 - B4B1403										
Calibration Blank (2402037-CCB1)				Prepared & Analyzed: 02/14/24						
Antimony	0.533		ng/l							
Arsenic	0.0184		ng/l							
Barium	1.20		ng/l							
Beryllium	0.0400		ng/l							
Cadmium	0.199		ng/l							
Chromium	-0.377		ng/l							U
Cobalt	0.290		ng/l							
Copper	82.1		ng/l							
Lead	2.47		ng/l							
Manganese	3.12		ng/l							
Molybdenum	9.95		ng/l							
Nickel	0.282		ng/l							
Selenium	-5.29		ng/l							U
Thallium	1.67		ng/l							QB-04
Vanadium	-17.0		ng/l							U
Zinc	-129		ng/l							U
Calibration Blank (2402037-CCB2)				Prepared & Analyzed: 02/14/24						
Antimony	0.345		ng/l							
Arsenic	7.44		ng/l							
Barium	0.946		ng/l							
Beryllium	0.0580		ng/l							
Cadmium	0.129		ng/l							
Chromium	1.43		ng/l							
Cobalt	0.161		ng/l							
Copper	25.4		ng/l							
Lead	2.03		ng/l							
Manganese	4.15		ng/l							
Molybdenum	3.71		ng/l							
Nickel	0.512		ng/l							
Selenium	5.22		ng/l							
Thallium	0.923		ng/l							
Vanadium	-17.5		ng/l							U
Zinc	-122		ng/l							U
Calibration Blank (2402037-CCB3)				Prepared: 02/14/24 Analyzed: 02/15/24						
Antimony	-0.0471		ng/l							U
Arsenic	4.76		ng/l							
Barium	0.213		ng/l							
Beryllium	-0.126		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
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 2402037 - B4B1403										
Calibration Blank (2402037-CCB3) Contin				Prepared: 02/14/24 Analyzed: 02/15/24						
Cadmium	0.0486		ng/l							
Chromium	1.23		ng/l							
Cobalt	-0.100		ng/l							U
Copper	19.5		ng/l							
Lead	1.12		ng/l							
Manganese	1.48		ng/l							
Molybdenum	2.79		ng/l							
Nickel	-0.120		ng/l							U
Selenium	1.35		ng/l							
Thallium	0.836		ng/l							
Vanadium	-22.3		ng/l							U
Zinc	-148		ng/l							U
Calibration Blank (2402037-CCB4)				Prepared: 02/14/24 Analyzed: 02/15/24						
Antimony	0.295		ng/l							
Arsenic	1.28		ng/l							
Barium	0.849		ng/l							
Beryllium	0.0430		ng/l							
Cadmium	0.170		ng/l							
Chromium	0.0662		ng/l							
Cobalt	0.154		ng/l							
Copper	22.3		ng/l							
Lead	1.33		ng/l							
Manganese	2.90		ng/l							
Molybdenum	3.38		ng/l							
Nickel	0.742		ng/l							
Selenium	3.90		ng/l							
Thallium	0.881		ng/l							
Vanadium	-22.6		ng/l							U
Zinc	-130		ng/l							U
Calibration Check (2402037-CCV1)				Prepared & Analyzed: 02/14/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	207000		ng/l	200000		104	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	19900		ng/l	20000		99.3	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			

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FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
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 2402037 - B4B1403										
Calibration Check (2402037-CCV1) Contin					Prepared & Analyzed: 02/14/24					
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	49200		ng/l	50000		98.3	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19500		ng/l	20000		97.4	90-110			
Zinc	504000		ng/l	500000		101	90-110			
Calibration Check (2402037-CCV2)					Prepared & Analyzed: 02/14/24					
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5140		ng/l	5000.0		103	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Calibration Check (2402037-CCV3)					Prepared & Analyzed: 02/14/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4920		ng/l	5000.0		98.5	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	51000		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
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 2402037 - B4B1403										
Calibration Check (2402037-CCV3) Contin					Prepared & Analyzed: 02/14/24					
Selenium	20500		ng/l	20000		102	90-110			
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2402037-CCV4)					Prepared: 02/14/24 Analyzed: 02/15/24					
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	215000		ng/l	200000		107	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	257000		ng/l	240000		107	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	513000		ng/l	500000		103	90-110			
High Cal Check (2402037-HCV1)					Prepared & Analyzed: 02/14/24					
Antimony	40700		ng/l	40000		102	95-105			
Arsenic	40500		ng/l	40000		101	95-105			
Barium	403000		ng/l	400000		101	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	40000		ng/l	40000		100	95-105			
Chromium	473000		ng/l	480000		98.5	95-105			
Cobalt	98400		ng/l	100000		98.4	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Lead	402000		ng/l	400000		100	95-105			
Manganese	998000		ng/l	1.0000E6		99.8	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	237000		ng/l	240000		98.9	95-105			
Selenium	40600		ng/l	40000		101	95-105			
Thallium	995		ng/l	1000.0		99.5	95-105			
Vanadium	40000		ng/l	40000		100	95-105			
Zinc	999000		ng/l	1.0000E6		99.9	95-105			

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
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 2402037 - B4B1403										
Initial Cal Blank (2402037-ICB1)				Prepared & Analyzed: 02/14/24						
Antimony	0.376		ng/l							
Arsenic	1.99		ng/l							
Barium	-0.317		ng/l							U
Beryllium	0.117		ng/l							
Cadmium	0.154		ng/l							
Chromium	-0.466		ng/l							U
Cobalt	0.124		ng/l							
Copper	60.7		ng/l							
Lead	2.41		ng/l							
Manganese	3.38		ng/l							
Molybdenum	5.26		ng/l							
Nickel	1.90		ng/l							
Selenium	12.9		ng/l							
Thallium	1.52		ng/l							
Vanadium	-21.0		ng/l							U
Zinc	-135		ng/l							U
Initial Cal Check (2402037-ICV1)				Prepared & Analyzed: 02/14/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	5290		ng/l	5000.0		106	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	50400		ng/l	50000		101	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	21300		ng/l	20000		106	90-110			
Thallium	512		ng/l	500.00		102	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Interference Check A (2402037-IFA1)				Prepared & Analyzed: 02/14/24						
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

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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 2402037 - B4B1403										
Interference Check A (2402037-IFA1) Co				Prepared & Analyzed: 02/14/24						
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	300000		ng/l	300000		100	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
Interference Check B (2402037-IFB1)				Prepared & Analyzed: 02/14/24						
Antimony	20300		ng/l	20000		102	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	203000		ng/l	200000		102	80-120			
Beryllium	4960		ng/l	5000.0		99.2	80-120			
Cadmium	19600		ng/l	20000		98.1	80-120			
Chromium	237000		ng/l	240000		98.6	80-120			
Cobalt	48500		ng/l	50000		97.0	80-120			
Copper	1.87E6		ng/l	2.0000E6		93.7	80-120			
Lead	202000		ng/l	200000		101	80-120			
Manganese	495000		ng/l	500000		98.9	80-120			
Molybdenum	346000		ng/l	350000		98.8	80-120			
Nickel	114000		ng/l	120000		94.7	80-120			
Selenium	19500		ng/l	20000		97.6	80-120			
Thallium	507		ng/l	500.00		101	80-120			
Vanadium	18600		ng/l	20000		92.8	80-120			
Zinc	463000		ng/l	500000		92.5	80-120			
Batch 2402040 - B4B1403										
Calibration Blank (2402040-CCB1)				Prepared & Analyzed: 02/15/24						
Antimony	0.454		ng/l							
Arsenic	6.80		ng/l							
Barium	1.45		ng/l							
Beryllium	0.150		ng/l							
Cadmium	0.204		ng/l							
Chromium	-0.811		ng/l							U
Cobalt	0.0302		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402040 - B4B1403										
Calibration Blank (2402040-CCB1) Contin				Prepared & Analyzed: 02/15/24						
Copper	83.3		ng/l							
Lead	3.09		ng/l							
Manganese	3.34		ng/l							
Molybdenum	8.60		ng/l							
Nickel	4.11		ng/l							
Selenium	13.0		ng/l							LJ, QX
Thallium	1.84		ng/l							QB-04
Vanadium	-20.7		ng/l							U
Zinc	-33.1		ng/l							U
Calibration Blank (2402040-CCB2)				Prepared & Analyzed: 02/15/24						
Antimony	0.260		ng/l							
Arsenic	2.78		ng/l							
Barium	0.964		ng/l							
Beryllium	0.452		ng/l							
Cadmium	-0.00354		ng/l							U
Chromium	1.70		ng/l							
Cobalt	0.120		ng/l							
Copper	23.6		ng/l							
Lead	1.78		ng/l							
Manganese	2.45		ng/l							
Molybdenum	2.73		ng/l							
Nickel	1.64		ng/l							
Selenium	-0.913		ng/l							LJ, QX, U
Thallium	1.11		ng/l							
Vanadium	-21.7		ng/l							U
Zinc	-59.3		ng/l							U
Calibration Blank (2402040-CCB3)				Prepared & Analyzed: 02/15/24						
Antimony	0.424		ng/l							
Arsenic	8.06		ng/l							
Barium	2.07		ng/l							
Beryllium	0.137		ng/l							
Cadmium	0.0730		ng/l							
Chromium	2.34		ng/l							
Cobalt	-0.0390		ng/l							U
Copper	28.5		ng/l							
Lead	1.50		ng/l							
Manganese	3.63		ng/l							
Molybdenum	1.82		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402040 - B4B1403										
Calibration Blank (2402040-CCB3) Contin				Prepared & Analyzed: 02/15/24						
Nickel	1.37		ng/l							
Selenium	16.0		ng/l							LJ, QX
Thallium	0.756		ng/l							
Vanadium	-25.6		ng/l							U
Zinc	-69.2		ng/l							U
Calibration Blank (2402040-CCB4)				Prepared: 02/15/24 Analyzed: 02/16/24						
Antimony	0.451		ng/l							
Arsenic	11.6		ng/l							
Barium	1.58		ng/l							
Beryllium	0.0614		ng/l							
Cadmium	0.0946		ng/l							
Chromium	1.89		ng/l							
Cobalt	-0.00824		ng/l							U
Copper	16.5		ng/l							
Lead	0.998		ng/l							
Manganese	2.02		ng/l							
Molybdenum	3.38		ng/l							
Nickel	3.37		ng/l							
Selenium	8.74		ng/l							LJ, QX
Thallium	0.844		ng/l							
Vanadium	-25.6		ng/l							U
Zinc	-68.5		ng/l							U
Calibration Check (2402040-CCV1)				Prepared & Analyzed: 02/15/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4800		ng/l	5000.0		96.0	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	256000		ng/l	240000		107	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	498000		ng/l	500000		99.7	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			LJ, QX
Thallium	510		ng/l	500.00		102	90-110			
Vanadium	19900		ng/l	20000		99.4	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 2402040 - B4B1403										
Calibration Check (2402040-CCV1) Contin				Prepared & Analyzed: 02/15/24						
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2402040-CCV2)				Prepared & Analyzed: 02/15/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	5190		ng/l	5000.0		104	90-110			
Cadmium	19900		ng/l	20000		99.5	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	49300		ng/l	50000		98.6	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	493000		ng/l	500000		98.7	90-110			
Molybdenum	48600		ng/l	50000		97.1	90-110			
Nickel	119000		ng/l	120000		98.9	90-110			
Selenium	20700		ng/l	20000		103	90-110			LJ, QX
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20000		ng/l	20000		99.8	90-110			
Zinc	502000		ng/l	500000		100	90-110			
Calibration Check (2402040-CCV3)				Prepared & Analyzed: 02/15/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4930		ng/l	5000.0		98.5	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20700		ng/l	20000		103	90-110			LJ, QX
Thallium	498		ng/l	500.00		99.6	90-110			
Vanadium	19500		ng/l	20000		97.3	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Calibration Check (2402040-CCV4)				Prepared: 02/15/24 Analyzed: 02/16/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	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 2402040 - B4B1403										
Calibration Check (2402040-CCV4) Contin				Prepared: 02/15/24 Analyzed: 02/16/24						
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	501000		ng/l	500000		100	90-110			
Molybdenum	49700		ng/l	50000		99.4	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20800		ng/l	20000		104	90-110			LJ, QX
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	514000		ng/l	500000		103	90-110			
High Cal Check (2402040-HCV1)				Prepared & Analyzed: 02/15/24						
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	393000		ng/l	400000		98.3	95-105			
Beryllium	10400		ng/l	10000		104	95-105			
Cadmium	39700		ng/l	40000		99.2	95-105			
Chromium	470000		ng/l	480000		97.9	95-105			
Cobalt	98100		ng/l	100000		98.1	95-105			
Copper	3.90E6		ng/l	4.0000E6		97.4	95-105			
Lead	403000		ng/l	400000		101	95-105			
Manganese	992000		ng/l	1.0000E6		99.2	95-105			
Molybdenum	99300		ng/l	100000		99.3	95-105			
Nickel	235000		ng/l	240000		97.8	95-105			
Selenium	40900		ng/l	40000		102	95-105			LJ, QX
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	40200		ng/l	40000		101	95-105			
Zinc	994000		ng/l	1.0000E6		99.4	95-105			
Initial Cal Blank (2402040-ICB1)				Prepared & Analyzed: 02/15/24						
Antimony	0.783		ng/l							
Arsenic	3.77		ng/l							
Barium	0.257		ng/l							
Beryllium	0.118		ng/l							
Cadmium	0.0552		ng/l							
Chromium	-0.302		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 2402040 - B4B1403										
Initial Cal Blank (2402040-ICB1) Continu				Prepared & Analyzed: 02/15/24						
Cobalt	-0.0883		ng/l							U
Copper	61.8		ng/l							
Lead	3.04		ng/l							
Manganese	3.34		ng/l							
Molybdenum	5.80		ng/l							
Nickel	1.25		ng/l							
Selenium	-0.541		ng/l							LJ, QX, U
Thallium	1.31		ng/l							
Vanadium	-23.9		ng/l							U
Zinc	-50.2		ng/l							U
Initial Cal Check (2402040-ICV1)				Prepared & Analyzed: 02/15/24						
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	195000		ng/l	200000		97.3	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	540000		ng/l	500000		108	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	21500		ng/l	20000		108	90-110			LJ, QX
Thallium	516		ng/l	500.00		103	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Interference Check A (2402040-IFA1)				Prepared & Analyzed: 02/15/24						
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

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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: 02/21/24 15:48
SUBMITTED: 02/12/24
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 2402040 - B4B1403										
Interference Check A (2402040-IFA1) Co				Prepared & Analyzed: 02/15/24						
Molybdenum	297000		ng/l	300000		99.1	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2402040-IFB1)				Prepared & Analyzed: 02/15/24						
Antimony	19900		ng/l	20000		99.7	80-120			
Arsenic	20300		ng/l	20000		101	80-120			
Barium	195000		ng/l	200000		97.4	80-120			
Beryllium	5180		ng/l	5000.0		104	80-120			
Cadmium	19200		ng/l	20000		96.0	80-120			
Chromium	234000		ng/l	240000		97.5	80-120			
Cobalt	47400		ng/l	50000		94.8	80-120			
Copper	1.84E6		ng/l	2.0000E6		92.1	80-120			
Lead	202000		ng/l	200000		101	80-120			
Manganese	487000		ng/l	500000		97.3	80-120			
Molybdenum	339000		ng/l	350000		96.9	80-120			
Nickel	111000		ng/l	120000		92.4	80-120			
Selenium	19600		ng/l	20000		97.9	80-120			LJ, QX
Thallium	519		ng/l	500.00		104	80-120			
Vanadium	18300		ng/l	20000		91.5	80-120			
Zinc	454000		ng/l	500000		90.9	80-120			
Batch B4B1403 - ICP-MS Extraction										
Blank (B4B1403-BLK1)				Prepared & Analyzed: 02/14/24						
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	0.0793	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

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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 B4B1403 - ICP-MS Extraction										
Blank (B4B1403-BLK1) Continued				Prepared & Analyzed: 02/14/24						
Thallium	ND	5.89E-4	ng/m³ Air							B, QB-01, QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4B1403-BS1)				Prepared & Analyzed: 02/14/24						
Antimony	0.926	0.0386	ng/m³ Air	1.3829		67.0	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.9	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.4	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		97.0	80-120			
Cadmium	1.33	0.0793	ng/m³ Air	1.3829		96.5	80-120			
Chromium	14.7	2.21	ng/m³ Air	13.829		107	80-120			
Cobalt	1.33	0.0436	ng/m³ Air	1.3829		96.2	80-120			
Copper	28.8	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.8	80-120			
Manganese	8.52	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.37	0.359	ng/m³ Air	1.3829		99.2	80-120			
Nickel	2.81	0.652	ng/m³ Air	2.7658		101	80-120			
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.6	80-120			
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		96.0	80-120			B, QB-01, QB-04
Vanadium	2.63	0.0529	ng/m³ Air	2.7658		95.2	80-120			
Zinc	106	76.8	ng/m³ Air	82.975		128	80-120			
Duplicate (B4B1403-DUP1)		**Source: 4021308-10**		Prepared & Analyzed: 02/14/24						
Antimony	0.0306	0.0303	ng/m³ Air		0.0436			35.0	10	SL
Arsenic	0.324	0.00735	ng/m³ Air		0.341			5.18	10	
Barium	2.01	0.839	ng/m³ Air		1.99			0.908	10	
Beryllium	0.00488	0.00251	ng/m³ Air		0.00537			9.54	10	
Cadmium	0.132	0.0622	ng/m³ Air		0.0968			30.7	10	
Chromium	2.39	1.73	ng/m³ Air		1.99			18.3	10	
Cobalt	0.202	0.0342	ng/m³ Air		0.191			5.70	10	
Copper	40.0	2.06	ng/m³ Air		39.5			1.31	10	
Lead	0.581	0.168	ng/m³ Air		0.615			5.67	10	
Manganese	6.38	1.48	ng/m³ Air		6.08			4.73	10	
Molybdenum	1.82	0.282	ng/m³ Air		1.81			0.405	10	
Nickel	1.26	0.511	ng/m³ Air		0.740			52.4	10	
Selenium	0.175	0.00703	ng/m³ Air		0.174			0.822	10	
Thallium	0.00162	4.62E-4	ng/m³ Air		0.00158			2.71	10	B, QB-01, QB-04
Vanadium	0.431	0.0415	ng/m³ Air		0.402			6.78	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 B4B1403 - ICP-MS Extraction										
Duplicate (B4B1403-DUP1) Continued		**Source: 4021308-10**		Prepared & Analyzed: 02/14/24						
Zinc	ND	60.2	ng/m³ Air		ND				10	U
Duplicate (B4B1403-DUP2)		**Source: 4021308-04**		Prepared & Analyzed: 02/14/24						
Antimony	0.464	0.0327	ng/m³ Air		0.472			1.78	10	SL
Arsenic	0.234	0.00794	ng/m³ Air		0.245			4.75	10	
Barium	3.12	0.907	ng/m³ Air		3.10			0.472	10	
Beryllium	0.00526	0.00271	ng/m³ Air		0.00529			0.625	10	
Cadmium	ND	0.0672	ng/m³ Air		ND				10	U
Chromium	ND	1.87	ng/m³ Air		ND				10	U
Cobalt	0.150	0.0369	ng/m³ Air		0.155			3.11	10	
Copper	20.9	2.23	ng/m³ Air		21.6			3.14	10	
Lead	0.713	0.181	ng/m³ Air		0.730			2.38	10	
Manganese	4.26	1.60	ng/m³ Air		4.41			3.42	10	
Molybdenum	1.18	0.304	ng/m³ Air		1.19			0.842	10	
Nickel	0.929	0.552	ng/m³ Air		0.959			3.18	10	
Selenium	0.206	0.00759	ng/m³ Air		0.227			10.0	10	
Thallium	6.25E-4	4.99E-4	ng/m³ Air		7.57E-4			19.0	10	B, QB-01
Vanadium	1.50	0.0448	ng/m³ Air		1.55			2.79	10	
Zinc	ND	65.1	ng/m³ Air		ND				10	U
Matrix Spike (B4B1403-MS1)		**Source: 4021308-10**		Prepared & Analyzed: 02/14/24						
Antimony	0.485	0.0303	ng/m³ Air	1.0845	0.0436	40.7	80-120			SL
Arsenic	2.51	0.00735	ng/m³ Air	2.1691	0.341	100	80-120			
Barium	23.7	0.839	ng/m³ Air	21.691	1.99	100	80-120			
Beryllium	1.08	0.00251	ng/m³ Air	1.0845	0.00537	98.9	80-120			
Cadmium	1.15	0.0622	ng/m³ Air	1.0845	0.0968	97.5	80-120			
Chromium	12.8	1.73	ng/m³ Air	10.845	1.99	99.8	80-120			
Cobalt	1.25	0.0342	ng/m³ Air	1.0845	0.191	97.6	80-120			
Copper	59.5	2.06	ng/m³ Air	21.691	39.5	92.3	80-120			
Lead	11.5	0.168	ng/m³ Air	10.845	0.615	100	80-120			
Manganese	12.7	1.48	ng/m³ Air	6.5072	6.08	101	80-120			
Molybdenum	2.78	0.282	ng/m³ Air	1.0845	1.81	89.6	80-120			
Nickel	2.95	0.511	ng/m³ Air	2.1691	0.740	102	80-120			
Selenium	2.30	0.00703	ng/m³ Air	2.1691	0.174	98.2	80-120			
Thallium	0.108	4.62E-4	ng/m³ Air	0.10845	0.00158	97.7	80-120			B, QB-01, QB-04
Vanadium	2.44	0.0415	ng/m³ Air	2.1691	0.402	93.9	80-120			
Zinc	96.3	60.2	ng/m³ Air	65.072	ND	148	80-120			
Matrix Spike Dup (B4B1403-MSD1)		**Source: 4021308-10**		Prepared & Analyzed: 02/14/24						
Antimony	0.486	0.0303	ng/m³ Air	1.0845	0.0436	40.8	80-120	0.339	20	SL

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FILE #: 4205.00.003.001
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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 B4B1403 - ICP-MS Extraction										
Matrix Spike Dup (B4B1403-MSD1) Conti			**Source: 4021308-10**		Prepared & Analyzed: 02/14/24					
Arsenic	2.47	0.00735	ng/m³ Air	2.1691	0.341	98.0	80-120	1.83	20	
Barium	24.6	0.839	ng/m³ Air	21.691	1.99	104	80-120	3.70	20	
Beryllium	1.07	0.00251	ng/m³ Air	1.0845	0.00537	98.0	80-120	0.867	20	
Cadmium	1.29	0.0622	ng/m³ Air	1.0845	0.0968	110	80-120	11.2	20	
Chromium	13.0	1.73	ng/m³ Air	10.845	1.99	102	80-120	1.62	20	
Cobalt	1.29	0.0342	ng/m³ Air	1.0845	0.191	101	80-120	3.02	20	
Copper	62.3	2.06	ng/m³ Air	21.691	39.5	105	80-120	4.63	20	
Lead	11.6	0.168	ng/m³ Air	10.845	0.615	101	80-120	0.887	20	
Manganese	12.9	1.48	ng/m³ Air	6.5072	6.08	105	80-120	1.77	20	
Molybdenum	2.93	0.282	ng/m³ Air	1.0845	1.81	103	80-120	5.25	20	
Nickel	2.88	0.511	ng/m³ Air	2.1691	0.740	98.8	80-120	2.40	20	
Selenium	2.32	0.00703	ng/m³ Air	2.1691	0.174	99.1	80-120	0.814	20	
Thallium	0.109	4.62E-4	ng/m³ Air	0.10845	0.00158	99.5	80-120	1.78	20	B, QB-01, QB-04
Vanadium	2.46	0.0415	ng/m³ Air	2.1691	0.402	95.1	80-120	1.08	20	
Zinc	91.0	60.2	ng/m³ Air	65.072	ND	140	80-120	5.58	20	
Post Spike (B4B1403-PS1)			**Source: 4021308-10**		Prepared & Analyzed: 02/14/24					
Antimony	0.262	0.0303	ng/m³ Air	0.21691	0.0436	100	75-125			SL
Arsenic	1.41	0.00735	ng/m³ Air	1.0845	0.341	98.8	75-125			
Barium	4.32	0.839	ng/m³ Air	2.1691	1.99	108	75-125			
Beryllium	0.223	0.00251	ng/m³ Air	0.21691	0.00537	101	75-125			
Cadmium	0.207	0.0622	ng/m³ Air	0.10845	0.0968	101	75-125			
Chromium	3.10	1.73	ng/m³ Air	1.0845	1.99	102	75-125			
Cobalt	0.410	0.0342	ng/m³ Air	0.21691	0.191	101	75-125			
Copper	52.7	2.06	ng/m³ Air	10.845	39.5	122	75-125			
Lead	22.1	0.168	ng/m³ Air	21.691	0.615	99.1	75-125			
Manganese	8.39	1.48	ng/m³ Air	2.1691	6.08	106	75-125			
Molybdenum	2.90	0.282	ng/m³ Air	1.0845	1.81	100	75-125			
Nickel	2.88	0.511	ng/m³ Air	2.1691	0.740	98.5	75-125			
Selenium	1.27	0.00703	ng/m³ Air	1.0845	0.174	101	75-125			
Thallium	0.0565	4.62E-4	ng/m³ Air	5.4227E-2	0.00158	101	75-125			B, QB-01, QB-04
Vanadium	1.45	0.0415	ng/m³ Air	1.0845	0.402	96.6	75-125			
Zinc	ND	60.2	ng/m³ Air	21.691	ND		75-125			U
Dilution Check (B4B1403-SRL1)			**Source: 4021308-10**		Prepared & Analyzed: 02/14/24					
Antimony	ND	0.151	ng/m³ Air		ND				10	SL, U
Arsenic	0.340	0.0367	ng/m³ Air		0.341			0.403	10	
Barium	ND	4.20	ng/m³ Air		ND				10	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 B4B1403 - ICP-MS Extraction										
Dilution Check (B4B1403-SRL1) ContinueSource: 4021308-10 Prepared & Analyzed: 02/14/24										
Beryllium	ND	0.0125	ng/m³ Air		ND				10	U
Cadmium	ND	0.311	ng/m³ Air		ND				10	U
Chromium	ND	8.67	ng/m³ Air		ND				10	U
Cobalt	0.193	0.171	ng/m³ Air		0.191			1.40	10	
Copper	40.9	10.3	ng/m³ Air		39.5			3.54	10	
Lead	ND	0.839	ng/m³ Air		ND				10	U
Manganese	ND	7.41	ng/m³ Air		ND				10	U
Molybdenum	1.79	1.41	ng/m³ Air		1.81			0.901	10	
Nickel	ND	2.56	ng/m³ Air		ND				10	U
Selenium	0.160	0.0351	ng/m³ Air		0.174			7.97	10	
Thallium	0.00250	0.00231	ng/m³ Air		ND			45.2	10	B, QB-01, QB-04
Vanadium	0.418	0.207	ng/m³ Air		0.402			3.83	10	
Zinc	ND	301	ng/m³ Air		ND				10	U
Batch B4B1502 - ICP-MS Extraction										
Blank (B4B1502-BLK1) Prepared & Analyzed: 02/15/24										
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	0.0793	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							LJ, QX, U
Thallium	8.02E-4	5.89E-4	ng/m³ Air							B, QB-01, QB-04
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4B1502-BS1) Prepared & Analyzed: 02/15/24										
Antimony	0.913	0.0386	ng/m³ Air	1.3829		66.0	80-120			SL
Arsenic	2.73	0.00937	ng/m³ Air	2.7658		98.8	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		99.7	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 B4B1502 - ICP-MS Extraction										
LCS (B4B1502-BS1) Continued				Prepared & Analyzed: 02/15/24						
Cadmium	1.35	0.0793	ng/m³ Air	1.3829		97.3	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.7	80-120			
Copper	29.3	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.5	80-120			
Manganese	8.75	1.89	ng/m³ Air	8.2975		105	80-120			
Molybdenum	1.39	0.359	ng/m³ Air	1.3829		101	80-120			
Nickel	2.86	0.652	ng/m³ Air	2.7658		103	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		99.0	80-120			LJ, QX
Thallium	0.139	5.89E-4	ng/m³ Air	0.13829		100	80-120			B, QB-01, QB-04
Vanadium	2.68	0.0529	ng/m³ Air	2.7658		97.0	80-120			
Zinc	125	76.8	ng/m³ Air	82.975		150	80-120			
Duplicate (B4B1502-DUP1)		**Source: 4021308-17**		Prepared & Analyzed: 02/15/24						
Antimony	0.0392	0.0337	ng/m³ Air		0.0406			3.45	10	SL
Arsenic	0.0914	0.00818	ng/m³ Air		0.0872			4.78	10	
Barium	1.96	0.934	ng/m³ Air		1.33			38.3	10	
Beryllium	0.00540	0.00279	ng/m³ Air		0.00588			8.47	10	
Cadmium	ND	0.0692	ng/m³ Air		ND				10	U
Chromium	ND	1.93	ng/m³ Air		ND				10	U
Cobalt	0.130	0.0381	ng/m³ Air		0.121			7.09	10	
Copper	60.1	2.30	ng/m³ Air		57.0			5.29	10	
Lead	0.408	0.187	ng/m³ Air		0.457			11.3	10	
Manganese	3.12	1.65	ng/m³ Air		2.89			7.64	10	
Molybdenum	2.39	0.313	ng/m³ Air		2.28			4.68	10	
Nickel	0.674	0.569	ng/m³ Air		0.822			19.8	10	
Selenium	0.172	0.00782	ng/m³ Air		0.169			1.36	10	LJ, QX
Thallium	0.00140	5.14E-4	ng/m³ Air		0.00127			10.2	10	B, QB-01, QB-04
Vanadium	0.254	0.0462	ng/m³ Air		0.227			11.0	10	
Zinc	ND	67.0	ng/m³ Air		ND				10	U
Duplicate (B4B1502-DUP2)		**Source: 4021308-31**		Prepared: 02/15/24 Analyzed: 02/16/24						
Antimony	0.121	0.0362	ng/m³ Air		0.122			1.00	10	SL
Arsenic	0.256	0.00878	ng/m³ Air		0.263			2.79	10	
Barium	2.91	1.00	ng/m³ Air		2.85			1.93	10	
Beryllium	0.00609	0.00300	ng/m³ Air		0.00619			1.59	10	
Cadmium	ND	0.0743	ng/m³ Air		ND				10	U
Chromium	ND	2.07	ng/m³ Air		ND				10	U

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

FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
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 B4B1502 - ICP-MS Extraction										
Duplicate (B4B1502-DUP2) Continued			**Source: 4021308-31**		Prepared: 02/15/24 Analyzed: 02/16/24					
Cobalt	0.157	0.0409	ng/m³ Air		0.160			1.67	10	
Copper	27.4	2.46	ng/m³ Air		27.6			0.782	10	
Lead	1.04	0.201	ng/m³ Air		1.04			0.386	10	
Manganese	5.62	1.77	ng/m³ Air		5.62			0.0142	10	
Molybdenum	1.07	0.336	ng/m³ Air		1.07			0.605	10	
Nickel	0.703	0.611	ng/m³ Air		0.706			0.474	10	
Selenium	0.166	0.00840	ng/m³ Air		0.176			6.03	10	LJ, QX
Thallium	0.00104	5.52E-4	ng/m³ Air		0.00107			2.33	10	B, QB-01
Vanadium	0.622	0.0496	ng/m³ Air		0.619			0.444	10	
Zinc	ND	72.0	ng/m³ Air		ND				10	U
Matrix Spike (B4B1502-MS1)			**Source: 4021308-17**		Prepared & Analyzed: 02/15/24					
Antimony	0.698	0.0337	ng/m³ Air	1.2070	0.0406	54.4	80-120			SL
Arsenic	2.36	0.00818	ng/m³ Air	2.4140	0.0872	94.2	80-120			
Barium	24.2	0.934	ng/m³ Air	24.140	1.33	94.7	80-120			
Beryllium	1.17	0.00279	ng/m³ Air	1.2070	0.00588	96.8	80-120			
Cadmium	1.15	0.0692	ng/m³ Air	1.2070	ND	95.2	80-120			
Chromium	13.4	1.93	ng/m³ Air	12.070	ND	111	80-120			
Cobalt	1.37	0.0381	ng/m³ Air	1.2070	0.121	104	80-120			
Copper	76.7	2.30	ng/m³ Air	24.140	57.0	81.9	80-120			
Lead	11.9	0.187	ng/m³ Air	12.070	0.457	95.2	80-120			
Manganese	9.89	1.65	ng/m³ Air	7.2421	2.89	96.6	80-120			
Molybdenum	3.34	0.313	ng/m³ Air	1.2070	2.28	87.6	80-120			
Nickel	2.80	0.569	ng/m³ Air	2.4140	0.822	81.9	80-120			
Selenium	2.49	0.00782	ng/m³ Air	2.4140	0.169	96.3	80-120			LJ, QX
Thallium	0.118	5.14E-4	ng/m³ Air	0.12070	0.00127	96.9	80-120			B, QB-01, QB-04
Vanadium	2.44	0.0462	ng/m³ Air	2.4140	0.227	91.7	80-120			
Zinc	104	67.0	ng/m³ Air	72.421	ND	143	80-120			
Matrix Spike Dup (B4B1502-MSD1)			**Source: 4021308-17**		Prepared & Analyzed: 02/15/24					
Antimony	0.697	0.0337	ng/m³ Air	1.2070	0.0406	54.4	80-120	0.0317	20	SL
Arsenic	2.45	0.00818	ng/m³ Air	2.4140	0.0872	97.9	80-120	3.67	20	
Barium	25.1	0.934	ng/m³ Air	24.140	1.33	98.3	80-120	3.51	20	
Beryllium	1.25	0.00279	ng/m³ Air	1.2070	0.00588	103	80-120	6.12	20	
Cadmium	1.18	0.0692	ng/m³ Air	1.2070	ND	97.8	80-120	2.67	20	
Chromium	14.0	1.93	ng/m³ Air	12.070	ND	116	80-120	4.08	20	
Cobalt	1.29	0.0381	ng/m³ Air	1.2070	0.121	96.8	80-120	6.28	20	
Copper	78.6	2.30	ng/m³ Air	24.140	57.0	89.5	80-120	2.34	20	
Lead	12.4	0.187	ng/m³ Air	12.070	0.457	98.6	80-120	3.33	20	

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FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
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 B4B1502 - ICP-MS Extraction										
Matrix Spike Dup (B4B1502-MSD1) Conti			**Source: 4021308-17**		Prepared & Analyzed: 02/15/24					
Manganese	10.3	1.65	ng/m³ Air	7.2421	2.89	103	80-120	4.28	20	
Molybdenum	3.46	0.313	ng/m³ Air	1.2070	2.28	97.7	80-120	3.56	20	
Nickel	3.17	0.569	ng/m³ Air	2.4140	0.822	97.3	80-120	12.5	20	
Selenium	2.57	0.00782	ng/m³ Air	2.4140	0.169	99.6	80-120	3.14	20	LJ, QX
Thallium	0.122	5.14E-4	ng/m³ Air	0.12070	0.00127	100	80-120	3.36	20	B, QB-01, QB-04
Vanadium	2.54	0.0462	ng/m³ Air	2.4140	0.227	96.0	80-120	4.15	20	
Zinc	97.6	67.0	ng/m³ Air	72.421	ND	135	80-120	5.95	20	
Post Spike (B4B1502-PS1)			**Source: 4021308-17**		Prepared & Analyzed: 02/15/24					
Antimony	0.282	0.0337	ng/m³ Air	0.24140	0.0406	100	75-125			SL
Arsenic	1.28	0.00818	ng/m³ Air	1.2070	0.0872	98.8	75-125			
Barium	3.68	0.934	ng/m³ Air	2.4140	1.33	97.3	75-125			
Beryllium	0.253	0.00279	ng/m³ Air	0.24140	0.00588	102	75-125			
Cadmium	0.136	0.0692	ng/m³ Air	0.12070	ND	112	75-125			
Chromium	2.86	1.93	ng/m³ Air	1.2070	ND	237	75-125			
Cobalt	0.358	0.0381	ng/m³ Air	0.24140	0.121	98.2	75-125			
Copper	67.9	2.30	ng/m³ Air	12.070	57.0	90.4	75-125			
Lead	24.3	0.187	ng/m³ Air	24.140	0.457	98.6	75-125			
Manganese	5.28	1.65	ng/m³ Air	2.4140	2.89	99.1	75-125			
Molybdenum	3.44	0.313	ng/m³ Air	1.2070	2.28	96.1	75-125			
Nickel	3.14	0.569	ng/m³ Air	2.4140	0.822	96.1	75-125			
Selenium	1.38	0.00782	ng/m³ Air	1.2070	0.169	100	75-125			LJ, QX
Thallium	0.0630	5.14E-4	ng/m³ Air	6.0351E-2	0.00127	102	75-125			B, QB-01, QB-04
Vanadium	1.38	0.0462	ng/m³ Air	1.2070	0.227	95.7	75-125			
Zinc	ND	67.0	ng/m³ Air	24.140	ND		75-125			U
Dilution Check (B4B1502-SRL1)			**Source: 4021308-17**		Prepared & Analyzed: 02/15/24					
Antimony	ND	0.168	ng/m³ Air		ND				10	SL, U
Arsenic	0.0802	0.0409	ng/m³ Air		0.0872			8.29	10	
Barium	ND	4.67	ng/m³ Air		ND				10	U
Beryllium	ND	0.0140	ng/m³ Air		ND				10	U
Cadmium	ND	0.346	ng/m³ Air		ND				10	U
Chromium	ND	9.64	ng/m³ Air		ND				10	U
Cobalt	ND	0.190	ng/m³ Air		ND				10	U
Copper	58.0	11.5	ng/m³ Air		57.0			1.74	10	
Lead	ND	0.934	ng/m³ Air		ND				10	U
Manganese	ND	8.25	ng/m³ Air		ND				10	U
Molybdenum	2.25	1.57	ng/m³ Air		2.28			1.16	10	

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FILE #: 4205.00.003.001
REPORTED: 02/21/24 15:48
SUBMITTED: 02/12/24
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 B4B1502 - ICP-MS Extraction										
Dilution Check (B4B1502-SRL1) ContinueSource: 4021308-17 Prepared & Analyzed: 02/15/24										
Nickel	ND	2.85	ng/m³ Air		ND				10	U
Selenium	0.156	0.0391	ng/m³ Air		0.169			7.89	10	LJ, QX
Thallium	ND	0.00257	ng/m³ Air		ND				10	B, QB-01, QB-04, U
Vanadium	0.233	0.231	ng/m³ Air		ND			2.65	10	
Zinc	ND	335	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

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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 2/23/2024 and Shanna Vasser 2/26/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 2/1/2024 - 2/7/2023
Report No: 4021308

√	1.	Chain of custody (CoC) documentation is present.
X	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.
√	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:

2. The laboratory stated that all samples were received in acceptable condition unless otherwise noted. MFL-AM01-020224-HM (filter Q9537213) was received damp, with visible signs of mold. There were no additional details; therefore, it is assumed the other samples met method criteria for analysis.

13. Field blank detections above the method detection limit were reported for cobalt in MFL-FB01-020124-HM, for arsenic and copper in MFL-FB01-020324-HM, for arsenic in MFL-FB01-020524-HM, and for cadmium in MFL-FB01-020724-HM.

Notes:

7. Sample MFL-AM01-020124-HM was analyzed at a two-fold dilution for arsenic.

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

February 8 through February 14, 2024
[Report Updated: December 4, 2024]

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

Particulate monitoring and air sampling occurred from February 8 through February 14, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from February 8 through February 14 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. Of the 28 samples collected, one was voided. The lab was unable to analyze the sample from Lahaina Boys & Girls Club on February 12 due to the filter being damaged. All analytical results from this reporting period were below

the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at all the monitoring stations during the reporting period of February 8 through February 14, 2024.

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

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

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

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

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

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

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

- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

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

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

Attachments

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
Febraury 8 through February 14, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
2/8/2024	Leialii Hawaiian Homelands (AM-01)	8.3
	WW Pump Station #4 (AM-02)	9.4
	Lahaina Intermediate School (AM-03)	8.4
	Lahaina Boys & Girls Club (AM-04)	7.1
2/9/2024	Leialii Hawaiian Homelands (AM-01)	7.4
	WW Pump Station #4 (AM-02)	9.1
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Boys & Girls Club (AM-04)	5.7
2/10/2024	Leialii Hawaiian Homelands (AM-01)	6.9
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	6.4
2/11/2024	Leialii Hawaiian Homelands (AM-01)	7.1
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	6.1
2/12/2024	Leialii Hawaiian Homelands (AM-01)	6.4
	WW Pump Station #4 (AM-02)	7.8
	Lahaina Intermediate School (AM-03)	6.9
	Lahaina Boys & Girls Club (AM-04)	6.2
2/13/2024	Leialii Hawaiian Homelands (AM-01)	6.7
	WW Pump Station #4 (AM-02)	4.8
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Boys & Girls Club (AM-04)	5.0
2/14/2024	Leialii Hawaiian Homelands (AM-01)	6.4
	WW Pump Station #4 (AM-02)	5.1
	Lahaina Intermediate School (AM-03)	72
	Lahaina Boys & Girls Club (AM-04)	4.6

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation
Results from Lahaina Intermediate School on 2/8 have been revised from previously submitted report.
Results from Leialii Hawaiian Homelands on 2/14 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
Febraury 8 through February 14, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
2/8/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.000102	0.000357	0.00276	0.00000668	ND	0.00199	0.000224	0.104	0.000681	0.00747	0.00403	0.000906	0.000168	0.00000105	0.00112	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000199	0.000236	0.00518	0.0000102	ND	0.00211	0.000291	0.0507	0.00114	0.0105	0.00148	0.00104	0.000203	0.00000109	0.00140	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000922	0.000123	0.00263	0.0000121	ND	0.00199	0.000289	0.0583	0.000352	0.00800	0.00218	0.00114	0.000183	0.000000921	0.00109	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000108	0.000209	0.00282	0.00000757	ND	ND	0.000200	0.0302	0.000605	0.00724	0.00170	0.000707	0.000166	0.000000917	0.000954	ND
2/9/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000725	0.000312	0.00256	0.00000655	ND	ND	0.000228	0.0587	0.000928	0.00647	0.00268	0.000883	0.000169	0.000000587	0.000752	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000218	0.000304	0.00793	0.0000228	ND	0.00415	0.000974	0.0328	0.00125	0.0229	0.000868	0.00390	0.000250	0.00000109	0.00265	ND
	Lahaina Intermediate School (AM-03)	<0.0026	0.0000934	0.000104	0.00251	0.0000159	ND	ND	0.000264	0.0460	0.000817	0.00632	0.00198	0.00101	0.000169	0.000000616	0.000773	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0026	0.000110	0.000573	0.00288	0.00000855	ND	ND	0.000247	0.0407	0.000871	0.00779	0.000978	0.000871	0.000195	0.000000581	0.000820	ND
2/10/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000984	0.000190	0.00252	0.00000579	ND	ND	0.000176	0.0399	0.000695	0.00544	0.00197	0.000709	0.000175	0.000000814	0.000703	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000221	0.000202	0.00537	0.0000116	ND	ND	0.000312	0.0334	0.00121	0.00958	0.000962	0.00117	0.000202	0.000000702	0.00108	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000553	0.0000945	0.00224	0.0000131	ND	ND	0.000272	0.0472	0.000493	0.00610	0.00228	0.000957	0.000197	0.000000680	0.000751	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000125	0.000252	0.00319	0.00000818	ND	ND	0.000239	0.0439	0.000921	0.00715	0.00121	0.000881	0.000190	0.000000681	0.000800	ND
2/11/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000510	0.000131	0.00169	ND	ND	ND	0.0000575	0.0323	0.000329	0.00187	0.00193	ND	0.000138	ND	0.000378	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000374	0.000140	0.00429	0.00000550	ND	ND	0.000142	0.0233	0.000511	0.00468	0.000913	0.000688	0.000213	0.000000636	0.000724	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000562	0.0000653	0.00136	0.00000342	ND	ND	0.0000696	0.0508	0.000680	0.00199	0.00221	ND	0.000139	ND	0.000438	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000100	0.000105	0.00214	0.00000260	ND	ND	0.0000650	0.0327	0.000410	0.00213	0.00108	ND	0.000177	0.000000474	0.000501	ND
2/12/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000569	0.000196	0.00191	0.00000361	ND	ND	0.000160	0.0445	0.000340	0.00442	0.00223	0.000867	0.000137	0.000000780	0.000864	ND
	WW Pump Station #4 (AM-02)	<0.0026	0.000264	0.000163	0.00666	0.00000911	ND	0.00167	0.000286	0.0240	0.000808	0.00828	0.000916	0.00134	0.000167	0.000000951	0.00125	ND
	Lahaina Intermediate School (AM-03)	<0.0026	0.0000465	0.000130	0.00523	0.0000108	ND	ND	0.000245	0.0314	0.000480	0.00536	0.00156	0.00122	0.000119	0.000000717	0.000898	ND
	Lahaina Boys & Girls Club (AM-04)		0.0000696	0.000148	0.00369	0.00000649	ND	0.00204	0.000192	0.0407	0.000748	0.00540	0.00153	0.00117	0.000144	0.000000805	0.000867	ND
2/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000576	0.000220	0.00271	0.00000398	ND	ND	0.000794	0.0468	0.000433	0.00318	0.00210	0.00156	0.000118	0.000000753	0.00151	ND
	WW Pump Station #4 (AM-02)	<0.0026	0.0000907	0.000268	0.00384	0.00000636	ND	0.00198	0.000218	0.0325	0.000955	0.00594	0.00117	0.00151	0.000147	0.000000818	0.00198	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000569	0.000142	0.00264	0.0000127	ND	0.00228	0.000257	0.0397	0.000465	0.00612	0.00225	0.00143	0.000153	0.000000926	0.00169	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0026	0.0000602	0.000222	0.00261	0.00000558	ND	0.00212	0.000198	0.0388	0.000872	0.00515	0.00146	0.00123	0.000134	0.000000787	0.00158	ND
2/14/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000681	0.000747	0.00315	0.00000693	ND	0.00223	0.000279	0.0803	0.000814	0.00689	0.00347	0.00140	0.000123	0.000000901	0.000874	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000367	0.000315	0.00151	0.00000296	ND	ND	0.0000775	0.0163	0.000382	0.00224	0.000730	0.000632	0.000122	0.000000644	0.000513	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000516	0.0000844	0.00218	0.00000734	ND	ND	0.000120	0.0337	0.000280	0.00296	0.00188	0.000747	0.000123	0.000000790	0.000484	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000450	0.000219	0.00174	0.00000352	ND	ND	0.0000910	0.0483	0.000590	0.00239	0.00204	0.000697	0.000115	0.000000674	0.000447	ND
95% Upper Confidence Limit[2]		NA	0.000130	0.000270	0.00375	0.0000100	NA	0.00262	0.000320	0.0489	0.000800	0.00778	0.00209	0.00131	0.000170	0.000000800	0.00119	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
mg/m3 = milligrams per cubic meter
NA = Not Applicable
ND = Not detected at or above the laboratory reporting limit
Data unavailable, voided sample due to damaged filter. Asbestos sample from Lahaina Boys & Girls Club on February 12 was not analyzed due to the damaged filter
Heavy Metals sample results from all sampling locations on February 8 have been received from lab and completed Stage 1 verification process.
* Laboratory data provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
February 8 through February 14, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
2/8/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	75	61	763.1
2/8/2024	AM-02	WW Pump Station #4	1.1	SE	75	65	765.6
2/8/2024	AM-03	Lahaina Intermediate School	1.0	SE	78	67	755.9
2/8/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	73	66	764.9
2/9/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	74	67	761.8
2/9/2024	AM-02	WW Pump Station #4	0.9	SE	76	69	764.3
2/9/2024	AM-03	Lahaina Intermediate School	1.2	SE	79	72	754.6
2/9/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	73	71	763.6
2/10/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	74	67	761.5
2/10/2024	AM-02	WW Pump Station #4	0.9	SSE	76	69	763.9
2/10/2024	AM-03	Lahaina Intermediate School	1.0	ESE	78	71	754.2
2/10/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	73	72	763.2
2/11/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	75	69	761.2
2/11/2024	AM-02	WW Pump Station #4	1.0	SE	75	70	763.6
2/11/2024	AM-03	Lahaina Intermediate School	1.1	SE	78	70	753.9
2/11/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	73	74	762.9
2/12/2024	AM-01	Leialii Hawaiian Homelands	1.2	SSE	74	68	759.6
2/12/2024	AM-02	WW Pump Station #4	0.8	SE	76	66	761.8
2/12/2024	AM-03	Lahaina Intermediate School	1.2	SSE	77	66	752.2
2/12/2024	AM-04	Lahaina Boys & Girls Club	1.2	SW	74	70	761.2
2/13/2024	AM-01	Leialii Hawaiian Homelands	0.7	ESE	77	65	758.3
2/13/2024	AM-02	WW Pump Station #4	0.9	SE	76	70	760.4
2/13/2024	AM-03	Lahaina Intermediate School	0.9	SE	76	73	751.0
2/13/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSE	76	71	760.0
2/14/2024	AM-01	Leialii Hawaiian Homelands	0.8	S	77	71	758.3
2/14/2024	AM-02	WW Pump Station #4	1.7	SSE	76	75	760.5
2/14/2024	AM-03	Lahaina Intermediate School	1.8	SSE	76	79	751.1
2/14/2024	AM-04	Lahaina Boys & Girls Club	1.6	S	77	74	760.1

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

Appendix 1

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

EMSL Order:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/19/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-020824-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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:	**042403029**
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: 042403029-0001 **Customer Sample:** MFL-AM01-020824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A5	B7	None Detected									
A5	C8	None Detected									
A6	H5	None Detected									
A7	D3	None Detected									
A8	F4	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:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/19/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-020824-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7292.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	Random	*(3.00)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**2**	**3**	**46.88**	**0.0025**	**0.0005**	**- 0.0064**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**2**	**3**	**46.88**	**0.0025**	**0.0005**	**- 0.0064**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**2**	**3**	**46.88**	**0.0025**	**0.0005**	**- 0.0064**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**1**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**1**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**1**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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

EMSL Order ID: 042403029
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: 042403029-0002 **Customer Sample:** MFL-AM02-020824-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	J3	CD22	1		13.9	0.27	CD	Chrysotile			
B1	J3	CF		1	11.9	0.12	CDQ	Chrysotile		2024_Asbestos_029, 2024_Asbestos_030	
B1	J3	CF		2	5.73	0.11	CD	Chrysotile			
B1	H5	B	2	3	1.5	0.16	CD	Chrysotile			
B2	G7	None Detected									
B3	C2	None Detected									
B4	I5	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:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-020824-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7282.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID:	**042403029**
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: 042403029-0003 **Customer Sample:** MFL-AM03-020824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	C8	None Detected									
B6	F7	None Detected									
B7	G9	None Detected									
B8	A2	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:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Tetra Tech
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/19/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-020824-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7256.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0004 **Customer Sample:** MFL-AM04-020824-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	J3	None Detected									
C1	G1	None Detected									
C1	D4	None Detected									
C2	H2	None Detected									
C2	D6	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:	1206126
Project ID:	

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Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020824-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0005 **Customer Sample:** MFL-FB01-020824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J9	None Detected									
C5	H10	None Detected									
C5	F9	None Detected									
C5	D7	None Detected									
C5	B6	None Detected									
C6	A5	None Detected									
C6	C3	None Detected									
C6	E1	None Detected									
C6	G2	None Detected									
C6	I4	None Detected									

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

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Analysis Date:	02/19/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-020924-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6996.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0006 **Customer Sample:** MFL-AM01-020924-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	F7	None Detected									
D1	I6	None Detected									
D2	J4	None Detected									
D2	G8	None Detected									
D2	D9	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:	042403029
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Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/19/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-020924-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6764.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID:	**042403029**
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: 042403029-0007 **Customer Sample:** MFL-AM02-020924-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	J9	None Detected									
D5	H8	None Detected									
D8	I9	None Detected									
D8	G7	None Detected									
D8	A5	None Detected									

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

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EMSL Order:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-020924-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6992.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0008 **Customer Sample:** MFL-AM03-020924-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	B9	None Detected									
E1	D7	None Detected									
E1	G6	None Detected									
E2	H6	None Detected									
E2	D5	None Detected									

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

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EMSL Order:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-020924-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6957.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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: 042403029-0009 **Customer Sample:** MFL-AM04-020924-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	I1	None Detected									
E5	G4	None Detected									
E5	C6	None Detected									
E6	C4	None Detected									
E6	G3	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:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-020924-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0010 **Customer Sample:** MFL-FB01-020924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J9	None Detected									
F1	H8	None Detected									
F1	F4	None Detected									
F1	D2	None Detected									
F1	B6	None Detected									
F2	A5	None Detected									
F2	C6	None Detected									
F2	E8	None Detected									
F2	G6	None Detected									
F2	I6	None Detected									

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

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Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021024-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7311.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0011 **Customer Sample:** MFL-AM01-021024-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					
F6	A5	None Detected									
F6	D7	None Detected									
F6	G5	None Detected									
F7	I6	None Detected									
F7	C8	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:	02/14/2024 09:20 AM
Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021024-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7155.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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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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:	**042403029**
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: 042403029-0012 **Customer Sample:** MFL-AM02-021024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A4	None Detected									
G2	D6	None Detected									
G2	H4	None Detected									
G3	H7	None Detected									
G3	E4	None Detected									

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

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EMSL Order:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	02/14/2024 09:20 AM
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Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-021024-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7116.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID:	**042403029**
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: 042403029-0013 **Customer Sample:** MFL-AM03-021024-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					
G7	A7	None Detected									
G7	C8	None Detected									
G7	H10	None Detected									
G8	B9	None Detected									
G8	H8	None Detected									

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

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EMSL Order:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Received Date:	02/14/2024 09:20 AM
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021024-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7226.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0014 **Customer Sample:** MFL-AM04-021024-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	I2	None Detected									
H1	G5	None Detected									
H1	D7	None Detected									
H2	H7	None Detected									
H2	C7	None Detected									

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

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Customer ID:	TTDC42
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021024-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0015 **Customer Sample:** MFL-FB01-021024-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					
H6	A2	None Detected									
H6	C3	None Detected									
H6	E8	None Detected									
H6	G10	None Detected									
H6	I6	None Detected									
H8	J3	None Detected									
H8	H2	None Detected									
H8	F1	None Detected									
H8	D5	None Detected									
H8	B8	None Detected									

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

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EMSL Order:	042403029
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Project ID:	

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Phone:	(703) 489-2674
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Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021124-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7218.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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

EMSL Order ID:	**042403029**
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: 042403029-0016 **Customer Sample:** MFL-AM01-021124-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	C5	None Detected									
I1	F8	None Detected									
I1	I5	None Detected									
I2	G7	None Detected									
I2	A4	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:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021124-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7171.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403029**
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: 042403029-0017 **Customer Sample:** MFL-AM02-021124-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	J8	None Detected									
K1	H7	None Detected									
K2	B4	None Detected									
K3	I5	None Detected									
K4	C6	None Detected									

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

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EMSL Order:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Received Date:	02/14/2024 09:20 AM
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Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-021124-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7170.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403029-0018 **Customer Sample:** MFL-AM03-021124-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					
J3	J5	None Detected									
J3	E2	None Detected									
J3	B7	None Detected									
J4	H8	None Detected									
J4	D7	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:	1206126
Project ID:	

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Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021124-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7061.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	Random	*(4.00)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**1**	**1**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0040**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**1**	**1**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0040**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**1**	**1**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0040**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403029
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: 042403029-0019 **Customer Sample:** MFL-AM04-021124-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	B5	None Detected									
J5	D6	None Detected									
J5	I4	None Detected									
J6	H7	F	1	1	2.79	0.12	CD	Chrysotile		MG_24, MG_25	
J6	D8	None Detected									

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

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Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021124-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
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/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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: 042403029-0020 **Customer Sample:** MFL-FB01-021124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	I5	None Detected									
K2	G4	None Detected									
K2	E8	None Detected									
K2	C4	None Detected									
K2	B7	None Detected									
K3	A4	None Detected									
K3	D4	None Detected									
K3	F7	None Detected									
K3	H6	None Detected									
K3	I8	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:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/20/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-LB01-021124-AB**		**Sample Description:**	
EMSL Sample Number:	042403029-0021		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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

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

EMSL Order ID:	**042403029**
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: 042403029-0021 **Customer Sample:** MFL-LB01-021124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	B7	None Detected									
K5	D6	None Detected									
K5	F4	None Detected									
K5	H7	None Detected									
K5	J4	None Detected									
K6	A8	None Detected									
K6	C5	None Detected									
K6	E5	None Detected									
K6	G7	None Detected									
K6	I5	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:	042403029
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/14/2024 09:20 AM
Analysis Date:	02/19/2024
Report Date:	02/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042403029-0022		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

EMSL Order ID:	**042403029**
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: 042403029-0022 **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	J6	None Detected									
A1	J4	None Detected									
A1	I3	None Detected									
A2	H7	None Detected									
A2	H5	None Detected									
A2	G6	None Detected									
A3	B8	None Detected									
A3	C9	None Detected									
A4	E10	None Detected									
A4	F7	None Detected									

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

OrderID: 042403029

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042403029

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

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

RECEIVED EMSL CINNAMINSON, NJ 24 FEB 14 AM 10:22

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

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	
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:	Elia Kaufman Saldaña	Sampled By Signature:	
No. of Samples in Shipment	21		

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-AM01-020824-AB		7,174.634	02/08/24 1051
MFL-AM02-020824-AB		7,292.592	02/08/24 1128
MFL-AM03-020824-AB		7,282.368	02/08/24 1319
MFL-AM04-020824-AB		7,256.736	~~02~~/08/24 1352
MFL-FB01-020824-AB		0	~~02~~/08/24 1200
MFL-AM01-020924-AB		6,796.528	02/09/24 1055
MFL-AM02-020924-AB		6,764.762	02/09/24 1129
MFL-AM03-020924-AB		6,992.475	02/09/24 1317

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

All samples received acceptable for analysis.

21

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 02/12/24 1400	Received by: FedEx
Date/Time: 2/14/24 9:20A			
Relinquished by:		Date/Time:	Received by:
Date/Time			

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

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

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

OrderID: 042403029

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042403029

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-AM04-020924-AB		6,957.912	02/09/24 1338
MFL-FB01-020924-AB		0	02/09/24 1200
MFL-AM01-021024-AB		7,310.979	02/10/24 1101
MFL-AM02-021024-AB		7,155.280	02/10/24 1121
MFL-AM03-021024-AB		7,116.010	02/10/24 1308
MFL-AM04-021024-AB		7,226.928	02/10/24 1341
MFL-FB01-021024-AB		0	02/10/24 1200
MFL-AM01-021124-AB		7,218.144	02/11/24 1104
MFL-AM02-021124-AB		7,171.776	02/11/24 1123
MFL-AM03-021124-AB		7,170.732	02/11/24 1305
MFL-AM04-021124-AB		7,061.518	02/11/24 ~~1200~~ 1326 (EFS)
MFL-FB01-021124-AB		0	02/11/24 ~~1201~~ 1200 (KS)
MFL-LB01-021124-AB		0	1201

RECEIVED
EMSL
CINNAMINSON, NJ
24 FEB 14 AM 10:32

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/12/24 1100	Received by:	Date/Time
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. 23206

Reviewed by:
Kierra Johnson 02/22/2024 and Shanna Vasser 2/23/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 02/08/2024 - 02/11/2024
Report No: 42403029

√	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: None

Notes: None

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

EMSL Order:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/20/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021224-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6963.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

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:	**042403279**
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: 042403279-0001 **Customer Sample:** MFL-AM01-021224-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	I7	None Detected									
B5	G5	None Detected									
B5	B5	None Detected									
B6	G5	None Detected									
B6	B3	None Detected									

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

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EMSL Order:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/22/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021224-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7038.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

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EMSL Order ID:	**042403279**
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: 042403279-0002 **Customer Sample:** MFL-AM02-021224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J7	None Detected									
C2	H6	None Detected									
C2	A4	None Detected									
C3	B7	None Detected									
C3	H5	None Detected									

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

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EMSL Order:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/22/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-021224-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7047.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403279**
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: 042403279-0003 **Customer Sample:** MFL-AM03-021224-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	I5	None Detected									
C5	F3	None Detected									
C5	D5	None Detected									
C3	I6	None Detected									
C3	D2	None Detected									

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

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EMSL Order:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/19/2024 08:50 AM
Analysis Date:	N/A
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021224-AB**	**Sample Description:**	
EMSL Sample Number:	042403279-0004	Sample Matrix:	Air
Magnification used for fiber counting:	N/A	Volume (L) :	7227.1
Aspect ratio for fiber definition:	N/A	Area of original collection filter (mm²):	385
Minimum Length (µm):	N/A	Grid Opening Area (mm²):	0.0000
Chi² Test for Random Distribution on Filter:	N/A	Grid Openings Analyzed:	N/A
Minimum Level of analysis (chrysotile):	CD	Analyst:	N/A
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	N/A		
Target Analytical Sensitivity (Structures/cc):	N/A		
Analytical Sensitivity (Structures/cc):	**N/A**	**Limit of Detection (Structures/cc):**	**Not Analyzed**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	CD	Not Analyzed					
Total Amphibole	ADX	Not Analyzed					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures	CD/ADX	Not Analyzed					
Other Minerals	-	Not Analyzed					
Total All Structures	-	Not Analyzed					

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile (PCMe)	CD	Not Analyzed					
Total Amphibole (PCMe)	ADX	Not Analyzed					
Actinolite	ADX	Not Analyzed					
Amosite	ADX	Not Analyzed					
Anthophyllite	ADX	Not Analyzed					
Crocidolite	ADX	Not Analyzed					
Tremolite	ADX	Not Analyzed					
Total Asbestos Structures (PCMe)	CD/ADX	Not Analyzed					
Other Minerals	-	Not Analyzed					
Total All Structures (PCMe)	-	Not Analyzed					

Comment
Not analyzed, filter damaged.

Approved Signatory

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EMSL Order:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Project:

Phone:	(703) 489-2674
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Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/22/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021224-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID:	**042403279**
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: 042403279-0005 **Customer Sample:** MFL-FB01-021224-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	H3	None Detected									
D1	F1	None Detected									
D1	D4	None Detected									
D1	B6	None Detected									
D2	J5	None Detected									
D2	H3	None Detected									
D2	F4	None Detected									
D2	D5	None Detected									
D2	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:	042403279
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Customer PO:	1206126
Project ID:	

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Phone:	(703) 489-2674
Fax:	
Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/22/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021324-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6787.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID:	**042403279**
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: 042403279-0006 **Customer Sample:** MFL-AM01-021324-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	J6	None Detected									
E2	G4	None Detected									
E2	C6	None Detected									
E3	E7	None Detected									
E3	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:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/22/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021324-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6881.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403279**
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: 042403279-0007 **Customer Sample:** MFL-AM02-021324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I4	None Detected									
E5	F2	None Detected									
E5	C5	None Detected									
E6	H5	None Detected									
E6	B2	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:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Denver, CO, 80202

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Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-021324-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7084.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403279**
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: 042403279-0008 **Customer Sample:** MFL-AM03-021324-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	B7	None Detected									
F2	E9	None Detected									
F2	I6	None Detected									
F3	C6	None Detected									
F3	J6	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:	042403279
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Customer PO:	1206126
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021324-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7043.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403279**
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: 042403279-0009 **Customer Sample:** MFL-AM04-021324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A5	None Detected									
F5	E7	None Detected									
F5	H8	None Detected									
F6	J3	None Detected									
F6	B3	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021324-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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: 042403279-0010 **Customer Sample:** MFL-FB01-021324-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	G1	None Detected									
G1	H3	None Detected									
G1	G5	None Detected									
G1	H7	None Detected									
G1	I9	None Detected									
G3	I5	None Detected									
G3	H7	None Detected									
G3	E6	None Detected									
G3	D5	None Detected									
G3	B3	None Detected									

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

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Project: **Maui Fires - Lahaina**

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Fax:	
Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/22/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021424-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7057.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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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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:	**042403279**
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: 042403279-0011 **Customer Sample:** MFL-AM01-021424-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	A9	None Detected									
G5	C7	None Detected									
G5	I5	None Detected									
G6	G7	None Detected									
G6	B8	None Detected									

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

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EMSL Order:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021424-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6619.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID:	**042403279**
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: 042403279-0012 **Customer Sample:** MFL-AM02-021424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J8	None Detected									
H2	G9	None Detected									
H2	C10	None Detected									
H3	J8	None Detected									
H3	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:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

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Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/22/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-021424-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7069.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

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EMSL Order ID:	**042403279**
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: 042403279-0013 **Customer Sample:** MFL-AM03-021424-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	A5	None Detected									
H5	D7	None Detected									
H5	H8	None Detected									
H6	G5	None Detected									
H6	C5	None Detected									

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

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EMSL Order:	042403279
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Customer PO:	1206126
Project ID:	

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021424-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7135.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403279-0014 **Customer Sample:** MFL-AM04-021424-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	E8	None Detected									
I1	G5	None Detected									
I1	I7	None Detected									
I2	B8	None Detected									
I2	G9	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021424-AB**		**Sample Description:**	
EMSL Sample Number:	042403279-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	-	**Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	-	**Not Applicable**

Comment
Numerous gypsum fibers present.

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:	**042403279**
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: 042403279-0015 **Customer Sample:** MFL-FB01-021424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	J8	None Detected									
I5	H10	None Detected									
I5	F8	None Detected									
I5	D7	None Detected									
I5	B6	None Detected									
I6	J2	None Detected									
I6	H3	None Detected									
I6	F2	None Detected									
I6	D1	None Detected									
I6	B4	None Detected									

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

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

EMSL Order:	042403279
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/19/2024 08:50 AM
Analysis Date:	02/20/2024
Report Date:	02/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042403279-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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:	**042403279**
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: 042403279-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B2	A4	None Detected									
B2	C5	None Detected									
B2	E5	None Detected									
B2	D2	None Detected									
B2	I5	None Detected									
B3	J9	None Detected									
B3	H6	None Detected									
B3	F8	None Detected									
B3	D6	None Detected									
B3	B9	None Detected									

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

OrderID: 042403279

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042403279

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

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

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

RECEIVED
EMSL
CINNAMINSON, NJ
2024 FEB 19 A 9:40

Customer Information

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

Billing Information

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

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order:
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: Elin Kenyon-Sinclaire
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-021224-AB		6,963.723	02/12/24 1108
MFL-AM02-021224-AB		7,037.760	02/12/24 1131
MFL-AM03-021224-AB		7,047.072	02/12/24 1307
MFL-AM04-021224-AB		7,227.072	02/12/24 1328
MFL-FB01-021224-AB		0	02/12/24 1200
MFL-AM01-021324-AB		6,787.265	02/13/24 1106
MFL-AM02-021324-AB		6,881.210	02/13/24 1122
MFL-AM03-021324-AB		7,084.572	02/13/24 1316

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

Sample MFL-AM04-021224-AB received with damaged filter. Unable to analyze.
All other samples received acceptable for analysis.

15 JR

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/15/24 1100	Received by: Chelsea FX	Date/Time: 2/19/24 850
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

OrderID: 042403279

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042403279

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

RECEIVED
EMSL
CINNAMINSON, NJ
2024 FEB 19 A 9:40

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.)

EKS

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-021324-AB		7,043.728	02/13/24 1335
MFL-FB01-021324-AB		0	02/13/24 1200
MFL-AM01-021424-AB		7,057.627	02/14/24 1059
MFL-AM02-021424-AB		6,619.303	02/14/24 1116
MFL-AM03-021424-AB		7,069.205	02/14/24 1310
MFL-AM04-021424-AB		7,135.700	02/14/24 1327
MFL-FB01-021424-AB		0	02/14/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/15/24 1100	Received by:	Date/Time
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. 23206

Reviewed by:
Kierra Johnson 2/26/2024 and Shanna Vasser 2/28/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 2/12/2024 - 2/14/2024
Report No: 42403279

√	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. The laboratory was unable to analyze sample MFL-AM04-021224-AB due to a damaged filter upon receipt.

Notes: None

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

March 20, 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 03/04/24 13:11.

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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-020824-HM	4030429-01	Air	02/08/24 23:59	03/04/24 13:11
MFL-AM02-020824-HM	4030429-02	Air	02/08/24 23:59	03/04/24 13:11
MFL-AM03-020824-HM	4030429-03	Air	02/08/24 23:59	03/04/24 13:11
MFL-AM04-020824-HM	4030429-04	Air	02/08/24 23:59	03/04/24 13:11
[redacted]				

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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

[redacted]

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020824-HM
Matrix: Air
Lab ID: 4030429-01
Sample Volume: 1918.426 m³
Filter ID:
Sampled: 02/08/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/05/24 23:40

Comments: Q9516883 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.357**		**0.00795**
Barium	**7440-39-3**	**2.76**		**0.907**
Beryllium	**7440-41-7**	**0.00668**		**0.00271**
Cadmium	7440-43-9	0.00818	U	0.0628
Chromium	**7440-47-3**	**1.99**		**1.87**
Cobalt	**7440-48-4**	**0.224**		**0.0370**
Copper	**7440-50-8**	**104**		**2.23**
Lead	**7439-92-1**	**0.681**		**0.181**
Manganese	**7439-96-5**	**7.47**		**1.60**
Molybdenum	**7439-98-7**	**4.03**		**0.304**
Nickel	**7440-02-0**	**0.906**		**0.553**
Selenium	**7782-49-2**	**0.168**		**0.00760**
Thallium	**7440-28-0**	**0.00105**	QB-01	**5.00E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0449**
Zinc	7440-66-6	42.6	U	65.1

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020824-HM
Matrix: Air
Lab ID: 4030429-02
Sample Volume: 2170.746 m³
Filter ID:
Sampled: 02/08/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/05/24 23:56

Comments: Q9516881 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.199**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.236**		**0.00702**
Barium	**7440-39-3**	**5.18**		**0.802**
Beryllium	**7440-41-7**	**0.0102**		**0.00240**
Cadmium	7440-43-9	0.0108	U	0.0555
Chromium	**7440-47-3**	**2.11**		**1.66**
Cobalt	**7440-48-4**	**0.291**		**0.0327**
Copper	**7440-50-8**	**50.7**		**1.97**
Lead	**7439-92-1**	**1.14**		**0.160**
Manganese	**7439-96-5**	**10.5**		**1.42**
Molybdenum	**7439-98-7**	**1.48**		**0.269**
Nickel	**7440-02-0**	**1.04**		**0.489**
Selenium	**7782-49-2**	**0.203**		**0.00672**
Thallium	**7440-28-0**	**0.00109**	QB-01	**4.41E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0396**
Zinc	7440-66-6	52.3	U	57.6

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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020824-HM
Matrix: Air
Lab ID: 4030429-03
Sample Volume: 1830.955 m³
Filter ID:
Sampled: 02/08/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 00:13

Comments: Q9516880 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0922**	SL	**0.0343**
Arsenic	**7440-38-2**	**0.123**		**0.00833**
Barium	**7440-39-3**	**2.63**		**0.951**
Beryllium	**7440-41-7**	**0.0121**		**0.00284**
Cadmium	7440-43-9	0.00621	U	0.0658
Chromium	**7440-47-3**	**1.99**		**1.96**
Cobalt	**7440-48-4**	**0.289**		**0.0387**
Copper	**7440-50-8**	**58.3**		**2.34**
Lead	**7439-92-1**	**0.352**		**0.190**
Manganese	**7439-96-5**	**8.00**		**1.68**
Molybdenum	**7439-98-7**	**2.18**		**0.319**
Nickel	**7440-02-0**	**1.14**		**0.579**
Selenium	**7782-49-2**	**0.183**		**0.00796**
Thallium	**7440-28-0**	**9.21E-4**	QB-01	**5.23E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0470**
Zinc	7440-66-6	43.2	U	68.2

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

FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020824-HM
Matrix: Air
Lab ID: 4030429-04
Sample Volume: 1694.749 m³
Filter ID:
Sampled: 02/08/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 00:28

Comments: Q9516879 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.108**	SL	**0.0371**
Arsenic	**7440-38-2**	**0.209**		**0.00900**
Barium	**7440-39-3**	**2.82**		**1.03**
Beryllium	**7440-41-7**	**0.00757**		**0.00307**
Cadmium	7440-43-9	0.00858	U	0.0711
Chromium	7440-47-3	1.86	U	2.12
Cobalt	**7440-48-4**	**0.200**		**0.0419**
Copper	**7440-50-8**	**30.2**		**2.52**
Lead	**7439-92-1**	**0.605**		**0.205**
Manganese	**7439-96-5**	**7.24**		**1.81**
Molybdenum	**7439-98-7**	**1.70**		**0.345**
Nickel	**7440-02-0**	**0.707**		**0.626**
Selenium	**7782-49-2**	**0.166**		**0.00860**
Thallium	**7440-28-0**	**9.17E-4**	QB-01	**5.65E-4**
Vanadium	**7440-62-2**	**0.954**		**0.0508**
Zinc	7440-66-6	54.9	U	73.7

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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 2403017 - B4C0503										
Calibration Blank (2403017-CCB1)				Prepared & Analyzed: 03/05/24						
Antimony	0.500		ng/l							
Arsenic	3.38		ng/l							
Barium	0.774		ng/l							
Beryllium	0.281		ng/l							
Cadmium	0.196		ng/l							
Chromium	3.68		ng/l							
Cobalt	0.759		ng/l							
Copper	490		ng/l							
Lead	3.80		ng/l							
Manganese	11.5		ng/l							
Molybdenum	17.9		ng/l							
Nickel	2.87		ng/l							
Selenium	4.63		ng/l							
Thallium	1.03		ng/l							
Vanadium	39.5		ng/l							
Zinc	-2.46		ng/l							U
Calibration Blank (2403017-CCB2)				Prepared & Analyzed: 03/05/24						
Antimony	0.435		ng/l							
Arsenic	2.13		ng/l							
Barium	-0.0640		ng/l							U
Beryllium	0.113		ng/l							
Cadmium	-0.0828		ng/l							U
Chromium	1.55		ng/l							
Cobalt	0.290		ng/l							
Copper	324		ng/l							
Lead	1.97		ng/l							
Manganese	6.68		ng/l							
Molybdenum	5.27		ng/l							
Nickel	1.14		ng/l							
Selenium	-1.24		ng/l							U
Thallium	0.935		ng/l							
Vanadium	36.0		ng/l							
Zinc	-2.83		ng/l							U
Calibration Blank (2403017-CCB3)				Prepared & Analyzed: 03/05/24						
Antimony	0.441		ng/l							
Arsenic	6.74		ng/l							
Barium	0.476		ng/l							
Beryllium	-0.318		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 2403017 - B4C0503										
Calibration Blank (2403017-CCB3) Contin				Prepared & Analyzed: 03/05/24						
Cadmium	-0.0245		ng/l							U
Chromium	1.52		ng/l							
Cobalt	0.300		ng/l							
Copper	223		ng/l							
Lead	2.59		ng/l							
Manganese	6.47		ng/l							
Molybdenum	4.22		ng/l							
Nickel	2.00		ng/l							
Selenium	-0.354		ng/l							U
Thallium	1.00		ng/l							
Vanadium	25.9		ng/l							
Zinc	-72.7		ng/l							U
Calibration Blank (2403017-CCB4)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.242		ng/l							
Arsenic	5.97		ng/l							
Barium	-0.229		ng/l							U
Beryllium	0.0307		ng/l							
Cadmium	-0.0462		ng/l							U
Chromium	1.48		ng/l							
Cobalt	0.442		ng/l							
Copper	302		ng/l							
Lead	2.16		ng/l							
Manganese	8.25		ng/l							
Molybdenum	6.09		ng/l							
Nickel	2.42		ng/l							
Selenium	-2.15		ng/l							U
Thallium	1.25		ng/l							
Vanadium	28.1		ng/l							
Zinc	-73.4		ng/l							U
Calibration Blank (2403017-CCB5)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.157		ng/l							
Arsenic	7.77		ng/l							
Barium	0.790		ng/l							
Beryllium	-0.685		ng/l							U
Cadmium	0.168		ng/l							
Chromium	1.67		ng/l							
Cobalt	1.88		ng/l							
Copper	131		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403017 - B4C0503										
Calibration Blank (2403017-CCB5) Contin				Prepared: 03/05/24 Analyzed: 03/06/24						
Lead	1.86		ng/l							
Manganese	9.55		ng/l							
Molybdenum	5.81		ng/l							
Nickel	2.76		ng/l							
Selenium	1.97		ng/l							
Thallium	0.919		ng/l							
Vanadium	14.5		ng/l							
Zinc	-57.3		ng/l							U
Calibration Blank (2403017-CCB6)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.715		ng/l							
Arsenic	9.27		ng/l							
Barium	2.62		ng/l							
Beryllium	-0.313		ng/l							U
Cadmium	0.180		ng/l							
Chromium	5.38		ng/l							
Cobalt	0.855		ng/l							
Copper	129		ng/l							
Lead	3.63		ng/l							
Manganese	12.0		ng/l							
Molybdenum	7.00		ng/l							
Nickel	2.89		ng/l							
Selenium	2.34		ng/l							
Thallium	0.904		ng/l							
Vanadium	13.9		ng/l							
Zinc	-60.7		ng/l							U
Calibration Blank (2403017-CCB7)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.302		ng/l							
Arsenic	10.6		ng/l							
Barium	0.761		ng/l							
Beryllium	-0.517		ng/l							U
Cadmium	0.0665		ng/l							
Chromium	1.06		ng/l							
Cobalt	0.521		ng/l							
Copper	104		ng/l							
Lead	2.06		ng/l							
Manganese	7.44		ng/l							
Molybdenum	5.32		ng/l							
Nickel	1.92		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403017 - B4C0503										
Calibration Blank (2403017-CCB7) Contin				Prepared: 03/05/24 Analyzed: 03/06/24						
Selenium	-7.74		ng/l							U
Thallium	1.12		ng/l							
Vanadium	10.3		ng/l							
Zinc	-70.1		ng/l							U
Calibration Check (2403017-CCV1)				Prepared & Analyzed: 03/05/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4870		ng/l	5000.0		97.4	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Calibration Check (2403017-CCV2)				Prepared & Analyzed: 03/05/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	4880		ng/l	5000.0		97.7	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	540000		ng/l	500000		108	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 2403017 - B4C0503										
Calibration Check (2403017-CCV3)				Prepared & Analyzed: 03/05/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	4940		ng/l	5000.0		98.8	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50000		ng/l	50000		99.9	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	501000		ng/l	500000		100	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2403017-CCV4)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4880		ng/l	5000.0		97.5	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	541000		ng/l	500000		108	90-110			
Calibration Check (2403017-CCV5)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4870		ng/l	5000.0		97.5	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 2403017 - B4C0503										
Calibration Check (2403017-CCV5) Contin				Prepared: 03/05/24 Analyzed: 03/06/24						
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.3	90-110			
Cobalt	49700		ng/l	50000		99.3	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	49700		ng/l	50000		99.4	90-110			
Nickel	120000		ng/l	120000		99.7	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	472		ng/l	500.00		94.4	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Calibration Check (2403017-CCV6)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4770		ng/l	5000.0		95.3	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	477		ng/l	500.00		95.4	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	543000		ng/l	500000		109	90-110			
Calibration Check (2403017-CCV7)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4650		ng/l	5000.0		92.9	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	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 2403017 - B4C0503										
Calibration Check (2403017-CCV7) Contin					Prepared: 03/05/24 Analyzed: 03/06/24					
Lead	203000		ng/l	200000		102	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	476		ng/l	500.00		95.3	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	537000		ng/l	500000		107	90-110			
High Cal Check (2403017-HCV1)					Prepared & Analyzed: 03/05/24					
Antimony	39600		ng/l	40000		99.0	95-105			
Arsenic	39500		ng/l	40000		98.7	95-105			
Barium	393000		ng/l	400000		98.3	95-105			
Beryllium	9560		ng/l	10000		95.6	95-105			
Cadmium	39300		ng/l	40000		98.3	95-105			
Chromium	477000		ng/l	480000		99.3	95-105			
Cobalt	97900		ng/l	100000		97.9	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.8	95-105			
Lead	397000		ng/l	400000		99.2	95-105			
Manganese	980000		ng/l	1.0000E6		98.0	95-105			
Molybdenum	98500		ng/l	100000		98.5	95-105			
Nickel	234000		ng/l	240000		97.7	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			
Thallium	991		ng/l	1000.0		99.1	95-105			
Vanadium	40100		ng/l	40000		100	95-105			
Zinc	967000		ng/l	1.0000E6		96.7	95-105			
Initial Cal Blank (2403017-ICB1)					Prepared & Analyzed: 03/05/24					
Antimony	0.941		ng/l							
Arsenic	-4.14		ng/l							U
Barium	-0.264		ng/l							U
Beryllium	-0.0451		ng/l							U
Cadmium	-0.0173		ng/l							U
Chromium	0.416		ng/l							
Cobalt	0.311		ng/l							
Copper	464		ng/l							
Lead	2.55		ng/l							
Manganese	9.55		ng/l							
Molybdenum	8.14		ng/l							
Nickel	-2.34		ng/l							U

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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: 03/20/24 12:21
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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 2403017 - B4C0503										
Initial Cal Blank (2403017-ICB1) Continu				Prepared & Analyzed: 03/05/24						
Selenium	-6.77		ng/l							U
Thallium	0.812		ng/l							
Vanadium	56.9		ng/l							
Zinc	-44.9		ng/l							U
Initial Cal Check (2403017-ICV1)				Prepared & Analyzed: 03/05/24						
Antimony	19500		ng/l	20000		97.5	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	195000		ng/l	200000		97.4	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	233000		ng/l	240000		97.0	90-110			
Cobalt	48700		ng/l	50000		97.4	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.3	90-110			
Lead	193000		ng/l	200000		96.5	90-110			
Manganese	475000		ng/l	500000		94.9	90-110			
Molybdenum	49000		ng/l	50000		97.9	90-110			
Nickel	117000		ng/l	120000		97.3	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.3	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Interference Check A (2403017-IFA1)				Prepared & Analyzed: 03/05/24						
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	297000		ng/l	300000		99.1	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 2403017 - B4C0503										
Interference Check B (2403017-IFB1)				Prepared & Analyzed: 03/05/24						
Antimony	20300		ng/l	20000		102	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4880		ng/l	5000.0		97.5	80-120			
Cadmium	19500		ng/l	20000		97.4	80-120			
Chromium	229000		ng/l	240000		95.5	80-120			
Cobalt	48900		ng/l	50000		97.9	80-120			
Copper	1.90E6		ng/l	2.0000E6		95.0	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	512000		ng/l	500000		102	80-120			
Molybdenum	352000		ng/l	350000		101	80-120			
Nickel	115000		ng/l	120000		96.1	80-120			
Selenium	19200		ng/l	20000		95.9	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	18900		ng/l	20000		94.3	80-120			
Zinc	487000		ng/l	500000		97.4	80-120			
Batch B4C0503 - ICP-MS Extraction										
Blank (B4C0503-BLK1)				Prepared & Analyzed: 03/05/24						
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							QB-01, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4C0503-BS1)				Prepared & Analyzed: 03/05/24						
Antimony	0.923	0.0386	ng/m³ Air	1.3829		66.7	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.0	80-120			
Barium	27.3	1.07	ng/m³ Air	27.658		98.9	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 B4C0503 - ICP-MS Extraction										
LCS (B4C0503-BS1) Continued				Prepared & Analyzed: 03/05/24						
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.4	80-120			
Copper	30.5	2.63	ng/m³ Air	27.658		110	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.1	80-120			
Manganese	8.62	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.46	0.359	ng/m³ Air	1.3829		106	80-120			
Nickel	2.90	0.652	ng/m³ Air	2.7658		105	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		99.9	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.1	80-120			QB-01
Vanadium	2.77	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	126	76.8	ng/m³ Air	82.975		152	80-120			
LCS (B4C0503-BS2)				Prepared & Analyzed: 03/05/24						
Antimony	0.913	0.0386	ng/m³ Air	1.3829		66.0	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.0	80-120			
Barium	27.2	1.07	ng/m³ Air	27.658		98.4	80-120			
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.5	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.6	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.6	80-120			
Copper	30.0	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.7	80-120			
Manganese	8.45	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.43	0.359	ng/m³ Air	1.3829		103	80-120			
Nickel	2.89	0.652	ng/m³ Air	2.7658		104	80-120			
Selenium	2.68	0.00896	ng/m³ Air	2.7658		97.1	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.7	80-120			QB-01
Vanadium	2.75	0.0529	ng/m³ Air	2.7658		99.5	80-120			
Zinc	122	76.8	ng/m³ Air	82.975		148	80-120			
Duplicate (B4C0503-DUP1)		**Source: 4030429-11**		Prepared & Analyzed: 03/05/24						
Antimony	0.0536	0.0325	ng/m³ Air		0.0473			12.6	10	SL
Arsenic	0.350	0.00788	ng/m³ Air		0.319			9.14	10	
Barium	3.32	0.900	ng/m³ Air		3.25			2.05	10	
Beryllium	0.0233	0.00269	ng/m³ Air		0.0234			0.546	10	
Cadmium	ND	0.0623	ng/m³ Air		ND				10	U
Chromium	3.23	1.86	ng/m³ Air		3.05			5.65	10	
Cobalt	0.443	0.0367	ng/m³ Air		0.424			4.37	10	

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REPORTED: 03/20/24 12:21
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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 B4C0503 - ICP-MS Extraction										
Duplicate (B4C0503-DUP1) Continued			**Source: 4030429-11**		Prepared & Analyzed: 03/05/24					
Copper	49.0	2.21	ng/m³ Air		45.4			7.63	10	
Lead	0.412	0.180	ng/m³ Air		0.405			1.58	10	
Manganese	9.89	1.59	ng/m³ Air		9.52			3.81	10	
Molybdenum	2.30	0.302	ng/m³ Air		2.19			4.94	10	
Nickel	1.64	0.548	ng/m³ Air		1.55			5.25	10	
Selenium	0.164	0.00754	ng/m³ Air		0.162			1.14	10	
Thallium	8.23E-4	4.95E-4	ng/m³ Air		8.02E-4			2.59	10	QB-01
Vanadium	1.25	0.0445	ng/m³ Air		1.18			5.54	10	
Zinc	ND	64.6	ng/m³ Air		ND				10	U
Duplicate (B4C0503-DUP2)			**Source: 4030429-32**		Prepared & Analyzed: 03/05/24					
Antimony	0.0465	0.0318	ng/m³ Air		0.0425			9.04	10	SL
Arsenic	0.524	0.00773	ng/m³ Air		0.569			8.28	10	
Barium	4.21	0.882	ng/m³ Air		4.20			0.341	10	
Beryllium	0.0128	0.00264	ng/m³ Air		0.0117			8.35	10	
Cadmium	ND	0.0611	ng/m³ Air		ND				10	U
Chromium	2.84	1.82	ng/m³ Air		2.85			0.0852	10	
Cobalt	0.570	0.0360	ng/m³ Air		0.535			6.36	10	
Copper	56.9	2.17	ng/m³ Air		59.3			4.21	10	
Lead	1.28	0.176	ng/m³ Air		1.39			8.54	10	
Manganese	13.4	1.56	ng/m³ Air		12.7			5.46	10	
Molybdenum	2.37	0.296	ng/m³ Air		2.22			6.25	10	
Nickel	1.26	0.538	ng/m³ Air		1.18			6.39	10	
Selenium	0.168	0.00739	ng/m³ Air		0.153			9.27	10	
Thallium	0.00147	4.86E-4	ng/m³ Air		0.00151			2.57	10	QB-01
Vanadium	1.23	0.0436	ng/m³ Air		1.14			7.49	10	
Zinc	ND	63.3	ng/m³ Air		ND				10	U
Duplicate (B4C0503-DUP3)			**Source: 4030429-15**		Prepared: 03/05/24 Analyzed: 03/06/24					
Antimony	0.0974	0.0322	ng/m³ Air		0.0963			1.08	10	SL
Arsenic	0.243	0.00781	ng/m³ Air		0.237			2.40	10	
Barium	4.18	0.892	ng/m³ Air		4.09			2.33	10	
Beryllium	0.0101	0.00267	ng/m³ Air		0.0104			2.58	10	
Cadmium	ND	0.0618	ng/m³ Air		ND				10	U
Chromium	2.53	1.84	ng/m³ Air		2.47			2.42	10	
Cobalt	0.329	0.0364	ng/m³ Air		0.321			2.64	10	
Copper	27.9	2.19	ng/m³ Air		27.2			2.34	10	
Lead	0.648	0.178	ng/m³ Air		0.635			2.03	10	
Manganese	10.1	1.58	ng/m³ Air		9.89			2.50	10	
Molybdenum	1.60	0.299	ng/m³ Air		1.58			1.09	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 B4C0503 - ICP-MS Extraction										
Duplicate (B4C0503-DUP3) Continued		**Source: 4030429-15**		Prepared: 03/05/24 Analyzed: 03/06/24						
Nickel	1.25	0.544	ng/m³ Air		1.21			3.26	10	
Selenium	0.158	0.00747	ng/m³ Air		0.161			2.42	10	
Thallium	0.00116	4.91E-4	ng/m³ Air		0.00111			4.02	10	QB-01
Vanadium	1.04	0.0441	ng/m³ Air		1.03			1.55	10	
Zinc	ND	64.0	ng/m³ Air		ND				10	U
Duplicate (B4C0503-DUP4)		**Source: 4030429-26**		Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.0559	0.0336	ng/m³ Air		0.0581			3.97	10	SL
Arsenic	0.171	0.00815	ng/m³ Air		0.174			1.94	10	
Barium	2.69	0.931	ng/m³ Air		2.68			0.376	10	
Beryllium	0.00587	0.00278	ng/m³ Air		0.00611			4.05	10	
Cadmium	ND	0.0645	ng/m³ Air		ND				10	U
Chromium	2.11	1.92	ng/m³ Air		2.10			0.579	10	
Cobalt	0.157	0.0379	ng/m³ Air		0.158			0.271	10	
Copper	29.9	2.29	ng/m³ Air		30.1			0.501	10	
Lead	0.621	0.186	ng/m³ Air		0.621			0.106	10	
Manganese	4.76	1.64	ng/m³ Air		4.77			0.331	10	
Molybdenum	1.10	0.312	ng/m³ Air		1.09			1.07	10	
Nickel	0.631	0.567	ng/m³ Air		0.629			0.270	10	
Selenium	0.133	0.00780	ng/m³ Air		0.135			1.49	10	
Thallium	8.66E-4	5.12E-4	ng/m³ Air		8.25E-4			4.86	10	QB-01
Vanadium	0.393	0.0460	ng/m³ Air		0.396			0.785	10	
Zinc	ND	66.8	ng/m³ Air		ND				10	U
Matrix Spike (B4C0503-MS1)		**Source: 4030429-11**		Prepared & Analyzed: 03/05/24						
Antimony	0.499	0.0325	ng/m³ Air	1.1634	0.0473	38.8	80-120			SL
Arsenic	2.52	0.00788	ng/m³ Air	2.3267	0.319	94.4	80-120			
Barium	25.7	0.900	ng/m³ Air	23.267	3.25	96.7	80-120			
Beryllium	1.16	0.00269	ng/m³ Air	1.1634	0.0234	97.8	80-120			
Cadmium	1.18	0.0623	ng/m³ Air	1.1634	ND	101	80-120			
Chromium	15.1	1.86	ng/m³ Air	11.634	3.05	103	80-120			
Cobalt	1.60	0.0367	ng/m³ Air	1.1634	0.424	101	80-120			
Copper	70.5	2.21	ng/m³ Air	23.267	45.4	108	80-120			
Lead	11.9	0.180	ng/m³ Air	11.634	0.405	98.9	80-120			
Manganese	17.0	1.59	ng/m³ Air	6.9802	9.52	107	80-120			
Molybdenum	3.38	0.302	ng/m³ Air	1.1634	2.19	103	80-120			
Nickel	3.75	0.548	ng/m³ Air	2.3267	1.55	94.5	80-120			
Selenium	2.43	0.00754	ng/m³ Air	2.3267	0.162	97.5	80-120			
Thallium	0.116	4.95E-4	ng/m³ Air	0.11634	8.02E-4	98.7	80-120			QB-01
Vanadium	3.51	0.0445	ng/m³ Air	2.3267	1.18	100	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4C0503 - ICP-MS Extraction										
Matrix Spike (B4C0503-MS1) Continued Source: 4030429-11 Prepared & Analyzed: 03/05/24										
Zinc	104	64.6	ng/m³ Air	69.802	ND	149	80-120			
Matrix Spike (B4C0503-MS2) Source: 4030429-32 Prepared & Analyzed: 03/05/24										
Antimony	0.437	0.0318	ng/m³ Air	1.1404	0.0425	34.6	80-120			SL
Arsenic	2.69	0.00773	ng/m³ Air	2.2809	0.569	93.2	80-120			
Barium	26.2	0.882	ng/m³ Air	22.809	4.20	96.6	80-120			
Beryllium	1.18	0.00264	ng/m³ Air	1.1404	0.0117	103	80-120			
Cadmium	1.16	0.0611	ng/m³ Air	1.1404	ND	102	80-120			
Chromium	14.4	1.82	ng/m³ Air	11.404	2.85	101	80-120			
Cobalt	1.65	0.0360	ng/m³ Air	1.1404	0.535	98.1	80-120			
Copper	81.0	2.17	ng/m³ Air	22.809	59.3	94.8	80-120			
Lead	12.6	0.176	ng/m³ Air	11.404	1.39	98.5	80-120			
Manganese	20.1	1.56	ng/m³ Air	6.8426	12.7	109	80-120			
Molybdenum	3.47	0.296	ng/m³ Air	1.1404	2.22	110	80-120			
Nickel	3.44	0.538	ng/m³ Air	2.2809	1.18	99.3	80-120			
Selenium	2.35	0.00739	ng/m³ Air	2.2809	0.153	96.4	80-120			
Thallium	0.110	4.86E-4	ng/m³ Air	0.11404	0.00151	95.2	80-120			QB-01
Vanadium	3.37	0.0436	ng/m³ Air	2.2809	1.14	97.7	80-120			
Zinc	101	63.3	ng/m³ Air	68.426	ND	148	80-120			
Matrix Spike Dup (B4C0503-MSD1) Source: 4030429-11 Prepared & Analyzed: 03/05/24										
Antimony	0.506	0.0325	ng/m³ Air	1.1634	0.0473	39.4	80-120	1.34	20	SL
Arsenic	2.54	0.00788	ng/m³ Air	2.3267	0.319	95.4	80-120	0.906	20	
Barium	26.1	0.900	ng/m³ Air	23.267	3.25	98.1	80-120	1.26	20	
Beryllium	1.17	0.00269	ng/m³ Air	1.1634	0.0234	98.9	80-120	1.03	20	
Cadmium	1.18	0.0623	ng/m³ Air	1.1634	ND	102	80-120	0.341	20	
Chromium	15.0	1.86	ng/m³ Air	11.634	3.05	102	80-120	0.825	20	
Cobalt	1.60	0.0367	ng/m³ Air	1.1634	0.424	101	80-120	0.113	20	
Copper	71.7	2.21	ng/m³ Air	23.267	45.4	113	80-120	1.81	20	
Lead	11.8	0.180	ng/m³ Air	11.634	0.405	98.3	80-120	0.603	20	
Manganese	17.1	1.59	ng/m³ Air	6.9802	9.52	108	80-120	0.348	20	
Molybdenum	3.51	0.302	ng/m³ Air	1.1634	2.19	114	80-120	3.63	20	
Nickel	3.78	0.548	ng/m³ Air	2.3267	1.55	95.9	80-120	0.845	20	
Selenium	2.40	0.00754	ng/m³ Air	2.3267	0.162	96.2	80-120	1.25	20	
Thallium	0.114	4.95E-4	ng/m³ Air	0.11634	8.02E-4	97.4	80-120	1.39	20	QB-01
Vanadium	3.50	0.0445	ng/m³ Air	2.3267	1.18	99.6	80-120	0.269	20	
Zinc	103	64.6	ng/m³ Air	69.802	ND	147	80-120	1.20	20	
Matrix Spike Dup (B4C0503-MSD2) Source: 4030429-32 Prepared & Analyzed: 03/05/24										
Antimony	0.437	0.0318	ng/m³ Air	1.1404	0.0425	34.6	80-120	0.0813	20	SL
Arsenic	2.72	0.00773	ng/m³ Air	2.2809	0.569	94.4	80-120	1.07	20	

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
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 B4C0503 - ICP-MS Extraction										
Matrix Spike Dup (B4C0503-MSD2) Conti			**Source: 4030429-32**			Prepared & Analyzed: 03/05/24				
Barium	25.6	0.882	ng/m³ Air	22.809	4.20	93.8	80-120	2.43	20	
Beryllium	1.16	0.00264	ng/m³ Air	1.1404	0.0117	101	80-120	2.22	20	
Cadmium	1.25	0.0611	ng/m³ Air	1.1404	ND	109	80-120	7.38	20	
Chromium	14.0	1.82	ng/m³ Air	11.404	2.85	97.7	80-120	2.67	20	
Cobalt	1.63	0.0360	ng/m³ Air	1.1404	0.535	96.3	80-120	1.25	20	
Copper	68.6	2.17	ng/m³ Air	22.809	59.3	40.7	80-120	16.5	20	QM-07
Lead	11.9	0.176	ng/m³ Air	11.404	1.39	92.3	80-120	5.73	20	
Manganese	19.6	1.56	ng/m³ Air	6.8426	12.7	102	80-120	2.42	20	
Molybdenum	3.36	0.296	ng/m³ Air	1.1404	2.22	99.6	80-120	3.38	20	
Nickel	3.24	0.538	ng/m³ Air	2.2809	1.18	90.4	80-120	6.07	20	
Selenium	2.39	0.00739	ng/m³ Air	2.2809	0.153	97.9	80-120	1.49	20	
Thallium	0.112	4.86E-4	ng/m³ Air	0.11404	0.00151	97.2	80-120	1.99	20	QB-01
Vanadium	3.32	0.0436	ng/m³ Air	2.2809	1.14	95.5	80-120	1.51	20	
Zinc	90.2	63.3	ng/m³ Air	68.426	ND	132	80-120	11.3	20	
Post Spike (B4C0503-PS1)			**Source: 4030429-11**			Prepared & Analyzed: 03/05/24				
Antimony	0.278	0.0325	ng/m³ Air	0.23267	0.0473	99.1	75-125			SL
Arsenic	1.44	0.00788	ng/m³ Air	1.1634	0.319	96.5	75-125			
Barium	5.59	0.900	ng/m³ Air	2.3267	3.25	100	75-125			
Beryllium	0.257	0.00269	ng/m³ Air	0.23267	0.0234	100	75-125			
Cadmium	0.127	0.0623	ng/m³ Air	0.11634	ND	109	75-125			
Chromium	4.26	1.86	ng/m³ Air	1.1634	3.05	104	75-125			
Cobalt	0.665	0.0367	ng/m³ Air	0.23267	0.424	104	75-125			
Copper	58.5	2.21	ng/m³ Air	11.634	45.4	113	75-125			
Lead	23.2	0.180	ng/m³ Air	23.267	0.405	98.2	75-125			
Manganese	12.1	1.59	ng/m³ Air	2.3267	9.52	110	75-125			
Molybdenum	3.38	0.302	ng/m³ Air	1.1634	2.19	102	75-125			
Nickel	3.85	0.548	ng/m³ Air	2.3267	1.55	98.7	75-125			
Selenium	1.27	0.00754	ng/m³ Air	1.1634	0.162	95.5	75-125			
Thallium	0.0591	4.95E-4	ng/m³ Air	5.8168E-2	8.02E-4	100	75-125			QB-01
Vanadium	2.30	0.0445	ng/m³ Air	1.1634	1.18	96.8	75-125			
Zinc	ND	64.6	ng/m³ Air	23.267	ND		75-125			U
Post Spike (B4C0503-PS2)			**Source: 4030429-32**			Prepared & Analyzed: 03/05/24				
Antimony	0.271	0.0318	ng/m³ Air	0.22809	0.0425	100	75-125			SL
Arsenic	1.71	0.00773	ng/m³ Air	1.1404	0.569	99.6	75-125			
Barium	6.39	0.882	ng/m³ Air	2.2809	4.20	96.1	75-125			
Beryllium	0.229	0.00264	ng/m³ Air	0.22809	0.0117	95.2	75-125			
Cadmium	0.141	0.0611	ng/m³ Air	0.11404	ND	123	75-125			
Chromium	3.99	1.82	ng/m³ Air	1.1404	2.85	100	75-125			

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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
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 B4C0503 - ICP-MS Extraction										
Post Spike (B4C0503-PS2) Continued			**Source: 4030429-32**		Prepared & Analyzed: 03/05/24					
Cobalt	0.770	0.0360	ng/m³ Air	0.22809	0.535	103	75-125			
Copper	72.2	2.17	ng/m³ Air	11.404	59.3	113	75-125			
Lead	24.0	0.176	ng/m³ Air	22.809	1.39	99.3	75-125			
Manganese	15.3	1.56	ng/m³ Air	2.2809	12.7	116	75-125			
Molybdenum	3.34	0.296	ng/m³ Air	1.1404	2.22	98.4	75-125			
Nickel	3.43	0.538	ng/m³ Air	2.2809	1.18	98.7	75-125			
Selenium	1.29	0.00739	ng/m³ Air	1.1404	0.153	100	75-125			
Thallium	0.0594	4.86E-4	ng/m³ Air	5.7022E-2	0.00151	102	75-125			QB-01
Vanadium	2.22	0.0436	ng/m³ Air	1.1404	1.14	95.1	75-125			
Zinc	ND	63.3	ng/m³ Air	22.809	ND		75-125			U
Dilution Check (B4C0503-SRL1)			**Source: 4030429-11**		Prepared & Analyzed: 03/05/24					
Antimony	ND	0.162	ng/m³ Air		ND				10	SL, U
Arsenic	0.337	0.0394	ng/m³ Air		0.319			5.55	10	
Barium	ND	4.50	ng/m³ Air		ND				10	U
Beryllium	0.0230	0.0135	ng/m³ Air		0.0234			1.59	10	
Cadmium	ND	0.312	ng/m³ Air		ND				10	U
Chromium	ND	9.30	ng/m³ Air		ND				10	U
Cobalt	0.436	0.183	ng/m³ Air		0.424			2.73	10	
Copper	49.0	11.1	ng/m³ Air		45.4			7.71	10	
Lead	ND	0.900	ng/m³ Air		ND				10	U
Manganese	9.74	7.95	ng/m³ Air		9.52			2.36	10	
Molybdenum	2.29	1.51	ng/m³ Air		2.19			4.75	10	
Nickel	ND	2.74	ng/m³ Air		ND				10	U
Selenium	0.175	0.0377	ng/m³ Air		0.162			7.66	10	
Thallium	ND	0.00248	ng/m³ Air		ND				10	QB-01, U
Vanadium	1.24	0.223	ng/m³ Air		1.18			5.38	10	
Zinc	ND	323	ng/m³ Air		ND				10	U
Dilution Check (B4C0503-SRL2)			**Source: 4030429-32**		Prepared & Analyzed: 03/05/24					
Antimony	ND	0.159	ng/m³ Air		ND				10	SL, U
Arsenic	0.594	0.0386	ng/m³ Air		0.569			4.34	10	
Barium	ND	4.41	ng/m³ Air		ND				10	U
Beryllium	ND	0.0132	ng/m³ Air		ND				10	U
Cadmium	ND	0.306	ng/m³ Air		ND				10	U
Chromium	ND	9.11	ng/m³ Air		ND				10	U
Cobalt	0.539	0.180	ng/m³ Air		0.535			0.813	10	
Copper	62.8	10.8	ng/m³ Air		59.3			5.66	10	
Lead	1.38	0.882	ng/m³ Air		1.39			1.02	10	
Manganese	12.9	7.79	ng/m³ Air		12.7			1.73	10	

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

FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
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 B4C0503 - ICP-MS Extraction										
Dilution Check (B4C0503-SRL2) Continue Source: 4030429-32 Prepared & Analyzed: 03/05/24										
Molybdenum	2.25	1.48	ng/m³ Air		2.22			1.17	10	
Nickel	ND	2.69	ng/m³ Air		ND				10	U
Selenium	0.163	0.0369	ng/m³ Air		0.153			6.04	10	
Thallium	0.00264	0.00243	ng/m³ Air		ND			54.8	10	QB-01
Vanadium	1.20	0.218	ng/m³ Air		1.14			5.06	10	
Zinc	ND	317	ng/m³ Air		ND				10	U

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REPORTED: 03/20/24 12:21
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AQS SITE CODE:
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Notes and Definitions

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

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

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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 3/21/2024 and Shanna Vasser 3/21/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 2/8/2024 and 2/22/24 - 2/28/2024
Report No: 4030429

√	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.
√	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 chromium and copper in MFL-FB01-022324-HM.

Notes:

1. Report was revised on March 20, 2024 to match updated volumes on the revised chain of custody.

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

February 28, 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 02/20/24 11:43.

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.

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
FB-01	Analyte exceeds Field Blank criteria.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-020924-HM	4022021-01	Air	02/09/24 23:59	02/20/24 11:43
MFL-AM02-020924-HM	4022021-02	Air	02/09/24 23:59	02/20/24 11:43
MFL-AM03-020924-HM	4022021-03	Air	02/09/24 23:59	02/20/24 11:43
MFL-AM04-020924-HM	4022021-04	Air	02/09/24 23:59	02/20/24 11:43
MFL-FB01-020924-HM	4022021-05	Air	02/09/24 00:00	02/20/24 11:43
MFL-AM01-021024-HM/MS/I	4022021-06	Air	02/10/24 23:59	02/20/24 11:43
MFL-AM02-021024-HM	4022021-07	Air	02/10/24 23:59	02/20/24 11:43
MFL-AM03-021024-HM	4022021-08	Air	02/10/24 23:59	02/20/24 11:43
MFL-AM04-021024-HM	4022021-09	Air	02/10/24 23:59	02/20/24 11:43
MFL-AM01-021124-HM	4022021-10	Air	02/11/24 23:59	02/20/24 11:43
MFL-AM02-021124-HM	4022021-11	Air	02/11/24 23:59	02/20/24 11:43
MFL-AM03-021124-HM	4022021-12	Air	02/11/24 23:59	02/20/24 11:43
MFL-AM04-021124-HM	4022021-13	Air	02/11/24 23:59	02/20/24 11:43
MFL-FB01-021124-HM	4022021-14	Air	02/11/24 00:00	02/20/24 11:43
MFL-AM01-021224-HM	4022021-15	Air	02/12/24 23:59	02/20/24 11:43
MFL-AM02-021224-HM	4022021-16	Air	02/12/24 23:59	02/20/24 11:43
MFL-AM03-021224-HM	4022021-17	Air	02/12/24 23:59	02/20/24 11:43
MFL-AM04-021224-HM	4022021-18	Air	02/12/24 23:59	02/20/24 11:43
MFL-AM01-021324-HM	4022021-19	Air	02/13/24 23:59	02/20/24 11:43
MFL-AM02-021324-HM	4022021-20	Air	02/13/24 23:59	02/20/24 11:43
MFL-AM03-021324-HM	4022021-21	Air	02/13/24 23:59	02/20/24 11:43

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-021324-HM	4022021-22	Air	02/13/24 23:59	02/20/24 11:43
MFL-FB01-021324-HM	4022021-23	Air	02/13/24 00:00	02/20/24 11:43
MFL-AM01-021424-HM	4022021-24	Air	02/14/24 23:59	02/20/24 11:43
MFL-AM02-021424-HM	4022021-25	Air	02/14/24 23:59	02/20/24 11:43
MFL-AM03-021424-HM/MS/I	4022021-26	Air	02/14/24 23:59	02/20/24 11:43
MFL-AM04-021424-HM	4022021-27	Air	02/14/24 23:59	02/20/24 11:43

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-020924-HM
Matrix: Air
Lab ID: 4022021-01
Sample Volume: 2108.143 m³
Filter ID:
Sampled: 02/09/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 19:09

Comments: Q9516878 - Received in good condition. - Sample covered in dead bugs

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0725**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.312**		**0.00723**
Barium	**7440-39-3**	**2.56**		**0.826**
Beryllium	**7440-41-7**	**0.00655**		**0.00247**
Cadmium	7440-43-9	0.00938	U	0.0612
Chromium	7440-47-3	1.42	U	1.71
Cobalt	**7440-48-4**	**0.228**		**0.0336**
Copper	**7440-50-8**	**58.7**		**2.03**
Lead	**7439-92-1**	**0.928**		**0.165**
Manganese	**7439-96-5**	**6.47**		**1.46**
Molybdenum	**7439-98-7**	**2.68**		**0.277**
Nickel	**7440-02-0**	**0.883**		**0.503**
Selenium	**7782-49-2**	**0.169**		**0.00692**
Thallium	**7440-28-0**	**5.87E-4**		**4.55E-4**
Vanadium	**7440-62-2**	**0.752**		**0.0408**
Zinc	7440-66-6	34.2	U	59.3

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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: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-020924-HM
Matrix: Air
Lab ID: 4022021-02
Sample Volume: 2103.276 m³
Filter ID:
Sampled: 02/09/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 19:23

Comments: Q9516877 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.218**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.304**		**0.00725**
Barium	**7440-39-3**	**7.93**		**0.828**
Beryllium	**7440-41-7**	**0.0228**		**0.00248**
Cadmium	7440-43-9	0.0273	U	0.0613
Chromium	**7440-47-3**	**4.15**		**1.71**
Cobalt	**7440-48-4**	**0.974**		**0.0337**
Copper	**7440-50-8**	**32.8**		**2.03**
Lead	**7439-92-1**	**1.25**		**0.166**
Manganese	**7439-96-5**	**22.9**		**1.46**
Molybdenum	**7439-98-7**	**0.868**		**0.278**
Nickel	**7440-02-0**	**3.90**		**0.504**
Selenium	**7782-49-2**	**0.250**		**0.00693**
Thallium	**7440-28-0**	**0.00109**		**4.56E-4**
Vanadium	**7440-62-2**	**2.65**		**0.0409**
Zinc	7440-66-6	47.0	U	59.4

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-020924-HM
Matrix: Air
Lab ID: 4022021-03
Sample Volume: 1842.626 m³
Filter ID:
Sampled: 02/09/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 19:39

Comments: Q9516876 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0934**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.104**		**0.00827**
Barium	**7440-39-3**	**2.51**		**0.945**
Beryllium	**7440-41-7**	**0.0159**		**0.00283**
Cadmium	7440-43-9	0.0103	U	0.0700
Chromium	7440-47-3	1.58	U	1.95
Cobalt	**7440-48-4**	**0.264**		**0.0385**
Copper	**7440-50-8**	**46.0**		**2.32**
Lead	**7439-92-1**	**0.817**		**0.189**
Manganese	**7439-96-5**	**6.32**		**1.67**
Molybdenum	**7439-98-7**	**1.98**		**0.317**
Nickel	**7440-02-0**	**1.01**		**0.576**
Selenium	**7782-49-2**	**0.169**		**0.00791**
Thallium	**7440-28-0**	**6.16E-4**		**5.20E-4**
Vanadium	**7440-62-2**	**0.773**		**0.0467**
Zinc	7440-66-6	44.8	U	67.8

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-020924-HM
Matrix: Air
Lab ID: 4022021-04
Sample Volume: 1920.222 m³
Filter ID:
Sampled: 02/09/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 19:53

Comments: Q9516896 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.573**		**0.00794**
Barium	**7440-39-3**	**2.88**		**0.907**
Beryllium	**7440-41-7**	**0.00855**		**0.00271**
Cadmium	7440-43-9	0.0136	U	0.0672
Chromium	7440-47-3	1.69	U	1.87
Cobalt	**7440-48-4**	**0.247**		**0.0369**
Copper	**7440-50-8**	**40.7**		**2.23**
Lead	**7439-92-1**	**0.871**		**0.181**
Manganese	**7439-96-5**	**7.79**		**1.60**
Molybdenum	**7439-98-7**	**0.978**		**0.304**
Nickel	**7440-02-0**	**0.871**		**0.552**
Selenium	**7782-49-2**	**0.195**		**0.00759**
Thallium	**7440-28-0**	**5.81E-4**		**4.99E-4**
Vanadium	**7440-62-2**	**0.820**		**0.0448**
Zinc	7440-66-6	37.9	U	65.1

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-020924-HM
Matrix: Air
Lab ID: 4022021-05
Sample Volume: 2108.143 m³
Filter ID:
Sampled: 02/09/24 00:00
Received: 02/20/24 11:43
Analysis Date: 02/21/24 20:07

Comments: Q9516895 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0131	SL, U	0.0298
Arsenic	7440-38-2	0.00577	U	0.00723
Barium	7440-39-3	0.528	U	0.826
Beryllium	7440-41-7	5.49E-4	U	0.00247
Cadmium	7440-43-9	6.63E-4	U	0.0612
Chromium	7440-47-3	0.607	U	1.71
Cobalt	7440-48-4	0.00613	U	0.0336
Copper	7440-50-8	0.557	U	2.03
Lead	7439-92-1	0.0409	U	0.165
Manganese	7439-96-5	0.167	U	1.46
Molybdenum	7439-98-7	0.0836	U	0.277
Nickel	7440-02-0	0.168	U	0.503
Selenium	7782-49-2	0.00504	U	0.00692
Thallium	7440-28-0	1.00E-4	U	4.55E-4
Vanadium	7440-62-2	0.0137	U	0.0408
Zinc	7440-66-6	19.7	U	59.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021024-HM/MS/MS **Lab ID:** 4022021-06 **Sampled:** 02/10/24 23:59
Matrix: Air **Sample Volume:** 2006.462 m³ **Received:** 02/20/24 11:43
Filter ID: **Analysis Date:** 02/21/24 16:20

Comments: Q9516894 - Received in good condition. - Sample covered in dead bugs

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0984**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.190**		**0.00760**
Barium	**7440-39-3**	**2.52**		**0.868**
Beryllium	**7440-41-7**	**0.00579**		**0.00259**
Cadmium	7440-43-9	0.00766	U	0.0643
Chromium	7440-47-3	1.39	U	1.79
Cobalt	**7440-48-4**	**0.176**		**0.0354**
Copper	**7440-50-8**	**39.9**	QM-07	**2.13**
Lead	**7439-92-1**	**0.695**		**0.174**
Manganese	**7439-96-5**	**5.44**		**1.53**
Molybdenum	**7439-98-7**	**1.97**		**0.291**
Nickel	**7440-02-0**	**0.709**		**0.529**
Selenium	**7782-49-2**	**0.175**		**0.00727**
Thallium	**7440-28-0**	**8.14E-4**		**4.78E-4**
Vanadium	**7440-62-2**	**0.703**		**0.0429**
Zinc	7440-66-6	46.4	U	62.3

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021024-HM
Matrix: Air
Lab ID: 4022021-07
Sample Volume: 2193.64 m³
Filter ID:
Sampled: 02/10/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 20:21

Comments: Q9516893 - Received in good condition. - Sample covered in dead bugs

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.221**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.202**		**0.00695**
Barium	**7440-39-3**	**5.37**		**0.794**
Beryllium	**7440-41-7**	**0.0116**		**0.00237**
Cadmium	7440-43-9	0.0138	U	0.0588
Chromium	7440-47-3	1.61	U	1.64
Cobalt	**7440-48-4**	**0.312**		**0.0323**
Copper	**7440-50-8**	**33.4**		**1.95**
Lead	**7439-92-1**	**1.21**		**0.159**
Manganese	**7439-96-5**	**9.58**		**1.40**
Molybdenum	**7439-98-7**	**0.962**		**0.266**
Nickel	**7440-02-0**	**1.17**		**0.484**
Selenium	**7782-49-2**	**0.202**		**0.00665**
Thallium	**7440-28-0**	**7.02E-4**		**4.37E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0392**
Zinc	7440-66-6	37.8	U	57.0

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021024-HM
Matrix: Air
Lab ID: 4022021-08
Sample Volume: 1874.137 m³
Filter ID:
Sampled: 02/10/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 20:35

Comments: Q9516892 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0553**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.0945**		**0.00813**
Barium	**7440-39-3**	**2.24**		**0.929**
Beryllium	**7440-41-7**	**0.0131**		**0.00278**
Cadmium	7440-43-9	0.0141	U	0.0688
Chromium	7440-47-3	1.58	U	1.92
Cobalt	**7440-48-4**	**0.272**		**0.0379**
Copper	**7440-50-8**	**47.2**		**2.28**
Lead	**7439-92-1**	**0.493**		**0.186**
Manganese	**7439-96-5**	**6.10**		**1.64**
Molybdenum	**7439-98-7**	**2.28**		**0.312**
Nickel	**7440-02-0**	**0.957**		**0.566**
Selenium	**7782-49-2**	**0.197**		**0.00778**
Thallium	**7440-28-0**	**6.80E-4**		**5.11E-4**
Vanadium	**7440-62-2**	**0.751**		**0.0459**
Zinc	7440-66-6	26.6	U	66.7

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021024-HM
Matrix: Air
Lab ID: 4022021-09
Sample Volume: 2021.553 m³
Filter ID:
Sampled: 02/10/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 20:49

Comments: Q9516891 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.252**		**0.00754**
Barium	**7440-39-3**	**3.19**		**0.861**
Beryllium	**7440-41-7**	**0.00818**		**0.00258**
Cadmium	7440-43-9	0.0149	U	0.0638
Chromium	7440-47-3	1.63	U	1.78
Cobalt	**7440-48-4**	**0.239**		**0.0351**
Copper	**7440-50-8**	**43.9**		**2.12**
Lead	**7439-92-1**	**0.921**		**0.172**
Manganese	**7439-96-5**	**7.15**		**1.52**
Molybdenum	**7439-98-7**	**1.21**		**0.289**
Nickel	**7440-02-0**	**0.881**		**0.525**
Selenium	**7782-49-2**	**0.190**		**0.00721**
Thallium	**7440-28-0**	**6.81E-4**		**4.74E-4**
Vanadium	**7440-62-2**	**0.800**		**0.0426**
Zinc	7440-66-6	32.2	U	61.8

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021124-HM
Matrix: Air
Lab ID: 4022021-10
Sample Volume: 2113.989 m³
Filter ID:
Sampled: 02/11/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 21:38

Comments: Q9516890 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0510**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.131**		**0.00721**
Barium	**7440-39-3**	**1.69**		**0.824**
Beryllium	7440-41-7	0.00202	U	0.00246
Cadmium	7440-43-9	0.00627	U	0.0610
Chromium	7440-47-3	0.860	U	1.70
Cobalt	**7440-48-4**	**0.0575**		**0.0336**
Copper	**7440-50-8**	**32.3**		**2.02**
Lead	**7439-92-1**	**0.329**		**0.165**
Manganese	**7439-96-5**	**1.87**		**1.45**
Molybdenum	**7439-98-7**	**1.93**		**0.276**
Nickel	7440-02-0	0.392	U	0.502
Selenium	**7782-49-2**	**0.138**		**0.00690**
Thallium	7440-28-0	4.32E-4	U	4.53E-4
Vanadium	**7440-62-2**	**0.378**		**0.0407**
Zinc	7440-66-6	27.6	U	59.1

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021124-HM
Matrix: Air
Lab ID: 4022021-11
Sample Volume: 2265.563 m³
Filter ID:
Sampled: 02/11/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 21:52

Comments: Q9516889 - Received in good condition. - Sample covered in dead bugs

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.374**	SL	**0.0277**
Arsenic	**7440-38-2**	**0.140**		**0.00673**
Barium	**7440-39-3**	**4.29**		**0.768**
Beryllium	**7440-41-7**	**0.00550**		**0.00230**
Cadmium	7440-43-9	0.00941	U	0.0569
Chromium	7440-47-3	1.16	U	1.59
Cobalt	**7440-48-4**	**0.142**		**0.0313**
Copper	**7440-50-8**	**23.3**		**1.89**
Lead	**7439-92-1**	**0.511**		**0.154**
Manganese	**7439-96-5**	**4.68**		**1.36**
Molybdenum	**7439-98-7**	**0.913**		**0.258**
Nickel	**7440-02-0**	**0.688**		**0.468**
Selenium	**7782-49-2**	**0.213**		**0.00643**
Thallium	**7440-28-0**	**6.36E-4**		**4.23E-4**
Vanadium	**7440-62-2**	**0.724**		**0.0380**
Zinc	7440-66-6	24.7	U	55.2

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021124-HM
Matrix: Air
Lab ID: 4022021-12
Sample Volume: 1874.925 m³
Filter ID:
Sampled: 02/11/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 22:06

Comments: Q9516888 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0562**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.0653**		**0.00813**
Barium	**7440-39-3**	**1.36**		**0.929**
Beryllium	**7440-41-7**	**0.00342**		**0.00278**
Cadmium	7440-43-9	0.00637	U	0.0688
Chromium	7440-47-3	1.00	U	1.92
Cobalt	**7440-48-4**	**0.0696**		**0.0378**
Copper	**7440-50-8**	**50.8**		**2.28**
Lead	**7439-92-1**	**0.680**		**0.186**
Manganese	**7439-96-5**	**1.99**		**1.64**
Molybdenum	**7439-98-7**	**2.21**		**0.312**
Nickel	7440-02-0	0.544	U	0.566
Selenium	**7782-49-2**	**0.139**		**0.00778**
Thallium	7440-28-0	4.90E-4	U	5.11E-4
Vanadium	**7440-62-2**	**0.438**		**0.0459**
Zinc	7440-66-6	22.4	U	66.6

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021124-HM
Matrix: Air
Lab ID: 4022021-13
Sample Volume: 2022.083 m³
Filter ID:
Sampled: 02/11/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/21/24 22:20

Comments: Q9516887 - Received in good condition. - Sample covered in dead bugs

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.105**		**0.00754**
Barium	**7440-39-3**	**2.14**		**0.861**
Beryllium	**7440-41-7**	**0.00260**		**0.00257**
Cadmium	7440-43-9	0.00509	U	0.0638
Chromium	7440-47-3	0.858	U	1.78
Cobalt	**7440-48-4**	**0.0650**		**0.0351**
Copper	**7440-50-8**	**32.7**		**2.12**
Lead	**7439-92-1**	**0.410**		**0.172**
Manganese	**7439-96-5**	**2.13**		**1.52**
Molybdenum	**7439-98-7**	**1.08**		**0.289**
Nickel	7440-02-0	0.462	U	0.525
Selenium	**7782-49-2**	**0.177**		**0.00721**
Thallium	**7440-28-0**	**4.74E-4**		**4.74E-4**
Vanadium	**7440-62-2**	**0.501**		**0.0426**
Zinc	7440-66-6	21.1	U	61.8

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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: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021124-HM
Matrix: Air
Lab ID: 4022021-14
Sample Volume: 2113.989 m³
Filter ID:
Sampled: 02/11/24 00:00
Received: 02/20/24 11:43
Analysis Date: 02/22/24 20:19

Comments: Q9516897 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0191	SL, U	0.0297
Arsenic	7440-38-2	0.00435	U	0.00721
Barium	7440-39-3	0.496	U	0.824
Beryllium	7440-41-7	5.01E-4	U	0.00246
Cadmium	7440-43-9	0.00722	U	0.0610
Chromium	7440-47-3	0.708	U	1.70
Cobalt	7440-48-4	0.00786	U	0.0336
Copper	7440-50-8	2.00	U	2.02
Lead	7439-92-1	0.101	U	0.165
Manganese	7439-96-5	0.171	U	1.45
Molybdenum	7439-98-7	0.0976	U	0.276
Nickel	7440-02-0	0.204	U	0.502
Selenium	7782-49-2	0.00478	U	0.00690
Thallium	7440-28-0	3.94E-4	B, U	4.53E-4
Vanadium	7440-62-2	0.0149	U	0.0407
Zinc	7440-66-6	26.7	U	59.1

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021224-HM
Matrix: Air
Lab ID: 4022021-15
Sample Volume: 2063.624 m³
Filter ID:
Sampled: 02/12/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/22/24 20:33

Comments: Q9516900 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0569**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.196**		**0.00739**
Barium	**7440-39-3**	**1.91**		**0.844**
Beryllium	**7440-41-7**	**0.00361**		**0.00252**
Cadmium	7440-43-9	0.00699	U	0.0625
Chromium	7440-47-3	1.42	U	1.74
Cobalt	**7440-48-4**	**0.160**		**0.0344**
Copper	**7440-50-8**	**44.5**		**2.07**
Lead	**7439-92-1**	**0.340**		**0.169**
Manganese	**7439-96-5**	**4.42**		**1.49**
Molybdenum	**7439-98-7**	**2.23**		**0.283**
Nickel	**7440-02-0**	**0.867**		**0.514**
Selenium	**7782-49-2**	**0.137**		**0.00706**
Thallium	**7440-28-0**	**7.80E-4**	B	**4.64E-4**
Vanadium	**7440-62-2**	**0.864**		**0.0417**
Zinc	7440-66-6	39.0	U	60.6

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021224-HM
Matrix: Air
Lab ID: 4022021-16
Sample Volume: 2199.072 m³
Filter ID:
Sampled: 02/12/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/22/24 20:48

Comments: Q9516899 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.264**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.163**		**0.00693**
Barium	**7440-39-3**	**6.66**		**0.792**
Beryllium	**7440-41-7**	**0.00911**		**0.00237**
Cadmium	7440-43-9	0.0443	U	0.0587
Chromium	**7440-47-3**	**1.67**		**1.64**
Cobalt	**7440-48-4**	**0.286**		**0.0323**
Copper	**7440-50-8**	**24.0**		**1.95**
Lead	**7439-92-1**	**0.808**		**0.158**
Manganese	**7439-96-5**	**8.28**		**1.40**
Molybdenum	**7439-98-7**	**0.916**		**0.266**
Nickel	**7440-02-0**	**1.34**		**0.482**
Selenium	**7782-49-2**	**0.167**		**0.00663**
Thallium	**7440-28-0**	**9.51E-4**	B	**4.36E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0391**
Zinc	7440-66-6	39.8	U	56.8

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021224-HM
Matrix: Air
Lab ID: 4022021-17
Sample Volume: 1932.433 m³
Filter ID:
Sampled: 02/12/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/22/24 21:06

Comments: Q9516898 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0465**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.130**		**0.00789**
Barium	**7440-39-3**	**5.23**		**0.901**
Beryllium	**7440-41-7**	**0.0108**		**0.00269**
Cadmium	7440-43-9	0.00604	U	0.0668
Chromium	7440-47-3	1.61	U	1.86
Cobalt	**7440-48-4**	**0.245**		**0.0367**
Copper	**7440-50-8**	**31.4**		**2.21**
Lead	**7439-92-1**	**0.480**		**0.180**
Manganese	**7439-96-5**	**5.36**		**1.59**
Molybdenum	**7439-98-7**	**1.56**		**0.302**
Nickel	**7440-02-0**	**1.22**		**0.549**
Selenium	**7782-49-2**	**0.119**		**0.00754**
Thallium	**7440-28-0**	**7.17E-4**	B	**4.96E-4**
Vanadium	**7440-62-2**	**0.898**		**0.0445**
Zinc	7440-66-6	31.4	U	64.7

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021224-HM
Matrix: Air
Lab ID: 4022021-18
Sample Volume: 1915.517 m³
Filter ID:
Sampled: 02/12/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/22/24 21:21

Comments: Q9554688 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0696**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.148**		**0.00796**
Barium	**7440-39-3**	**3.69**		**0.909**
Beryllium	**7440-41-7**	**0.00649**		**0.00272**
Cadmium	7440-43-9	0.0115	U	0.0674
Chromium	**7440-47-3**	**2.04**		**1.88**
Cobalt	**7440-48-4**	**0.192**		**0.0370**
Copper	**7440-50-8**	**40.7**		**2.23**
Lead	**7439-92-1**	**0.748**		**0.182**
Manganese	**7439-96-5**	**5.40**		**1.61**
Molybdenum	**7439-98-7**	**1.53**		**0.305**
Nickel	**7440-02-0**	**1.17**		**0.554**
Selenium	**7782-49-2**	**0.144**		**0.00761**
Thallium	**7440-28-0**	**8.05E-4**	B	**5.00E-4**
Vanadium	**7440-62-2**	**0.867**		**0.0449**
Zinc	7440-66-6	31.3	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: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021324-HM
Matrix: Air
Lab ID: 4022021-19
Sample Volume: 1984.624 m³
Filter ID:
Sampled: 02/13/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/22/24 21:36

Comments: Q9554687 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0576**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.220**		**0.00768**
Barium	**7440-39-3**	**2.71**		**0.877**
Beryllium	**7440-41-7**	**0.00398**		**0.00262**
Cadmium	7440-43-9	0.00859	U	0.0650
Chromium	7440-47-3	1.70	U	1.81
Cobalt	**7440-48-4**	**0.794**		**0.0357**
Copper	**7440-50-8**	**46.8**		**2.16**
Lead	**7439-92-1**	**0.433**		**0.175**
Manganese	**7439-96-5**	**3.18**		**1.55**
Molybdenum	**7439-98-7**	**2.10**		**0.294**
Nickel	**7440-02-0**	**1.56**		**0.535**
Selenium	**7782-49-2**	**0.118**		**0.00735**
Thallium	**7440-28-0**	**7.53E-4**	B	**4.83E-4**
Vanadium	**7440-62-2**	**1.51**		**0.0434**
Zinc	7440-66-6	29.9	U	63.0

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021324-HM
Matrix: Air
Lab ID: 4022021-20
Sample Volume: 2067.896 m³
Filter ID:
Sampled: 02/13/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/22/24 21:51

Comments: Q9554686 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0907**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.268**		**0.00737**
Barium	**7440-39-3**	**3.84**		**0.842**
Beryllium	**7440-41-7**	**0.00636**		**0.00252**
Cadmium	7440-43-9	0.0138	U	0.0624
Chromium	**7440-47-3**	**1.98**		**1.74**
Cobalt	**7440-48-4**	**0.218**		**0.0343**
Copper	**7440-50-8**	**32.5**		**2.07**
Lead	**7439-92-1**	**0.955**		**0.168**
Manganese	**7439-96-5**	**5.94**		**1.49**
Molybdenum	**7439-98-7**	**1.17**		**0.282**
Nickel	**7440-02-0**	**1.51**		**0.513**
Selenium	**7782-49-2**	**0.147**		**0.00705**
Thallium	**7440-28-0**	**8.18E-4**	B	**4.63E-4**
Vanadium	**7440-62-2**	**1.98**		**0.0416**
Zinc	7440-66-6	37.0	U	60.4

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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: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021324-HM
Matrix: Air
Lab ID: 4022021-21
Sample Volume: 1881.344 m³
Filter ID:
Sampled: 02/13/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/22/24 22:22

Comments: Q9554683 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0569**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.142**		**0.00810**
Barium	**7440-39-3**	**2.64**		**0.925**
Beryllium	**7440-41-7**	**0.0127**		**0.00277**
Cadmium	7440-43-9	0.00867	U	0.0686
Chromium	**7440-47-3**	**2.28**		**1.91**
Cobalt	**7440-48-4**	**0.257**		**0.0377**
Copper	**7440-50-8**	**39.7**		**2.27**
Lead	**7439-92-1**	**0.465**		**0.185**
Manganese	**7439-96-5**	**6.12**		**1.63**
Molybdenum	**7439-98-7**	**2.25**		**0.310**
Nickel	**7440-02-0**	**1.43**		**0.564**
Selenium	**7782-49-2**	**0.153**		**0.00775**
Thallium	**7440-28-0**	**9.26E-4**	B	**5.09E-4**
Vanadium	**7440-62-2**	**1.69**		**0.0457**
Zinc	7440-66-6	35.7	U	66.4

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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: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021324-HM
Matrix: Air
Lab ID: 4022021-22
Sample Volume: 1849.274 m³
Filter ID:
Sampled: 02/13/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/22/24 22:37

Comments: Q9554682 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0602**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.222**		**0.00824**
Barium	**7440-39-3**	**2.61**		**0.941**
Beryllium	**7440-41-7**	**0.00558**		**0.00282**
Cadmium	7440-43-9	0.00963	U	0.0698
Chromium	**7440-47-3**	**2.12**		**1.94**
Cobalt	**7440-48-4**	**0.198**		**0.0384**
Copper	**7440-50-8**	**38.8**		**2.31**
Lead	**7439-92-1**	**0.872**		**0.188**
Manganese	**7439-96-5**	**5.15**		**1.66**
Molybdenum	**7439-98-7**	**1.46**		**0.316**
Nickel	**7440-02-0**	**1.23**		**0.574**
Selenium	**7782-49-2**	**0.134**		**0.00788**
Thallium	**7440-28-0**	**7.87E-4**	B	**5.18E-4**
Vanadium	**7440-62-2**	**1.58**		**0.0465**
Zinc	7440-66-6	27.3	U	67.6

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021324-HM
Matrix: Air
Lab ID: 4022021-23
Sample Volume: 1984.624 m³
Filter ID:
Sampled: 02/13/24 00:00
Received: 02/20/24 11:43
Analysis Date: 02/22/24 23:46

Comments: Q9554701 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00808	SL, U	0.0316
Arsenic	7440-38-2	0.00690	U	0.00768
Barium	**7440-39-3**	**1.29**	FB-01	**0.877**
Beryllium	7440-41-7	0.00122	U	0.00262
Cadmium	7440-43-9	0.00215	U	0.0650
Chromium	7440-47-3	1.37	U	1.81
Cobalt	7440-48-4	0.0219	U	0.0357
Copper	7440-50-8	0.862	U	2.16
Lead	7439-92-1	0.0736	U	0.175
Manganese	7439-96-5	0.178	U	1.55
Molybdenum	7439-98-7	0.244	U	0.294
Nickel	7440-02-0	0.268	U	0.535
Selenium	7782-49-2	0.00214	U	0.00735
Thallium	7440-28-0	2.75E-4	B, U	4.83E-4
Vanadium	7440-62-2	0.0144	U	0.0434
Zinc	7440-66-6	17.6	U	63.0

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

FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021424-HM
Matrix: Air
Lab ID: 4022021-24
Sample Volume: 1990.476 m³
Filter ID:
Sampled: 02/14/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/23/24 00:00

Comments: Q9554681 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0681**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.747**		**0.00766**
Barium	**7440-39-3**	**3.15**		**0.875**
Beryllium	**7440-41-7**	**0.00693**		**0.00262**
Cadmium	7440-43-9	0.0169	U	0.0648
Chromium	**7440-47-3**	**2.23**		**1.81**
Cobalt	**7440-48-4**	**0.279**		**0.0356**
Copper	**7440-50-8**	**80.3**		**2.15**
Lead	**7439-92-1**	**0.814**		**0.175**
Manganese	**7439-96-5**	**6.89**		**1.54**
Molybdenum	**7439-98-7**	**3.47**		**0.293**
Nickel	**7440-02-0**	**1.40**		**0.533**
Selenium	**7782-49-2**	**0.123**		**0.00732**
Thallium	**7440-28-0**	**9.01E-4**	B	**4.81E-4**
Vanadium	**7440-62-2**	**0.874**		**0.0432**
Zinc	7440-66-6	32.4	U	62.8

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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: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021424-HM
Matrix: Air
Lab ID: 4022021-25
Sample Volume: 2085.421 m³
Filter ID:
Sampled: 02/14/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/23/24 00:18

Comments: Q9554703 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0367**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.315**		**0.00731**
Barium	**7440-39-3**	**1.51**		**0.835**
Beryllium	**7440-41-7**	**0.00296**		**0.00250**
Cadmium	7440-43-9	0.00892	U	0.0619
Chromium	7440-47-3	1.56	U	1.72
Cobalt	**7440-48-4**	**0.0775**		**0.0340**
Copper	**7440-50-8**	**16.3**		**2.05**
Lead	**7439-92-1**	**0.382**		**0.167**
Manganese	**7439-96-5**	**2.24**		**1.47**
Molybdenum	**7439-98-7**	**0.730**		**0.280**
Nickel	**7440-02-0**	**0.632**		**0.509**
Selenium	**7782-49-2**	**0.122**		**0.00699**
Thallium	**7440-28-0**	**6.44E-4**	B	**4.60E-4**
Vanadium	**7440-62-2**	**0.513**		**0.0413**
Zinc	7440-66-6	19.6	U	59.9

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021424-HM/MS/MS **Lab ID:** 4022021-26 **Sampled:** 02/14/24 23:59
Matrix: Air **Sample Volume:** 1897.06 m³ **Received:** 02/20/24 11:43
Filter ID: **Analysis Date:** 02/22/24 17:36

Comments: Q9554702 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0516**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.0844**		**0.00804**
Barium	**7440-39-3**	**2.18**		**0.918**
Beryllium	**7440-41-7**	**0.00734**		**0.00274**
Cadmium	7440-43-9	0.00620	U	0.0680
Chromium	7440-47-3	1.78	U	1.90
Cobalt	**7440-48-4**	**0.120**		**0.0374**
Copper	**7440-50-8**	**33.7**		**2.26**
Lead	**7439-92-1**	**0.280**		**0.184**
Manganese	**7439-96-5**	**2.96**		**1.62**
Molybdenum	**7439-98-7**	**1.88**		**0.308**
Nickel	**7440-02-0**	**0.747**		**0.559**
Selenium	**7782-49-2**	**0.123**		**0.00768**
Thallium	**7440-28-0**	**7.90E-4**	B	**5.05E-4**
Vanadium	**7440-62-2**	**0.484**		**0.0454**
Zinc	7440-66-6	43.7	U	65.9

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021424-HM
Matrix: Air
Lab ID: 4022021-27
Sample Volume: 1883.387 m³
Filter ID:
Sampled: 02/14/24 23:59
Received: 02/20/24 11:43
Analysis Date: 02/23/24 00:33

Comments: Q9554700 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0450**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.219**		**0.00809**
Barium	**7440-39-3**	**1.74**		**0.924**
Beryllium	**7440-41-7**	**0.00352**		**0.00276**
Cadmium	7440-43-9	0.00752	U	0.0685
Chromium	7440-47-3	1.85	U	1.91
Cobalt	**7440-48-4**	**0.0910**		**0.0377**
Copper	**7440-50-8**	**48.3**		**2.27**
Lead	**7439-92-1**	**0.590**		**0.185**
Manganese	**7439-96-5**	**2.39**		**1.63**
Molybdenum	**7439-98-7**	**2.04**		**0.310**
Nickel	**7440-02-0**	**0.697**		**0.563**
Selenium	**7782-49-2**	**0.115**		**0.00774**
Thallium	**7440-28-0**	**6.74E-4**	B	**5.09E-4**
Vanadium	**7440-62-2**	**0.447**		**0.0457**
Zinc	7440-66-6	27.3	U	66.3

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REPORTED: 02/28/24 15:08
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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 2402055 - B4B0506										
Calibration Blank (2402055-CCB1)				Prepared & Analyzed: 02/21/24						
Antimony	7.11		ng/l							
Arsenic	5.87		ng/l							
Barium	0.506		ng/l							
Beryllium	0.123		ng/l							
Cadmium	0.123		ng/l							
Chromium	-1.87		ng/l							U
Cobalt	0.150		ng/l							
Copper	101		ng/l							
Lead	8.81		ng/l							
Manganese	1.70		ng/l							
Molybdenum	17.3		ng/l							
Nickel	0.268		ng/l							
Selenium	2.91		ng/l							
Thallium	0.345		ng/l							
Vanadium	-20.4		ng/l							U
Zinc	-87.3		ng/l							U
Calibration Blank (2402055-CCB2)				Prepared & Analyzed: 02/21/24						
Antimony	5.44		ng/l							
Arsenic	4.67		ng/l							
Barium	3.88		ng/l							
Beryllium	0.00502		ng/l							
Cadmium	0.143		ng/l							
Chromium	1.97		ng/l							
Cobalt	0.358		ng/l							
Copper	68.1		ng/l							
Lead	6.07		ng/l							
Manganese	5.51		ng/l							
Molybdenum	8.72		ng/l							
Nickel	1.26		ng/l							
Selenium	-2.72		ng/l							U
Thallium	0.567		ng/l							
Vanadium	-19.8		ng/l							U
Zinc	-73.4		ng/l							U
Calibration Blank (2402055-CCB3)				Prepared & Analyzed: 02/21/24						
Antimony	4.38		ng/l							
Arsenic	9.43		ng/l							
Barium	1.19		ng/l							
Beryllium	-0.0748		ng/l							U

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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 2402055 - B4B0506										
Calibration Blank (2402055-CCB3) Contin				Prepared & Analyzed: 02/21/24						
Cadmium	0.0136		ng/l							
Chromium	0.980		ng/l							
Cobalt	0.236		ng/l							
Copper	51.6		ng/l							
Lead	3.86		ng/l							
Manganese	1.84		ng/l							
Molybdenum	7.83		ng/l							
Nickel	0.195		ng/l							
Selenium	8.78		ng/l							
Thallium	0.552		ng/l							
Vanadium	-24.7		ng/l							U
Zinc	-81.2		ng/l							U
Calibration Blank (2402055-CCB4)				Prepared & Analyzed: 02/21/24						
Antimony	3.36		ng/l							
Arsenic	4.66		ng/l							
Barium	1.59		ng/l							
Beryllium	0.0520		ng/l							
Cadmium	0.128		ng/l							
Chromium	1.95		ng/l							
Cobalt	0.338		ng/l							
Copper	59.9		ng/l							
Lead	4.69		ng/l							
Manganese	3.25		ng/l							
Molybdenum	9.11		ng/l							
Nickel	0.616		ng/l							
Selenium	1.87		ng/l							
Thallium	0.607		ng/l							
Vanadium	-25.6		ng/l							U
Zinc	439		ng/l							
Calibration Check (2402055-CCV1)				Prepared & Analyzed: 02/21/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5430		ng/l	5000.0		109	90-110			
Cadmium	19900		ng/l	20000		99.6	90-110			
Chromium	251000		ng/l	240000		104	90-110			
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	2.00E6		ng/l	2.0000E6		100	90-110			

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SUBMITTED: 02/20/24
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 2402055 - B4B0506										
Calibration Check (2402055-CCV1) Contin					Prepared & Analyzed: 02/21/24					
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	19600		ng/l	20000		97.8	90-110			
Zinc	500000		ng/l	500000		99.9	90-110			
Calibration Check (2402055-CCV2)					Prepared & Analyzed: 02/21/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	207000		ng/l	200000		104	90-110			
Beryllium	5310		ng/l	5000.0		106	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	49900		ng/l	50000		99.7	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	491000		ng/l	500000		98.1	90-110			
Molybdenum	49300		ng/l	50000		98.5	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	500000		ng/l	500000		100	90-110			
Calibration Check (2402055-CCV3)					Prepared & Analyzed: 02/21/24					
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	49900		ng/l	50000		99.8	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		99.8	90-110			
Manganese	529000		ng/l	500000		106	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	120000		ng/l	120000		99.8	90-110			

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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 2402055 - B4B0506										
Calibration Check (2402055-CCV3) Contin					Prepared & Analyzed: 02/21/24					
Selenium	20700		ng/l	20000		104	90-110			
Thallium	488		ng/l	500.00		97.5	90-110			
Vanadium	19600		ng/l	20000		98.2	90-110			
Zinc	500000		ng/l	500000		99.9	90-110			
Calibration Check (2402055-CCV4)					Prepared & Analyzed: 02/21/24					
Antimony	19900		ng/l	20000		99.4	90-110			
Arsenic	19800		ng/l	20000		99.2	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5180		ng/l	5000.0		104	90-110			
Cadmium	19800		ng/l	20000		99.1	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	49100		ng/l	50000		98.3	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	49100		ng/l	50000		98.3	90-110			
Nickel	118000		ng/l	120000		98.1	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			
Vanadium	19300		ng/l	20000		96.7	90-110			
Zinc	499000		ng/l	500000		99.8	90-110			
High Cal Check (2402055-HCV1)					Prepared & Analyzed: 02/21/24					
Antimony	40500		ng/l	40000		101	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	408000		ng/l	400000		102	95-105			
Beryllium	10400		ng/l	10000		104	95-105			
Cadmium	40100		ng/l	40000		100	95-105			
Chromium	476000		ng/l	480000		99.2	95-105			
Cobalt	100000		ng/l	100000		100	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.2	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	999000		ng/l	1.0000E6		99.9	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	239000		ng/l	240000		99.5	95-105			
Selenium	41700		ng/l	40000		104	95-105			
Thallium	997		ng/l	1000.0		99.7	95-105			
Vanadium	40300		ng/l	40000		101	95-105			
Zinc	998000		ng/l	1.0000E6		99.8	95-105			

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
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 2402055 - B4B0506										
Initial Cal Blank (2402055-ICB1)				Prepared & Analyzed: 02/21/24						
Antimony	8.37		ng/l							
Arsenic	5.23		ng/l							
Barium	0.0394		ng/l							
Beryllium	0.0971		ng/l							
Cadmium	0.104		ng/l							
Chromium	1.09		ng/l							
Cobalt	0.311		ng/l							
Copper	108		ng/l							
Lead	12.3		ng/l							
Manganese	3.46		ng/l							
Molybdenum	11.1		ng/l							
Nickel	1.43		ng/l							
Selenium	14.1		ng/l							
Thallium	0.207		ng/l							
Vanadium	-21.3		ng/l							U
Zinc	-83.0		ng/l							U
Initial Cal Check (2402055-ICV1)				Prepared & Analyzed: 02/21/24						
Antimony	19400		ng/l	20000		97.0	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	195000		ng/l	200000		97.5	90-110			
Beryllium	5420		ng/l	5000.0		108	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	49300		ng/l	50000		98.5	90-110			
Copper	1.98E6		ng/l	2.0000E6		98.8	90-110			
Lead	193000		ng/l	200000		96.5	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	48600		ng/l	50000		97.1	90-110			
Nickel	117000		ng/l	120000		97.8	90-110			
Selenium	20800		ng/l	20000		104	90-110			
Thallium	493		ng/l	500.00		98.5	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	495000		ng/l	500000		98.9	90-110			
Interference Check A (2402055-IFA1)				Prepared & Analyzed: 02/21/24						
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

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
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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 2402055 - B4B0506										
Interference Check A (2402055-IFA1) Co				Prepared & Analyzed: 02/21/24						
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	307000		ng/l	300000		102	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
Interference Check B (2402055-IFB1)				Prepared & Analyzed: 02/21/24						
Antimony	20500		ng/l	20000		103	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	203000		ng/l	200000		102	80-120			
Beryllium	5570		ng/l	5000.0		111	80-120			
Cadmium	19700		ng/l	20000		98.4	80-120			
Chromium	240000		ng/l	240000		99.8	80-120			
Cobalt	49200		ng/l	50000		98.4	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.5	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	502000		ng/l	500000		100	80-120			
Molybdenum	355000		ng/l	350000		101	80-120			
Nickel	116000		ng/l	120000		96.5	80-120			
Selenium	20000		ng/l	20000		99.9	80-120			
Thallium	504		ng/l	500.00		101	80-120			
Vanadium	18900		ng/l	20000		94.4	80-120			
Zinc	467000		ng/l	500000		93.5	80-120			
Batch 2402061 - B4B2201										
Calibration Blank (2402061-CCB1)				Prepared & Analyzed: 02/22/24						
Antimony	0.815		ng/l							
Arsenic	-0.546		ng/l							U
Barium	-1.02		ng/l							U
Beryllium	0.0793		ng/l							
Cadmium	-0.0305		ng/l							U
Chromium	-2.02		ng/l							U
Cobalt	-0.856		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402061 - B4B2201										
Calibration Blank (2402061-CCB1) Contin				Prepared & Analyzed: 02/22/24						
Copper	73.6		ng/l							
Lead	4.62		ng/l							
Manganese	3.17		ng/l							
Molybdenum	11.1		ng/l							
Nickel	-0.812		ng/l							U
Selenium	-2.56		ng/l							U
Thallium	1.51		ng/l							
Vanadium	-18.3		ng/l							U
Zinc	5.29		ng/l							
Calibration Blank (2402061-CCB2)				Prepared & Analyzed: 02/22/24						
Antimony	0.485		ng/l							
Arsenic	0.251		ng/l							
Barium	-0.998		ng/l							U
Beryllium	-0.0544		ng/l							U
Cadmium	0.0501		ng/l							
Chromium	-3.04		ng/l							U
Cobalt	-0.861		ng/l							U
Copper	17.1		ng/l							
Lead	1.35		ng/l							
Manganese	1.86		ng/l							
Molybdenum	1.48		ng/l							
Nickel	-0.227		ng/l							U
Selenium	6.43		ng/l							
Thallium	0.837		ng/l							
Vanadium	-24.9		ng/l							U
Zinc	-16.5		ng/l							U
Calibration Blank (2402061-CCB3)				Prepared & Analyzed: 02/22/24						
Antimony	0.690		ng/l							
Arsenic	-0.196		ng/l							U
Barium	0.284		ng/l							
Beryllium	-0.107		ng/l							U
Cadmium	0.0711		ng/l							
Chromium	-0.924		ng/l							U
Cobalt	-0.751		ng/l							U
Copper	17.1		ng/l							
Lead	1.20		ng/l							
Manganese	1.60		ng/l							
Molybdenum	3.31		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402061 - B4B2201										
Calibration Blank (2402061-CCB3) Contin				Prepared & Analyzed: 02/22/24						
Nickel	0.345		ng/l							
Selenium	-1.60		ng/l							U
Thallium	0.786		ng/l							
Vanadium	-26.7		ng/l							U
Zinc	-0.809		ng/l							U
Calibration Blank (2402061-CCB4)				Prepared: 02/22/24 Analyzed: 02/23/24						
Antimony	0.818		ng/l							
Arsenic	-3.25		ng/l							U
Barium	0.195		ng/l							
Beryllium	-0.0611		ng/l							U
Cadmium	0.0532		ng/l							
Chromium	-1.25		ng/l							U
Cobalt	-0.834		ng/l							U
Copper	18.5		ng/l							
Lead	1.03		ng/l							
Manganese	2.07		ng/l							
Molybdenum	2.63		ng/l							
Nickel	0.251		ng/l							
Selenium	13.5		ng/l							
Thallium	0.761		ng/l							
Vanadium	-25.7		ng/l							U
Zinc	9.25		ng/l							
Calibration Check (2402061-CCV1)				Prepared & Analyzed: 02/22/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	4990		ng/l	5000.0		99.7	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	498000		ng/l	500000		99.7	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	19800		ng/l	20000		99.0	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 2402061 - B4B2201										
Calibration Check (2402061-CCV1) Contin					Prepared & Analyzed: 02/22/24					
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2402061-CCV2)					Prepared & Analyzed: 02/22/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5140		ng/l	5000.0		103	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	257000		ng/l	240000		107	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	542000		ng/l	500000		108	90-110			
Molybdenum	49900		ng/l	50000		99.9	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20900		ng/l	20000		104	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2402061-CCV3)					Prepared & Analyzed: 02/22/24					
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20700		ng/l	20000		103	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4950		ng/l	5000.0		98.9	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	260000		ng/l	240000		109	90-110			
Cobalt	51600		ng/l	50000		103	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	535000		ng/l	500000		107	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20800		ng/l	20000		104	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2402061-CCV4)					Prepared: 02/22/24 Analyzed: 02/23/24					
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402061 - B4B2201										
Calibration Check (2402061-CCV4) Contin					Prepared: 02/22/24 Analyzed: 02/23/24					
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	262000		ng/l	240000		109	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	538000		ng/l	500000		108	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	21100		ng/l	20000		105	90-110			
Thallium	509		ng/l	500.00		102	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	526000		ng/l	500000		105	90-110			
High Cal Check (2402061-HCV1)					Prepared & Analyzed: 02/22/24					
Antimony	40400		ng/l	40000		101	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	397000		ng/l	400000		99.2	95-105			
Beryllium	10400		ng/l	10000		104	95-105			
Cadmium	40100		ng/l	40000		100	95-105			
Chromium	475000		ng/l	480000		98.9	95-105			
Cobalt	99400		ng/l	100000		99.4	95-105			
Copper	3.96E6		ng/l	4.0000E6		99.1	95-105			
Lead	406000		ng/l	400000		101	95-105			
Manganese	999000		ng/l	1.0000E6		99.9	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	237000		ng/l	240000		98.8	95-105			
Selenium	40700		ng/l	40000		102	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40500		ng/l	40000		101	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2402061-ICB1)					Prepared & Analyzed: 02/22/24					
Antimony	1.07		ng/l							
Arsenic	-3.25		ng/l							U
Barium	-0.924		ng/l							U
Beryllium	0.158		ng/l							
Cadmium	-0.00897		ng/l							U
Chromium	-2.75		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 2402061 - B4B2201										
Initial Cal Blank (2402061-ICB1) Continu				Prepared & Analyzed: 02/22/24						
Cobalt	-0.705		ng/l							U
Copper	71.5		ng/l							
Lead	5.82		ng/l							
Manganese	3.62		ng/l							
Molybdenum	5.13		ng/l							
Nickel	-0.246		ng/l							U
Selenium	1.96		ng/l							
Thallium	1.18		ng/l							
Vanadium	-23.2		ng/l							U
Zinc	-6.43		ng/l							U
Initial Cal Check (2402061-ICV1)				Prepared & Analyzed: 02/22/24						
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	519000		ng/l	500000		104	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	119000		ng/l	120000		99.2	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	509		ng/l	500.00		102	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Interference Check A (2402061-IFA1)				Prepared & Analyzed: 02/22/24						
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

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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 2402061 - B4B2201										
Interference Check A (2402061-IFA1) Co				Prepared & Analyzed: 02/22/24						
Molybdenum	301000		ng/l	300000		100	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
Interference Check B (2402061-IFB1)				Prepared & Analyzed: 02/22/24						
Antimony	20600		ng/l	20000		103	80-120			
Arsenic	20900		ng/l	20000		105	80-120			
Barium	208000		ng/l	200000		104	80-120			
Beryllium	4780		ng/l	5000.0		95.6	80-120			
Cadmium	20000		ng/l	20000		99.9	80-120			
Chromium	245000		ng/l	240000		102	80-120			
Cobalt	50000		ng/l	50000		100	80-120			
Copper	1.94E6		ng/l	2.0000E6		97.2	80-120			
Lead	209000		ng/l	200000		105	80-120			
Manganese	512000		ng/l	500000		102	80-120			
Molybdenum	354000		ng/l	350000		101	80-120			
Nickel	117000		ng/l	120000		97.6	80-120			
Selenium	19800		ng/l	20000		99.2	80-120			
Thallium	526		ng/l	500.00		105	80-120			
Vanadium	19200		ng/l	20000		96.0	80-120			
Zinc	478000		ng/l	500000		95.5	80-120			
Batch B4B2104 - ICP-MS Extraction										
Blank (B4B2104-BLK1)				Prepared & Analyzed: 02/21/24						
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	0.0793	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

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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 B4B2104 - ICP-MS Extraction										
Blank (B4B2104-BLK1) Continued				Prepared & Analyzed: 02/21/24						
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 (B4B2104-BS1)				Prepared & Analyzed: 02/21/24						
Antimony	0.911	0.0386	ng/m³ Air	1.3829		65.9	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.3	80-120			
Barium	27.0	1.07	ng/m³ Air	27.658		97.7	80-120			
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.33	0.0793	ng/m³ Air	1.3829		96.3	80-120			
Chromium	14.8	2.21	ng/m³ Air	13.829		107	80-120			
Cobalt	1.33	0.0436	ng/m³ Air	1.3829		96.5	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.7	80-120			
Manganese	8.48	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.40	0.359	ng/m³ Air	1.3829		102	80-120			
Nickel	2.81	0.652	ng/m³ Air	2.7658		102	80-120			
Selenium	2.77	0.00896	ng/m³ Air	2.7658		100	80-120			
Thallium	0.130	5.89E-4	ng/m³ Air	0.13829		93.6	80-120			
Vanadium	2.65	0.0529	ng/m³ Air	2.7658		95.7	80-120			
Zinc	120	76.8	ng/m³ Air	82.975		145	80-120			
Duplicate (B4B2104-DUP1)		**Source: 4022021-06**		Prepared & Analyzed: 02/21/24						
Antimony	0.0870	0.0313	ng/m³ Air		0.0984			12.4	10	SL
Arsenic	0.195	0.00760	ng/m³ Air		0.190			2.99	10	
Barium	2.70	0.868	ng/m³ Air		2.52			6.95	10	
Beryllium	0.00521	0.00259	ng/m³ Air		0.00579			10.6	10	
Cadmium	ND	0.0643	ng/m³ Air		ND				10	U
Chromium	ND	1.79	ng/m³ Air		ND				10	U
Cobalt	0.181	0.0354	ng/m³ Air		0.176			2.59	10	
Copper	41.4	2.13	ng/m³ Air		39.9			3.87	10	
Lead	0.832	0.174	ng/m³ Air		0.695			18.0	10	
Manganese	5.56	1.53	ng/m³ Air		5.44			2.21	10	
Molybdenum	2.10	0.291	ng/m³ Air		1.97			6.49	10	
Nickel	0.742	0.529	ng/m³ Air		0.709			4.59	10	
Selenium	0.175	0.00727	ng/m³ Air		0.175			0.103	10	
Thallium	7.96E-4	4.78E-4	ng/m³ Air		8.14E-4			2.24	10	
Vanadium	0.739	0.0429	ng/m³ Air		0.703			5.01	10	
Zinc	ND	62.3	ng/m³ Air		ND				10	U
Duplicate (B4B2104-DUP2)		**Source: 4022021-13**		Prepared & Analyzed: 02/21/24						

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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: 02/28/24 15:08
SUBMITTED: 02/20/24
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 B4B2104 - ICP-MS Extraction										
Duplicate (B4B2104-DUP2) Continued		**Source: 4022021-13**		Prepared & Analyzed: 02/21/24						
Antimony	0.101	0.0311	ng/m³ Air		0.100			0.934	10	SL
Arsenic	0.105	0.00754	ng/m³ Air		0.105			0.353	10	
Barium	2.15	0.861	ng/m³ Air		2.14			0.671	10	
Beryllium	ND	0.00257	ng/m³ Air		0.00260				10	U
Cadmium	ND	0.0638	ng/m³ Air		ND				10	U
Chromium	ND	1.78	ng/m³ Air		ND				10	U
Cobalt	0.0669	0.0351	ng/m³ Air		0.0650			2.89	10	
Copper	33.3	2.12	ng/m³ Air		32.7			1.77	10	
Lead	0.414	0.172	ng/m³ Air		0.410			0.946	10	
Manganese	2.19	1.52	ng/m³ Air		2.13			2.53	10	
Molybdenum	1.08	0.289	ng/m³ Air		1.08			0.0679	10	
Nickel	ND	0.525	ng/m³ Air		ND				10	U
Selenium	0.172	0.00721	ng/m³ Air		0.177			2.77	10	
Thallium	4.97E-4	4.74E-4	ng/m³ Air		4.74E-4			4.67	10	
Vanadium	0.509	0.0426	ng/m³ Air		0.501			1.53	10	
Zinc	ND	61.8	ng/m³ Air		ND				10	U
Matrix Spike (B4B2104-MS1)		**Source: 4022021-06**		Prepared & Analyzed: 02/21/24						
Antimony	0.828	0.0313	ng/m³ Air	1.1214	0.0984	65.0	80-120			SL
Arsenic	2.39	0.00760	ng/m³ Air	2.2428	0.190	98.2	80-120			
Barium	24.5	0.868	ng/m³ Air	22.428	2.52	98.0	80-120			
Beryllium	1.16	0.00259	ng/m³ Air	1.1214	0.00579	103	80-120			
Cadmium	1.10	0.0643	ng/m³ Air	1.1214	ND	98.3	80-120			
Chromium	12.5	1.79	ng/m³ Air	11.214	ND	112	80-120			
Cobalt	1.29	0.0354	ng/m³ Air	1.1214	0.176	99.0	80-120			
Copper	64.3	2.13	ng/m³ Air	22.428	39.9	109	80-120			
Lead	12.0	0.174	ng/m³ Air	11.214	0.695	101	80-120			
Manganese	12.4	1.53	ng/m³ Air	6.7283	5.44	104	80-120			
Molybdenum	3.13	0.291	ng/m³ Air	1.1214	1.97	103	80-120			
Nickel	2.77	0.529	ng/m³ Air	2.2428	0.709	92.0	80-120			
Selenium	2.46	0.00727	ng/m³ Air	2.2428	0.175	102	80-120			
Thallium	0.106	4.78E-4	ng/m³ Air	0.11214	8.14E-4	94.0	80-120			
Vanadium	2.87	0.0429	ng/m³ Air	2.2428	0.703	96.6	80-120			
Zinc	104	62.3	ng/m³ Air	67.283	ND	155	80-120			
Matrix Spike Dup (B4B2104-MSD1)		**Source: 4022021-06**		Prepared & Analyzed: 02/21/24						
Antimony	0.795	0.0313	ng/m³ Air	1.1214	0.0984	62.1	80-120	4.00	20	SL
Arsenic	2.37	0.00760	ng/m³ Air	2.2428	0.190	97.4	80-120	0.774	20	
Barium	24.2	0.868	ng/m³ Air	22.428	2.52	96.8	80-120	1.04	20	
Beryllium	1.16	0.00259	ng/m³ Air	1.1214	0.00579	103	80-120	0.180	20	

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
SUBMITTED: 02/20/24
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 B4B2104 - ICP-MS Extraction										
Matrix Spike Dup (B4B2104-MSD1) Conti			**Source: 4022021-06**		Prepared & Analyzed: 02/21/24					
Cadmium	1.08	0.0643	ng/m³ Air	1.1214	ND	96.6	80-120	1.73	20	
Chromium	12.5	1.79	ng/m³ Air	11.214	ND	111	80-120	0.455	20	
Cobalt	1.26	0.0354	ng/m³ Air	1.1214	0.176	96.8	80-120	1.94	20	
Copper	67.0	2.13	ng/m³ Air	22.428	39.9	121	80-120	4.11	20	QM-07
Lead	12.0	0.174	ng/m³ Air	11.214	0.695	101	80-120	0.535	20	
Manganese	12.3	1.53	ng/m³ Air	6.7283	5.44	102	80-120	1.03	20	
Molybdenum	3.21	0.291	ng/m³ Air	1.1214	1.97	111	80-120	2.58	20	
Nickel	2.73	0.529	ng/m³ Air	2.2428	0.709	90.2	80-120	1.49	20	
Selenium	2.42	0.00727	ng/m³ Air	2.2428	0.175	100	80-120	1.34	20	
Thallium	0.106	4.78E-4	ng/m³ Air	0.11214	8.14E-4	93.7	80-120	0.303	20	
Vanadium	2.84	0.0429	ng/m³ Air	2.2428	0.703	95.3	80-120	1.02	20	
Zinc	104	62.3	ng/m³ Air	67.283	ND	155	80-120	0.00183	20	
Post Spike (B4B2104-PS1)			**Source: 4022021-06**		Prepared & Analyzed: 02/21/24					
Antimony	0.316	0.0313	ng/m³ Air	0.22428	0.0984	97.2	75-125			SL
Arsenic	1.25	0.00760	ng/m³ Air	1.1214	0.190	94.4	75-125			
Barium	4.69	0.868	ng/m³ Air	2.2428	2.52	97.1	75-125			
Beryllium	0.238	0.00259	ng/m³ Air	0.22428	0.00579	103	75-125			
Cadmium	0.115	0.0643	ng/m³ Air	0.11214	ND	103	75-125			
Chromium	2.45	1.79	ng/m³ Air	1.1214	ND	219	75-125			
Cobalt	0.388	0.0354	ng/m³ Air	0.22428	0.176	94.7	75-125			
Copper	51.7	2.13	ng/m³ Air	11.214	39.9	105	75-125			
Lead	22.3	0.174	ng/m³ Air	22.428	0.695	96.1	75-125			
Manganese	7.60	1.53	ng/m³ Air	2.2428	5.44	96.1	75-125			
Molybdenum	3.00	0.291	ng/m³ Air	1.1214	1.97	92.2	75-125			
Nickel	2.77	0.529	ng/m³ Air	2.2428	0.709	92.1	75-125			
Selenium	1.32	0.00727	ng/m³ Air	1.1214	0.175	102	75-125			
Thallium	0.0548	4.78E-4	ng/m³ Air	5.6069E-2	8.14E-4	96.2	75-125			
Vanadium	1.75	0.0429	ng/m³ Air	1.1214	0.703	93.3	75-125			
Zinc	68.5	62.3	ng/m³ Air	22.428	ND	305	75-125			
Dilution Check (B4B2104-SRL1)			**Source: 4022021-06**		Prepared & Analyzed: 02/21/24					
Antimony	ND	0.156	ng/m³ Air		ND				10	SL, U
Arsenic	0.206	0.0380	ng/m³ Air		0.190			8.29	10	
Barium	ND	4.34	ng/m³ Air		ND				10	U
Beryllium	ND	0.0130	ng/m³ Air		ND				10	U
Cadmium	ND	0.322	ng/m³ Air		ND				10	U
Chromium	ND	8.96	ng/m³ Air		ND				10	U
Cobalt	0.180	0.177	ng/m³ Air		ND			2.05	10	
Copper	40.7	10.7	ng/m³ Air		39.9			2.02	10	

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FILE #: 4205.00.003.001
REPORTED: 02/28/24 15:08
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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 B4B2104 - ICP-MS Extraction										
Dilution Check (B4B2104-SRL1) ContinueSource: 4022021-06 Prepared & Analyzed: 02/21/24										
Lead	ND	0.868	ng/m³ Air		ND				10	U
Manganese	ND	7.66	ng/m³ Air		ND				10	U
Molybdenum	1.96	1.46	ng/m³ Air		1.97			0.372	10	
Nickel	ND	2.64	ng/m³ Air		ND				10	U
Selenium	0.209	0.0363	ng/m³ Air		0.175			18.0	10	
Thallium	ND	0.00239	ng/m³ Air		ND				10	U
Vanadium	0.712	0.214	ng/m³ Air		0.703			1.27	10	
Zinc	ND	311	ng/m³ Air		ND				10	U
Batch B4B2201 - ICP-MS Extraction										
Blank (B4B2201-BLK1) Prepared & Analyzed: 02/22/24										
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	0.0793	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							B, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4B2201-BS1) Prepared & Analyzed: 02/22/24										
Antimony	0.767	0.0386	ng/m³ Air	1.3829		55.5	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	27.9	1.07	ng/m³ Air	27.658		101	80-120			
Beryllium	1.37	0.00320	ng/m³ Air	1.3829		99.2	80-120			
Cadmium	1.39	0.0793	ng/m³ Air	1.3829		101	80-120			
Chromium	15.8	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	33.4	2.63	ng/m³ Air	27.658		121	80-120			
Lead	14.1	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	8.99	1.89	ng/m³ Air	8.2975		108	80-120			
Molybdenum	1.52	0.359	ng/m³ Air	1.3829		110	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 B4B2201 - ICP-MS Extraction										
LCS (B4B2201-BS1) Continued				Prepared & Analyzed: 02/22/24						
Nickel	3.20	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.82	0.00896	ng/m³ Air	2.7658		102	80-120			
Thallium	0.141	5.89E-4	ng/m³ Air	0.13829		102	80-120			B
Vanadium	2.75	0.0529	ng/m³ Air	2.7658		99.6	80-120			
Zinc	117	76.8	ng/m³ Air	82.975		142	80-120			
Duplicate (B4B2201-DUP1)				**Source: 4022021-26**	Prepared & Analyzed: 02/22/24					
Antimony	0.0569	0.0331	ng/m³ Air		0.0516			9.75	10	SL
Arsenic	0.0947	0.00804	ng/m³ Air		0.0844			11.4	10	
Barium	2.36	0.918	ng/m³ Air		2.18			7.95	10	
Beryllium	0.00692	0.00274	ng/m³ Air		0.00734			5.81	10	
Cadmium	ND	0.0680	ng/m³ Air		ND				10	U
Chromium	1.97	1.90	ng/m³ Air		ND				10	
Cobalt	0.137	0.0374	ng/m³ Air		0.120			13.0	10	
Copper	34.5	2.26	ng/m³ Air		33.7			2.49	10	
Lead	0.289	0.184	ng/m³ Air		0.280			3.24	10	
Manganese	3.29	1.62	ng/m³ Air		2.96			10.6	10	
Molybdenum	1.99	0.308	ng/m³ Air		1.88			5.44	10	
Nickel	0.856	0.559	ng/m³ Air		0.747			13.6	10	
Selenium	0.126	0.00768	ng/m³ Air		0.123			2.44	10	
Thallium	7.81E-4	5.05E-4	ng/m³ Air		7.90E-4			1.02	10	B
Vanadium	0.509	0.0454	ng/m³ Air		0.484			5.13	10	
Zinc	ND	65.9	ng/m³ Air		ND				10	U
Duplicate (B4B2201-DUP2)				**Source: 4022021-20**	Prepared & Analyzed: 02/22/24					
Antimony	0.0923	0.0304	ng/m³ Air		0.0907			1.85	10	SL
Arsenic	0.269	0.00737	ng/m³ Air		0.268			0.467	10	
Barium	3.84	0.842	ng/m³ Air		3.84			0.00182	10	
Beryllium	0.00741	0.00252	ng/m³ Air		0.00636			15.3	10	
Cadmium	ND	0.0624	ng/m³ Air		ND				10	U
Chromium	2.00	1.74	ng/m³ Air		1.98			0.610	10	
Cobalt	0.220	0.0343	ng/m³ Air		0.218			0.518	10	
Copper	32.6	2.07	ng/m³ Air		32.5			0.280	10	
Lead	0.957	0.168	ng/m³ Air		0.955			0.299	10	
Manganese	5.97	1.49	ng/m³ Air		5.94			0.533	10	
Molybdenum	1.18	0.282	ng/m³ Air		1.17			0.566	10	
Nickel	1.54	0.513	ng/m³ Air		1.51			1.99	10	
Selenium	0.137	0.00705	ng/m³ Air		0.147			7.07	10	
Thallium	9.27E-4	4.63E-4	ng/m³ Air		8.18E-4			12.6	10	B
Vanadium	2.00	0.0416	ng/m³ Air		1.98			1.05	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 B4B2201 - ICP-MS Extraction										
Duplicate (B4B2201-DUP2) Continued		**Source: 4022021-20**		Prepared & Analyzed: 02/22/24						
Zinc	ND	60.4	ng/m³ Air		ND				10	U
Matrix Spike (B4B2201-MS1)		**Source: 4022021-26**		Prepared & Analyzed: 02/22/24						
Antimony	0.554	0.0331	ng/m³ Air	1.1860	0.0516	42.4	80-120			SL
Arsenic	2.46	0.00804	ng/m³ Air	2.3721	0.0844	100	80-120			
Barium	26.0	0.918	ng/m³ Air	23.721	2.18	100	80-120			
Beryllium	1.15	0.00274	ng/m³ Air	1.1860	0.00734	95.9	80-120			
Cadmium	1.22	0.0680	ng/m³ Air	1.1860	ND	103	80-120			
Chromium	14.3	1.90	ng/m³ Air	11.860	ND	121	80-120			
Cobalt	1.33	0.0374	ng/m³ Air	1.1860	0.120	102	80-120			
Copper	59.5	2.26	ng/m³ Air	23.721	33.7	109	80-120			
Lead	12.5	0.184	ng/m³ Air	11.860	0.280	103	80-120			
Manganese	10.7	1.62	ng/m³ Air	7.1163	2.96	109	80-120			
Molybdenum	3.01	0.308	ng/m³ Air	1.1860	1.88	95.5	80-120			
Nickel	3.11	0.559	ng/m³ Air	2.3721	0.747	99.6	80-120			
Selenium	2.51	0.00768	ng/m³ Air	2.3721	0.123	100	80-120			
Thallium	0.121	5.05E-4	ng/m³ Air	0.11860	7.90E-4	101	80-120			B
Vanadium	2.86	0.0454	ng/m³ Air	2.3721	0.484	100	80-120			
Zinc	112	65.9	ng/m³ Air	71.163	ND	157	80-120			
Matrix Spike Dup (B4B2201-MSD1)		**Source: 4022021-26**		Prepared & Analyzed: 02/22/24						
Antimony	0.541	0.0331	ng/m³ Air	1.1860	0.0516	41.3	80-120	2.44	20	SL
Arsenic	2.48	0.00804	ng/m³ Air	2.3721	0.0844	101	80-120	0.722	20	
Barium	26.2	0.918	ng/m³ Air	23.721	2.18	101	80-120	0.877	20	
Beryllium	1.08	0.00274	ng/m³ Air	1.1860	0.00734	90.3	80-120	6.07	20	
Cadmium	1.22	0.0680	ng/m³ Air	1.1860	ND	103	80-120	0.0103	20	
Chromium	14.4	1.90	ng/m³ Air	11.860	ND	122	80-120	0.923	20	
Cobalt	1.36	0.0374	ng/m³ Air	1.1860	0.120	104	80-120	1.77	20	
Copper	60.9	2.26	ng/m³ Air	23.721	33.7	115	80-120	2.29	20	
Lead	12.5	0.184	ng/m³ Air	11.860	0.280	103	80-120	0.0240	20	
Manganese	10.6	1.62	ng/m³ Air	7.1163	2.96	108	80-120	0.669	20	
Molybdenum	3.14	0.308	ng/m³ Air	1.1860	1.88	106	80-120	3.97	20	
Nickel	3.09	0.559	ng/m³ Air	2.3721	0.747	98.8	80-120	0.647	20	
Selenium	2.53	0.00768	ng/m³ Air	2.3721	0.123	102	80-120	1.13	20	
Thallium	0.121	5.05E-4	ng/m³ Air	0.11860	7.90E-4	101	80-120	0.0178	20	B
Vanadium	2.87	0.0454	ng/m³ Air	2.3721	0.484	101	80-120	0.622	20	
Zinc	105	65.9	ng/m³ Air	71.163	ND	147	80-120	6.84	20	
Post Spike (B4B2201-PS1)		**Source: 4022021-26**		Prepared & Analyzed: 02/22/24						
Antimony	0.283	0.0331	ng/m³ Air	0.23721	0.0516	97.6	75-125			SL
Arsenic	1.24	0.00804	ng/m³ Air	1.1860	0.0844	97.3	75-125			

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: 02/28/24 15:08
SUBMITTED: 02/20/24
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 B4B2201 - ICP-MS Extraction										
Post Spike (B4B2201-PS1) Continued			**Source: 4022021-26**		Prepared & Analyzed: 02/22/24					
Barium	4.49	0.918	ng/m³ Air	2.3721	2.18	97.4	75-125			
Beryllium	0.238	0.00274	ng/m³ Air	0.23721	0.00734	97.1	75-125			
Cadmium	0.125	0.0680	ng/m³ Air	0.11860	ND	106	75-125			
Chromium	2.94	1.90	ng/m³ Air	1.1860	ND	248	75-125			
Cobalt	0.354	0.0374	ng/m³ Air	0.23721	0.120	98.3	75-125			
Copper	46.2	2.26	ng/m³ Air	11.860	33.7	106	75-125			
Lead	23.8	0.184	ng/m³ Air	23.721	0.280	99.0	75-125			
Manganese	5.32	1.62	ng/m³ Air	2.3721	2.96	99.5	75-125			
Molybdenum	2.98	0.308	ng/m³ Air	1.1860	1.88	93.1	75-125			
Nickel	3.05	0.559	ng/m³ Air	2.3721	0.747	96.9	75-125			
Selenium	1.31	0.00768	ng/m³ Air	1.1860	0.123	99.9	75-125			
Thallium	0.0611	5.05E-4	ng/m³ Air	5.9302E-2	7.90E-4	102	75-125			B
Vanadium	1.63	0.0454	ng/m³ Air	1.1860	0.484	96.3	75-125			
Zinc	68.7	65.9	ng/m³ Air	23.721	ND	290	75-125			
Dilution Check (B4B2201-SRL1)			**Source: 4022021-26**		Prepared & Analyzed: 02/22/24					
Antimony	ND	0.166	ng/m³ Air		ND				10	SL, U
Arsenic	0.0843	0.0402	ng/m³ Air		0.0844			0.105	10	
Barium	ND	4.59	ng/m³ Air		ND				10	U
Beryllium	ND	0.0137	ng/m³ Air		ND				10	U
Cadmium	ND	0.340	ng/m³ Air		ND				10	U
Chromium	ND	9.48	ng/m³ Air		ND				10	U
Cobalt	ND	0.187	ng/m³ Air		ND				10	U
Copper	33.9	11.3	ng/m³ Air		33.7			0.513	10	
Lead	ND	0.918	ng/m³ Air		ND				10	U
Manganese	ND	8.10	ng/m³ Air		ND				10	U
Molybdenum	1.87	1.54	ng/m³ Air		1.88			0.534	10	
Nickel	ND	2.80	ng/m³ Air		ND				10	U
Selenium	0.154	0.0384	ng/m³ Air		0.123			22.1	10	
Thallium	ND	0.00253	ng/m³ Air		ND				10	B, U
Vanadium	0.495	0.227	ng/m³ Air		0.484			2.34	10	
Zinc	ND	329	ng/m³ Air		ND				10	U

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Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23206

Reviewed by:
Kierra Johnson 2/29/2024 and Shanna Vasser 3/1/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 2/9/2024 – 2/14/2024
Report No: 4022021

√	1.	Chain of custody (CoC) documentation is present.
X	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:

2. The laboratory noted that MFL-AM01-020924-HM, MFL-AM01-021024-HM/MS/MSD, MFL-AM02-021024-HM, MFL-AM02-021124-HM, and MFL-AM04-021124-HM were received in good condition and covered in dead bugs. There were no additional details; therefore, it is assumed the other samples met method criteria for analysis.

13. Field blank detections above the method detection limit were reported for barium in MFL-FB01-021324-HM

Notes: None

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

February 15 through February 21, 2024
[Report Updated: December 4, 2024]

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

Particulate monitoring and air sampling occurred from February 15 through February 21, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from February 15 through February 21 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

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

the comment “Numerous gypsum fibers present” for samples collected at all the monitoring stations from February 15 through 21.

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

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

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

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.5 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

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

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

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

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

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

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

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

Attachments

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM10
Maui Wildfires, Lahaina
February 15 through February 21, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
2/15/2024	Leialii Hawaiian Homelands (AM-01)	5.5
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	5.1
	Lahaina Boys & Girls Club (AM-04)	5.2
2/16/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	9.4
	Lahaina Intermediate School (AM-03)	7.1
	Lahaina Boys & Girls Club (AM-04)	6.3
2/17/2024	Leialii Hawaiian Homelands (AM-01)	7.6
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	5.6
	Lahaina Boys & Girls Club (AM-04)	6.3
2/18/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	9.1
	Lahaina Boys & Girls Club (AM-04)	10
2/19/2024	Leialii Hawaiian Homelands (AM-01)	7.9
	WW Pump Station #4 (AM-02)	8.7
	Lahaina Intermediate School (AM-03)	6.7
	Lahaina Boys & Girls Club (AM-04)	6.3
2/20/2024	Leialii Hawaiian Homelands (AM-01)	6.2
	WW Pump Station #4 (AM-02)	8.2
	Lahaina Intermediate School (AM-03)	6.9
	Lahaina Boys & Girls Club (AM-04)	6.1
2/21/2024	Leialii Hawaiian Homelands (AM-01)	6.7
	WW Pump Station #4 (AM-02)	8.2
	Lahaina Intermediate School (AM-03)	7.4
	Lahaina Boys & Girls Club (AM-04)	20

Notes:
µg/m3 = micrograms per cubic meter
All Stations on February 18 are based off of a 23 hr TWA calculation
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation
Results from Lahaina Intermediate School on 2/20 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
February 15 through February 21, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
2/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000515	0.000802	0.00305	0.00000849	ND	0.00205	0.000242	0.0582	0.000552	0.00779	0.00260	0.000889	0.000143	0.000000905	0.000613	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.0000758	0.000295	0.00277	0.00000506	ND	ND	0.000150	0.0162	0.000700	0.00419	0.000717	0.000655	0.000136	0.000000668	0.000404	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000441	0.000102	0.00209	0.00000757	ND	ND	0.000171	0.0327	0.000246	0.00352	0.00177	0.000568	0.000112	0.000000582	0.000323	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000747	0.000856	0.00396	0.0000133	ND	0.00302	0.000466	0.0412	0.00105	0.0127	0.00180	0.00125	0.000159	0.00000104	0.00101	0.0737
2/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	ND	0.000149	0.00259	0.00000515	ND	ND	0.000148	0.0336	0.000742	0.00485	0.00156	ND	0.000175	0.00000156	0.000378	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000125	0.000518	0.00553	0.0000133	0.000128	0.00322	0.000546	0.0278	0.00144	0.0138	0.00103	0.00262	0.000219	0.00000164	0.00125	ND
	Lahaina Intermediate School (AM-03)	<0.0025	ND	0.0000685	0.00162	0.0000110	ND	0.00213	0.000211	0.0341	0.000419	0.00540	0.00189	0.000876	0.000148	0.00000121	0.000483	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000570	0.000407	0.00416	0.0000203	ND	0.00406	0.000673	0.0125	0.000937	0.0204	0.000566	0.00190	0.000215	0.00000158	0.00155	ND
2/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	ND	0.000290	0.00266	0.00000784	ND	0.00221	0.000339	0.0223	0.000343	0.0116	0.00117	0.000629	0.000155	0.000000869	0.000716	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000145	0.00140	0.0105	0.0000266	0.0000604	0.00426	0.000865	0.0356	0.00348	0.0263	0.000937	0.00234	0.000265	0.00000151	0.00260	0.0714
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000357	0.0000723	0.00171	0.00000996	ND	0.00216	0.000193	0.0353	0.000367	0.00503	0.00195	0.000773	0.000111	0.000000598	0.000469	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000677	0.000248	0.00367	0.00000947	ND	0.00267	0.000326	0.0462	0.00175	0.00921	0.00104	0.00105	0.000145	0.000000773	0.000735	ND
2/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000436	0.000599	0.00701	0.0000143	ND	0.00317	0.000656	0.0264	0.00115	0.0228	0.00119	0.000951	0.000289	0.00000475	0.00140	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000115	0.00104	0.00906	0.0000176	ND	0.00340	0.000707	0.0296	0.00285	0.0207	0.000880	0.00188	0.000270	0.00000414	0.00181	ND
	Lahaina Intermediate School (AM-03)	<0.0025	ND	0.000198	0.00401	0.00000413	ND	ND	0.0000899	0.0430	0.000758	0.00246	0.00244	ND	0.000169	0.00000351	0.000207	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000710	0.000322	0.00537	0.00000587	ND	0.00211	0.000161	0.0285	0.00132	0.00500	0.00147	0.000600	0.000213	0.00000430	0.000422	ND
2/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000312	0.000411	0.00309	0.00000835	0.0000764	0.00221	0.000297	0.0393	0.000570	0.00964	0.00178	0.000671	0.000178	0.00000170	0.000783	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.0000910	0.000232	0.00527	0.00000653	ND	0.00186	0.000199	0.0213	0.000824	0.00604	0.00101	0.000729	0.000161	0.00000156	0.000562	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000363	0.000155	0.00249	0.00000527	ND	0.00203	0.000146	0.0539	0.000741	0.00339	0.00266	0.000578	0.000152	0.00000142	0.000284	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000458	0.000203	0.00279	0.00000423	ND	ND	0.000128	0.0232	0.000624	0.00382	0.00149	ND	0.000150	0.00000145	0.000314	ND
2/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.000136	0.00282	0.00802	0.00000480	ND	0.00249	0.000193	0.0500	0.00163	0.00592	0.00204	0.000827	0.000124	0.00000141	0.000626	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.0000996	0.000270	0.00588	0.0000110	ND	0.00247	0.000418	0.0216	0.000790	0.0126	0.000901	0.00130	0.000165	0.00000141	0.00115	ND
	Lahaina Intermediate School (AM-03)	<0.0025	ND	0.000546	0.00256	0.0000146	ND	0.00259	0.000249	0.0485	0.000433	0.00595	0.00257	0.000828	0.000144	0.00000132	0.000641	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000545	0.000210	0.00370	0.00000741	ND	0.00215	0.000235	0.0235	0.000773	0.00632	0.00142	0.000824	0.000145	0.00000132	0.000619	ND
2/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000374	0.000503	0.00337	0.00000647	ND	0.00203	0.000241	0.0525	0.000576	0.00649	0.00222	0.00105	0.000145	0.00000103	0.000855	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.0000811	0.000236	0.00369	0.00000651	ND	0.00186	0.000202	0.0195	0.000667	0.00546	0.00107	0.000820	0.000155	0.000000981	0.000905	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000636	0.000181	0.00343	0.0000214	ND	0.00251	0.000341	0.0511	0.000526	0.00749	0.00264	0.00127	0.000181	0.00000107	0.00111	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000563	0.000130	0.00298	0.00000522	ND	0.00207	0.000159	0.0211	0.000490	0.00500	0.00140	0.000702	0.000160	0.00000102	0.000886	ND
95% Upper Confidence Limit[2]		NA	0.0000900	0.000670	0.00495	0.0000120	0.000148	0.00279	0.000390	0.0393	0.00119	0.0115	0.00185	0.00125	0.000190	0.00000200	0.00105	0.0800

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
February 15 through February 21, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
2/15/2024	AM-01	Leialii Hawaiian Homelands	1.6	SE	71	77	759.5
2/15/2024	AM-02	WW Pump Station #4	1.7	E	72	76	761.6
2/15/2024	AM-03	Lahaina Intermediate School	2.3	ESE	72	80	752.0
2/15/2024	AM-04	Lahaina Boys & Girls Club	2.7	SSE	74	73	761.0
2/16/2024	AM-01	Leialii Hawaiian Homelands	1.9	SSE	71	65	761.5
2/16/2024	AM-02	WW Pump Station #4	1.9	ESE	72	66	763.6
2/16/2024	AM-03	Lahaina Intermediate School	2.4	SE	73	69	753.9
2/16/2024	AM-04	Lahaina Boys & Girls Club	2.4	S	74	66	763.0
2/17/2024	AM-01	Leialii Hawaiian Homelands	2.4	SE	72	55	763.1
2/17/2024	AM-02	WW Pump Station #4	2.2	E	73	55	765.0
2/17/2024	AM-03	Lahaina Intermediate School	1.7	ESE	73	59	755.3
2/17/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	72	62	764.5
2/18/2024	AM-01	Leialii Hawaiian Homelands	1.6	SE	73	53	764.4
2/18/2024	AM-02	WW Pump Station #4	1.2	SE	73	55	766.5
2/18/2024	AM-03	Lahaina Intermediate School	1.0	ESE	72	58	756.9
2/18/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	72	58	766.0
2/19/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	73	54	764.3
2/19/2024	AM-02	WW Pump Station #4	1.0	SE	73	57	766.5
2/19/2024	AM-03	Lahaina Intermediate School	1.1	ESE	73	60	756.9
2/19/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	72	60	766.0
2/20/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	74	53	764.1
2/20/2024	AM-02	WW Pump Station #4	0.9	SSE	75	55	766.3
2/20/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	56	756.7
2/20/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	75	56	765.7
2/21/2024	AM-01	Leialii Hawaiian Homelands	1.1	ESE	75	59	763.6
2/21/2024	AM-02	WW Pump Station #4	1.1	SE	75	61	765.7
2/21/2024	AM-03	Lahaina Intermediate School	1.1	ESE	75	64	756.1
2/21/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSE	76	62	765.1

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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EMSL Order:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/23/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021524-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7135.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403421
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: 042403421-0001 **Customer Sample:** MFL-AM01-021524-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	J7	None Detected									
A5	F8	None Detected									
A5	C6	None Detected									
A6	A5	None Detected									
A6	H3	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:	

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Project: **Maui Fires - Lahaina**

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Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/23/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021524-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403421
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: 042403421-0002 **Customer Sample:** MFL-AM02-021524-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	A4	None Detected									
B1	D7	None Detected									
B1	I5	None Detected									
B2	B4	None Detected									
B2	G4	None Detected									

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

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Customer PO:	1206126
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Project: **Maui Fires - Lahaina**

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Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/23/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-021524-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7177.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403421-0003 **Customer Sample:** MFL-AM03-021524-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	A4	None Detected									
B5	D4	None Detected									
B5	G4	None Detected									
B6	I5	None Detected									
B6	F4	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:	

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/23/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021524-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7146.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403421-0004 **Customer Sample:** MFL-AM04-021524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A5	None Detected									
C2	D6	None Detected									
C2	H3	None Detected									
C3	B5	None Detected									
C3	F4	None Detected									

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

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Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: Maui Fires - Lahaina

Phone:	(703) 489-2674
Fax:	
Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/23/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021524-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

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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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: 042403421
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: 042403421-0005 **Customer Sample:** MFL-FB01-021524-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	A3	None Detected									
C5	C4	None Detected									
C5	E2	None Detected									
C5	G3	None Detected									
C5	I5	None Detected									
C6	J6	None Detected									
C6	H5	None Detected									
C6	F7	None Detected									
C6	D5	None Detected									
C6	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:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

Attn: **Chelsea Saber**
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021624-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7213.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403421
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: 042403421-0006 **Customer Sample:** MFL-AM01-021624-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	A10	None Detected									
D1	D7	None Detected									
D1	G3	None Detected									
D2	C3	None Detected									
D2	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:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021624-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7206.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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: 042403421-0007 **Customer Sample:** MFL-AM02-021624-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	A4	None Detected									
D5	D2	None Detected									
D5	H6	None Detected									
D6	B6	None Detected									
D6	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-AM03-021624-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7191.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403421-0008 **Customer Sample:** MFL-AM03-021624-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	A8	None Detected									
E1	E9	None Detected									
E1	H7	None Detected									
E2	C7	None Detected									
E2	G4	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-AM04-021624-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7054.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

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EMSL Order ID: 042403421
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: 042403421-0009 **Customer Sample:** MFL-AM04-021624-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	H5	None Detected									
E5	B6	None Detected									
E6	B4	None Detected									
E6	H5	None Detected									

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

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EMSL Order:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/23/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021624-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID: 042403421
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: 042403421-0010 **Customer Sample:** MFL-FB01-021624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J8	None Detected									
F1	H7	None Detected									
F1	F4	None Detected									
F1	D5	None Detected									
F1	B6	None Detected									
F2	A6	None Detected									
F2	C7	None Detected									
F2	E8	None Detected									
F2	G9	None Detected									
F2	I6	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Project: **Maui Fires - Lahaina**

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Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/26/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021724-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7264.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403421
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: 042403421-0011 **Customer Sample:** MFL-AM01-021724-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	J7	None Detected									
F5	G6	None Detected									
F5	B4	None Detected									
F6	H4	None Detected									
F6	A7	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:	1206126
Project ID:	

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Project: **Maui Fires - Lahaina**

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Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/26/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021724-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403421
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: 042403421-0012 **Customer Sample:** MFL-AM02-021724-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	H3	None Detected									
G1	E7	None Detected									
G1	B4	None Detected									
G2	H4	None Detected									
G2	C6	None Detected									

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

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Phone:	(703) 489-2674
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Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/26/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-021724-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7140.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403421-0013 **Customer Sample:** MFL-AM03-021724-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	A5	None Detected									
G5	D8	None Detected									
G5	G8	None Detected									
G6	H3	None Detected									
G6	B7	None Detected									

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

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

EMSL Order:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/26/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021724-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403421
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: 042403421-0014 **Customer Sample:** MFL-AM04-021724-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	J6	None Detected									
H1	G3	None Detected									
H1	D6	None Detected									
H2	B7	None Detected									
H2	F8	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021724-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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EMSL Order ID: 042403421
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: 042403421-0015 **Customer Sample:** MFL-FB01-021724-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	J6	None Detected									
H5	H5	None Detected									
H5	F4	None Detected									
H5	D3	None Detected									
H5	B5	None Detected									
H6	J5	None Detected									
H6	H6	None Detected									
H6	F7	None Detected									
H6	D8	None Detected									
H6	B9	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-AM01-021824-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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: 042403421-0016 **Customer Sample:** MFL-AM01-021824-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	I8	None Detected									
I1	F4	None Detected									
I1	C4	None Detected									
I2	I4	None Detected									
I2	B6	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-AM02-021824-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7224.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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: 042403421-0017 **Customer Sample:** MFL-AM02-021824-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	J6	None Detected									
I5	F7	None Detected									
I5	D9	None Detected									
I6	I8	None Detected									
I6	D9	None Detected									

Abbreviations used:
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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-AM03-021824-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7246.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042403421
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: 042403421-0018 **Customer Sample:** MFL-AM03-021824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	A4	None Detected									
J1	D6	None Detected									
J1	F7	None Detected									
J2	C5	None Detected									
J2	H7	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:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/26/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021824-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042403421
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: 042403421-0019 **Customer Sample:** MFL-AM04-021824-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	J2	None Detected									
J5	G3	None Detected									
J5	F7	None Detected									
J6	I3	None Detected									
J6	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:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/26/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021824-AB**		**Sample Description:**	
EMSL Sample Number:	042403421-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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

EMSL Order ID: 042403421
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: 042403421-0020 **Customer Sample:** MFL-FB01-021824-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	A5	None Detected									
K1	C4	None Detected									
K1	E7	None Detected									
K1	G6	None Detected									
K1	I5	None Detected									
K2	A5	None Detected									
K2	C6	None Detected									
K2	E7	None Detected									
K2	G10	None Detected									
K2	I6	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042403421
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/21/2024 09:15 AM
Analysis Date:	02/23/2024
Report Date:	02/27/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042403421-0021		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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

EMSL Order ID: 042403421
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: 042403421-0021 **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					
A2	A4	None Detected									
A2	C5	None Detected									
A2	E7	None Detected									
A2	G8	None Detected									
A2	I4	None Detected									
A3	A3	None Detected									
A3	C5	None Detected									
A3	E3	None Detected									
A3	G5	None Detected									
A3	I3	None Detected									

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

OrderID: 042403421

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042403421

RECEIVED EMSL CINNAMINSON, NJ 24 FEB 21 AM 9:29

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

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

Customer Information

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

Billing Information

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

Project Information

Project Name/No:	Maui Fires - Lahaina
Purchase Order:	
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:	Elia Vazquez Saldana
Sampled By Signature:	
No. of Samples in Shipment	20

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-021524-AIB		7,135.200	02/15/24 1105
MFL-AM02-021524-AIB		7,174.224	02/15/24 1119
MFL-AM03-021524-AIB		7,176.960	02/15/24 1314
MFL-AM04-021524-AIB		7,146.864	02/15/24 1333
MFL-FB01-021524-AIB		0	02/15/24 1200
MFL-AM01-021624-AIB		7,213.278	02/16/24 1103
MFL-AM02-021624-AIB		7,206.056	02/16/24 1123
MFL-AM03-021624-AIB		7,191.263	02/16/24 1307

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

All samples received acceptable for analysis.

20

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/19/24 1100	Received by: FedEx	Date/Time: 2/21/24 9:15A
Relinquished by:	Date/Time:	Received by:	Date/Time:

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

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

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

OrderID: 042403421

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042403421

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-AM04-021624-AB		7,054.276	02/16/24 1326
MFL-FB01-021624-AB		0	02/16/24 1200
MFL-AM01-021724-AB		7,264.070	02/17/24 1101
MFL-AM02-021724-AB		7,198.102	02/17/24 1118
MFL-AM03-021724-AB		7,140.029	02/17/24 1305
MFL-AM04-021724-AB		7,225.087	02/17/24 1327
MFL-FB01-021724-AB		0	02/17/24 1200
MFL-AM01-021824-AB		7,159.392	02/18/24 1104
MFL-AM02-021824-AB		7,224.480	02/18/24 1121
MFL-AM03-021824-AB		7,246.056	02/18/24 1304
MFL-AM04-021824-AB		7,206.987	02/18/24 1324
MFL-FB01-021824-AB		0	02/18/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 FEB 21 AM 9:29

Method of Shipment: Fed Ex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/19/24 1100	Received by:	Date/Time
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 2/29/2024 and Shanna Vasser 3/1/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 2/15/2024 - 2/18/2024
Report No: 42403421

√	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:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-021924-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7272.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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: 042403790
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: 042403790-0001 **Customer Sample:** MFL-AM01-021924-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	J6	None Detected									
A5	H5	None Detected									
A5	E8	None Detected									
A6	B5	None Detected									
A6	G4	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:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-021924-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7241.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042403790
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: 042403790-0002 **Customer Sample:** MFL-AM02-021924-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	B2	None Detected									
B2	E8	None Detected									
B2	H5	None Detected									
B4	A7	None Detected									
B4	G3	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:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-021924-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042403790
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: 042403790-0003 **Customer Sample:** MFL-AM03-021924-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	A3	None Detected									
B5	D5	None Detected									
B5	H8	None Detected									
B6	C9	None Detected									
B6	I4	None Detected									

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

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EMSL Order:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-021924-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7226.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042403790
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: 042403790-0004 **Customer Sample:** MFL-AM04-021924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A5	None Detected									
C2	E10	None Detected									
C2	I7	None Detected									
C3	B8	None Detected									
C3	H5	None Detected									

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

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EMSL Order:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-021924-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID: 042403790
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: 042403790-0005 **Customer Sample:** MFL-FB01-021924-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	A6	None Detected									
C5	C7	None Detected									
C5	E8	None Detected									
C5	G6	None Detected									
C5	I4	None Detected									
C6	A2	None Detected									
C6	C3	None Detected									
C6	E4	None Detected									
C6	G3	None Detected									
C6	I4	None Detected									

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

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EMSL Order:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022024-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7050.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403790
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: 042403790-0006 **Customer Sample:** MFL-AM01-022024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	I6	None Detected									
D2	F8	None Detected									
D2	C7	None Detected									
D3	B6	None Detected									
D3	F8	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:	1206126
Project ID:	

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Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-022024-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7258.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403790
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: 042403790-0007 **Customer Sample:** MFL-AM02-022024-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	A8	None Detected									
D5	E9	None Detected									
D5	H10	None Detected									
D6	D9	None Detected									
D6	G7	None Detected									

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

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EMSL Order:	042403790
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Project ID:	

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Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022024-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7170.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403790
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: 042403790-0008 **Customer Sample:** MFL-AM03-022024-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	A6	None Detected									
E1	D4	None Detected									
E1	I7	None Detected									
E2	C6	None Detected									
E2	G4	None Detected									

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

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-022024-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7261.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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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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: 042403790
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: 042403790-0009 **Customer Sample:** MFL-AM04-022024-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	A3	None Detected									
E5	D4	None Detected									
E5	G7	None Detected									
E6	B7	None Detected									
E6	G8	None Detected									

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

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EMSL Order:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022024-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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EMSL Order ID: 042403790
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: 042403790-0010 **Customer Sample:** MFL-FB01-022024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J2	None Detected									
F1	H3	None Detected									
F1	F4	None Detected									
F1	D6	None Detected									
F1	B8	None Detected									
F2	J8	None Detected									
F2	H7	None Detected									
F2	F3	None Detected									
F2	C6	None Detected									
F2	A5	None Detected									

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

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EMSL Order:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

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Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022124-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7156.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042403790
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: 042403790-0011 **Customer Sample:** MFL-AM01-022124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A4	None Detected									
F5	F3	None Detected									
F5	J1	None Detected									
F6	J10	None Detected									
F6	F8	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-AM02-022124-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7013.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403790-0012 **Customer Sample:** MFL-AM02-022124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	H6	None Detected									
G2	E4	None Detected									
G2	C2	None Detected									
G3	H2	None Detected									
G3	B3	None Detected									

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

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Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022124-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042403790
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: 042403790-0013 **Customer Sample:** MFL-AM03-022124-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	A8	None Detected									
G5	D10	None Detected									
G5	I10	None Detected									
G6	I5	None Detected									
G6	A7	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:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-022124-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7039.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID: 042403790
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: 042403790-0014 **Customer Sample:** MFL-AM04-022124-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	A4	None Detected									
H1	D2	None Detected									
H1	I1	None Detected									
H2	I9	None Detected									
H2	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:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022124-AB**		**Sample Description:**	
EMSL Sample Number:	042403790-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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

EMSL Order ID:	**042403790**
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: 042403790-0015 **Customer Sample:** MFL-FB01-022124-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	A8	None Detected									
H5	C7	None Detected									
H5	D3	None Detected									
H5	F2	None Detected									
H5	H3	None Detected									
H6	I8	None Detected									
H6	G7	None Detected									
H6	E8	None Detected									
H6	C7	None Detected									
H6	A5	None Detected									

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

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EMSL Order:	042403790
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/26/2024 08:50 AM
Analysis Date:	02/29/2024
Report Date:	03/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042403790-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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

EMSL Order ID: 042403790
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: 042403790-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	E10	None Detected									
A1	D8	None Detected									
A1	C5	None Detected									
A1	B3	None Detected									
A1	A5	None Detected									
A2	J5	None Detected									
A2	F4	None Detected									
A2	E7	None Detected									
A2	C7	None Detected									
A3	B4	None Detected									

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

OrderID: 042403790

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042403790

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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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:	TetraTech
Contact Name:	Chelsea Suber
Street Address:	1560 Broadway, Ste 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.suber@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 - Lenheimer
Purchase Order:	
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:	Elan Georgia Saldana
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

RECEIVED EMSL CINNAMINSON, NJ FEB 26 AM 10:34

☐ 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-AM01-021924-AB		7,272.818	02/19/24 1103
MFL-AM02-021924-AB		7,241.092	02/19/24 1121
MFL-AM03-021924-AB		7,161.081	02/19/24 1303
MFL-AM04-021924-AB		7,226.813	02/19/24 1325
MFL-FB01-021924-AB		0	02/19/24 1200
MFL-AM01-022024-AB (was ~~022024~~)		7,050.528	02/20/24 1108
MFL-AM02-022024-AB		7,258.608	02/20/24 1125
MFL-AM03-022024-AB		7,170.624	02/20/24 1305

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: 02/22/24 1100	Received by: FX
Relinquished by:		Date/Time:	Received by:

Date/Time: 2/26/24 850a

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

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

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

OrderID: 042403790

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042403790

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-AM04-022024-AB		7,261.920	02/20/24 1327
MFL-FB01-022024-AB		0	02/20/24 1200
MFL-AM01-022124-AB		7,156.920	02/21/24 1101
MFL-AM02-022124-AB		7,013.093	02/21/24 1129
MFL-AM03-022124-AB		7,128.826	02/21/24 1302
MFL-AM04-022124-AB		7,039.080	02/21/24 1331
MFL-FB01-022124-AB		0	02/21/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 FEB 26 A 10:35

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/22/24 1100	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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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 3/5/2024 and Shanna Vasser 3/6/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 2/19/2024 - 2/21/2024
Report No: 42403790

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

Discrepancies: None.

Notes: None

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

March 05, 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 02/26/24 14:05.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-021524-HM	4022628-01	Air	02/15/24 23:59	02/26/24 14:05
MFL-AM02-021524-HM	4022628-02	Air	02/15/24 23:59	02/26/24 14:05
MFL-AM03-021524-HM	4022628-03	Air	02/15/24 23:59	02/26/24 14:05
MFL-AM04-021524-HM	4022628-04	Air	02/15/24 23:59	02/26/24 14:05
MFL-FB01-021524-HM	4022628-05	Air	02/15/24 00:00	02/26/24 14:05
MFL-AM01-021624-HM	4022628-06	Air	02/16/24 23:59	02/26/24 14:05
MFL-AM02-021624-HM	4022628-07	Air	02/16/24 23:59	02/26/24 14:05
MFL-AM03-021624-HM	4022628-08	Air	02/16/24 23:59	02/26/24 14:05
MFL-AM04-021624-HM	4022628-09	Air	02/16/24 23:59	02/26/24 14:05
MFL-AM01-021724-HM	4022628-10	Air	02/17/24 23:59	02/26/24 14:05
MFL-AM02-021724-HM	4022628-11	Air	02/17/24 23:59	02/26/24 14:05
MFL-AM03-021724-HM	4022628-12	Air	02/17/24 23:59	02/26/24 14:05
MFL-AM04-021724-HM	4022628-13	Air	02/17/24 23:59	02/26/24 14:05
MFL-FB01-021724-HM	4022628-14	Air	02/17/24 00:00	02/26/24 14:05
MFL-AM01-021824-HM	4022628-15	Air	02/18/24 23:59	02/26/24 14:05
MFL-AM02-021824-HM	4022628-16	Air	02/18/24 23:59	02/26/24 14:05
MFL-AM03-021824-HM	4022628-17	Air	02/18/24 23:59	02/26/24 14:05
MFL-AM04-021824-HM	4022628-18	Air	02/18/24 23:59	02/26/24 14:05
MFL-AM01-021924-HM/MS/I	4022628-19	Air	02/19/24 23:59	02/26/24 14:05
MFL-AM02-021924-HM	4022628-20	Air	02/19/24 23:59	02/26/24 14:05
MFL-AM03-021924-HM	4022628-21	Air	02/19/24 23:59	02/26/24 14:05

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-021924-HM	4022628-22	Air	02/19/24 23:59	02/26/24 14:05
MFL-FB01-021924-HM	4022628-23	Air	02/19/24 00:00	02/26/24 14:05
MFL-AM01-022024-HM	4022628-24	Air	02/20/24 23:59	02/26/24 14:05
MFL-AM02-022024-HM	4022628-25	Air	02/20/24 23:59	02/26/24 14:05
MFL-AM03-022024-HM	4022628-26	Air	02/20/24 23:59	02/26/24 14:05
MFL-AM04-022024-HM	4022628-27	Air	02/20/24 23:59	02/26/24 14:05
MFL-AM01-022124-HM	4022628-28	Air	02/21/24 23:59	02/26/24 14:05
MFL-AM02-022124-HM	4022628-29	Air	02/21/24 23:59	02/26/24 14:05
MFL-AM03-022124-HM	4022628-30	Air	02/21/24 23:59	02/26/24 14:05
MFL-AM04-022124-HM	4022628-31	Air	02/21/24 23:59	02/26/24 14:05
MFL-FB01-022124-HM	4022628-32	Air	02/21/24 00:00	02/26/24 14:05

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FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021524-HM
Matrix: Air
Lab ID: 4022628-01
Sample Volume: 2007.2 m³
Filter ID:
Sampled: 02/15/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 00:26

Comments: Q9554699 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0515**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.802**		**0.00760**
Barium	**7440-39-3**	**3.05**	QB-01	**0.867**
Beryllium	**7440-41-7**	**0.00849**	GC-BS	**0.00259**
Cadmium	7440-43-9	0.0133	U	0.0601
Chromium	**7440-47-3**	**2.05**		**1.79**
Cobalt	**7440-48-4**	**0.242**		**0.0353**
Copper	**7440-50-8**	**58.2**		**2.13**
Lead	**7439-92-1**	**0.552**		**0.173**
Manganese	**7439-96-5**	**7.79**		**1.53**
Molybdenum	**7439-98-7**	**2.60**		**0.291**
Nickel	**7440-02-0**	**0.889**		**0.528**
Selenium	**7782-49-2**	**0.143**		**0.00726**
Thallium	**7440-28-0**	**9.05E-4**		**4.77E-4**
Vanadium	**7440-62-2**	**0.613**		**0.0429**
Zinc	7440-66-6	37.3	U	62.3

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021524-HM
Matrix: Air
Lab ID: 4022628-02
Sample Volume: 2113.46 m³
Filter ID:
Sampled: 02/15/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 00:43

Comments: Q9554698 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0758**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.295**		**0.00721**
Barium	**7440-39-3**	**2.77**	QB-01	**0.824**
Beryllium	**7440-41-7**	**0.00506**	GC-BS	**0.00246**
Cadmium	7440-43-9	0.0184	U	0.0570
Chromium	7440-47-3	1.61	U	1.70
Cobalt	**7440-48-4**	**0.150**		**0.0336**
Copper	**7440-50-8**	**16.2**		**2.02**
Lead	**7439-92-1**	**0.700**		**0.165**
Manganese	**7439-96-5**	**4.19**		**1.45**
Molybdenum	**7439-98-7**	**0.717**		**0.276**
Nickel	**7440-02-0**	**0.655**		**0.502**
Selenium	**7782-49-2**	**0.136**		**0.00690**
Thallium	**7440-28-0**	**6.68E-4**		**4.53E-4**
Vanadium	**7440-62-2**	**0.404**		**0.0407**
Zinc	7440-66-6	33.0	U	59.1

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021524-HM **Lab ID:** 4022628-03 **Sampled:** 02/15/24 23:59
Matrix: Air **Sample Volume:** 1936.133 m³ **Received:** 02/26/24 14:05
Filter ID: **Analysis Date:** 02/29/24 01:15

Comments: Q9554697 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0441**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.102**		**0.00787**
Barium	**7440-39-3**	**2.09**	QB-01	**0.899**
Beryllium	**7440-41-7**	**0.00757**	GC-BS	**0.00269**
Cadmium	7440-43-9	0.00626	U	0.0623
Chromium	7440-47-3	1.66	U	1.86
Cobalt	**7440-48-4**	**0.171**		**0.0366**
Copper	**7440-50-8**	**32.7**		**2.21**
Lead	**7439-92-1**	**0.246**		**0.180**
Manganese	**7439-96-5**	**3.52**		**1.59**
Molybdenum	**7439-98-7**	**1.77**		**0.302**
Nickel	**7440-02-0**	**0.568**		**0.548**
Selenium	**7782-49-2**	**0.112**		**0.00753**
Thallium	**7440-28-0**	**5.82E-4**		**4.95E-4**
Vanadium	**7440-62-2**	**0.323**		**0.0445**
Zinc	7440-66-6	33.8	U	64.5

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021524-HM
Matrix: Air
Lab ID: 4022628-04
Sample Volume: 1908.774 m³
Filter ID:
Sampled: 02/15/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 01:30

Comments: Q9554693 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0747**	SL	**0.0329**
Arsenic	**7440-38-2**	**0.856**		**0.00799**
Barium	**7440-39-3**	**3.96**	QB-01	**0.912**
Beryllium	**7440-41-7**	**0.0133**	GC-BS	**0.00273**
Cadmium	7440-43-9	0.0217	U	0.0632
Chromium	**7440-47-3**	**3.02**		**1.88**
Cobalt	**7440-48-4**	**0.466**		**0.0372**
Copper	**7440-50-8**	**41.2**		**2.24**
Lead	**7439-92-1**	**1.05**		**0.182**
Manganese	**7439-96-5**	**12.7**		**1.61**
Molybdenum	**7439-98-7**	**1.80**		**0.306**
Nickel	**7440-02-0**	**1.25**		**0.556**
Selenium	**7782-49-2**	**0.159**		**0.00764**
Thallium	**7440-28-0**	**0.00104**		**5.02E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0451**
Zinc	**7440-66-6**	**73.7**		**65.5**

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021524-HM **Lab ID:** 4022628-05 **Sampled:** 02/15/24 00:00
Matrix: Air **Sample Volume:** 2007.2 m³ **Received:** 02/26/24 14:05
Filter ID: **Analysis Date:** 02/29/24 01:46

Comments: Q9545060 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0105	SL, U	0.0313
Arsenic	**7440-38-2**	**0.00893**	FB-01	**0.00760**
Barium	7440-39-3	0.712	QB-01, U	0.867
Beryllium	7440-41-7	0.00108	GC-BS, U	0.00259
Cadmium	7440-43-9	0.00398	U	0.0601
Chromium	7440-47-3	1.32	U	1.79
Cobalt	7440-48-4	0.0312	U	0.0353
Copper	**7440-50-8**	**3.01**	FB-01	**2.13**
Lead	7439-92-1	0.152	U	0.173
Manganese	7439-96-5	0.226	U	1.53
Molybdenum	7439-98-7	0.266	U	0.291
Nickel	7440-02-0	0.354	U	0.528
Selenium	7782-49-2	0.00382	U	0.00726
Thallium	7440-28-0	1.76E-4	U	4.77E-4
Vanadium	7440-62-2	0.0157	U	0.0429
Zinc	7440-66-6	26.7	U	62.3

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021624-HM
Matrix: Air
Lab ID: 4022628-06
Sample Volume: 2024.955 m³
Filter ID:
Sampled: 02/16/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 02:01

Comments: Q9554692 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0242	SL, U	0.0310
Arsenic	**7440-38-2**	**0.149**		**0.00753**
Barium	**7440-39-3**	**2.59**	QB-01	**0.860**
Beryllium	**7440-41-7**	**0.00515**	GC-BS	**0.00257**
Cadmium	7440-43-9	0.0127	U	0.0595
Chromium	7440-47-3	1.73	U	1.78
Cobalt	**7440-48-4**	**0.148**		**0.0350**
Copper	**7440-50-8**	**33.6**		**2.11**
Lead	**7439-92-1**	**0.742**		**0.172**
Manganese	**7439-96-5**	**4.85**		**1.52**
Molybdenum	**7439-98-7**	**1.56**		**0.288**
Nickel	7440-02-0	0.509	U	0.524
Selenium	**7782-49-2**	**0.175**		**0.00720**
Thallium	**7440-28-0**	**0.00156**		**4.73E-4**
Vanadium	**7440-62-2**	**0.378**		**0.0425**
Zinc	7440-66-6	41.8	U	61.7

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021624-HM
Matrix: Air
Lab ID: 4022628-07
Sample Volume: 2119.127 m³
Filter ID:
Sampled: 02/16/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 02:15

Comments: Q9554691 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.518**		**0.00719**
Barium	**7440-39-3**	**5.53**	QB-01	**0.822**
Beryllium	**7440-41-7**	**0.0133**	GC-BS	**0.00246**
Cadmium	**7440-43-9**	**0.128**		**0.0569**
Chromium	**7440-47-3**	**3.22**		**1.70**
Cobalt	**7440-48-4**	**0.546**		**0.0335**
Copper	**7440-50-8**	**27.8**		**2.02**
Lead	**7439-92-1**	**1.44**		**0.164**
Manganese	**7439-96-5**	**13.8**		**1.45**
Molybdenum	**7439-98-7**	**1.03**		**0.276**
Nickel	**7440-02-0**	**2.62**		**0.501**
Selenium	**7782-49-2**	**0.219**		**0.00688**
Thallium	**7440-28-0**	**0.00164**		**4.52E-4**
Vanadium	**7440-62-2**	**1.25**		**0.0406**
Zinc	7440-66-6	54.6	U	59.0

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021624-HM
Matrix: Air
Lab ID: 4022628-08
Sample Volume: 1903.904 m³
Filter ID:
Sampled: 02/16/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/28/24 22:02

Comments: Q9545059 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0178	SL, U	0.0330
Arsenic	**7440-38-2**	**0.0685**	D-F	**0.00801**
Barium	**7440-39-3**	**1.62**	QB-01	**0.914**
Beryllium	**7440-41-7**	**0.0110**	GC-BS	**0.00273**
Cadmium	7440-43-9	0.0140	U	0.0633
Chromium	**7440-47-3**	**2.13**		**1.89**
Cobalt	**7440-48-4**	**0.211**		**0.0373**
Copper	**7440-50-8**	**34.1**	QM-07	**2.25**
Lead	**7439-92-1**	**0.419**		**0.183**
Manganese	**7439-96-5**	**5.40**		**1.62**
Molybdenum	**7439-98-7**	**1.89**	QM-07	**0.307**
Nickel	**7440-02-0**	**0.876**		**0.557**
Selenium	**7782-49-2**	**0.148**		**0.00766**
Thallium	**7440-28-0**	**0.00121**		**5.03E-4**
Vanadium	**7440-62-2**	**0.483**		**0.0452**
Zinc	7440-66-6	48.1	QM-07, U	65.6

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021624-HM
Matrix: Air
Lab ID: 4022628-09
Sample Volume: 1876.247 m³
Filter ID:
Sampled: 02/16/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 02:32

Comments: Q9545058 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0570**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.407**		**0.00813**
Barium	**7440-39-3**	**4.16**	QB-01	**0.928**
Beryllium	**7440-41-7**	**0.0203**	GC-BS	**0.00277**
Cadmium	7440-43-9	0.0354	U	0.0643
Chromium	**7440-47-3**	**4.06**		**1.92**
Cobalt	**7440-48-4**	**0.673**		**0.0378**
Copper	**7440-50-8**	**12.5**		**2.28**
Lead	**7439-92-1**	**0.937**		**0.186**
Manganese	**7439-96-5**	**20.4**		**1.64**
Molybdenum	**7439-98-7**	**0.566**		**0.311**
Nickel	**7440-02-0**	**1.90**		**0.565**
Selenium	**7782-49-2**	**0.215**		**0.00777**
Thallium	**7440-28-0**	**0.00158**		**5.11E-4**
Vanadium	**7440-62-2**	**1.55**		**0.0459**
Zinc	7440-66-6	39.0	U	66.6

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021724-HM
Matrix: Air
Lab ID: 4022628-10
Sample Volume: 2040.19 m³
Filter ID:
Sampled: 02/17/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 02:48

Comments: Q9545057 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0219	SL, U	0.0308
Arsenic	**7440-38-2**	**0.290**		**0.00747**
Barium	**7440-39-3**	**2.66**	QB-01	**0.853**
Beryllium	**7440-41-7**	**0.00784**	GC-BS	**0.00255**
Cadmium	7440-43-9	0.0151	U	0.0591
Chromium	**7440-47-3**	**2.21**		**1.76**
Cobalt	**7440-48-4**	**0.339**		**0.0348**
Copper	**7440-50-8**	**22.3**		**2.10**
Lead	**7439-92-1**	**0.343**		**0.171**
Manganese	**7439-96-5**	**11.6**		**1.51**
Molybdenum	**7439-98-7**	**1.17**		**0.286**
Nickel	**7440-02-0**	**0.629**		**0.520**
Selenium	**7782-49-2**	**0.155**		**0.00715**
Thallium	**7440-28-0**	**8.69E-4**		**4.70E-4**
Vanadium	**7440-62-2**	**0.716**		**0.0422**
Zinc	7440-66-6	26.7	U	61.2

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021724-HM
Matrix: Air
Lab ID: 4022628-11
Sample Volume: 2121.801 m³
Filter ID:
Sampled: 02/17/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 03:57

Comments: Q9545054 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.145	SL	0.0296
Arsenic	7440-38-2	1.40		0.00718
Barium	7440-39-3	10.5	QB-01	0.820
Beryllium	7440-41-7	0.0266	GC-BS	0.00245
Cadmium	7440-43-9	0.0604		0.0568
Chromium	7440-47-3	4.26		1.69
Cobalt	7440-48-4	0.865		0.0334
Copper	7440-50-8	35.6		2.02
Lead	7439-92-1	3.48		0.164
Manganese	7439-96-5	26.3		1.45
Molybdenum	7439-98-7	0.937		0.275
Nickel	7440-02-0	2.34		0.500
Selenium	7782-49-2	0.265		0.00687
Thallium	7440-28-0	0.00151		4.52E-4
Vanadium	7440-62-2	2.60		0.0406
Zinc	7440-66-6	71.4		58.9

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021724-HM
Matrix: Air
Lab ID: 4022628-12
Sample Volume: 1967.69 m³
Filter ID:
Sampled: 02/17/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 04:17

Comments: Q9545053 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0357**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.0723**		**0.00775**
Barium	**7440-39-3**	**1.71**	QB-01	**0.885**
Beryllium	**7440-41-7**	**0.00996**	GC-BS	**0.00265**
Cadmium	7440-43-9	0.00939	U	0.0613
Chromium	**7440-47-3**	**2.16**		**1.83**
Cobalt	**7440-48-4**	**0.193**		**0.0361**
Copper	**7440-50-8**	**35.3**		**2.17**
Lead	**7439-92-1**	**0.367**		**0.177**
Manganese	**7439-96-5**	**5.03**		**1.56**
Molybdenum	**7439-98-7**	**1.95**		**0.297**
Nickel	**7440-02-0**	**0.773**		**0.539**
Selenium	**7782-49-2**	**0.111**		**0.00741**
Thallium	**7440-28-0**	**5.98E-4**		**4.87E-4**
Vanadium	**7440-62-2**	**0.469**		**0.0437**
Zinc	7440-66-6	31.4	U	63.5

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021724-HM
Matrix: Air
Lab ID: 4022628-13
Sample Volume: 1896.081 m³
Filter ID:
Sampled: 02/17/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 04:33

Comments: Q9545052 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0677**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.248**		**0.00804**
Barium	**7440-39-3**	**3.67**	QB-01	**0.918**
Beryllium	**7440-41-7**	**0.00947**	GC-BS	**0.00275**
Cadmium	7440-43-9	0.0422	U	0.0636
Chromium	**7440-47-3**	**2.67**		**1.90**
Cobalt	**7440-48-4**	**0.326**		**0.0374**
Copper	**7440-50-8**	**46.2**		**2.26**
Lead	**7439-92-1**	**1.75**		**0.184**
Manganese	**7439-96-5**	**9.21**		**1.62**
Molybdenum	**7439-98-7**	**1.04**		**0.308**
Nickel	**7440-02-0**	**1.05**		**0.559**
Selenium	**7782-49-2**	**0.145**		**0.00769**
Thallium	**7440-28-0**	**7.73E-4**		**5.05E-4**
Vanadium	**7440-62-2**	**0.735**		**0.0454**
Zinc	7440-66-6	54.2	U	65.9

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021724-HM
Matrix: Air
Lab ID: 4022628-14
Sample Volume: 2040.19 m³
Filter ID:
Sampled: 02/17/24 00:00
Received: 02/26/24 14:05
Analysis Date: 02/29/24 04:51

Comments: Q9545048 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00682	SL, U	0.0308
Arsenic	7440-38-2	0.00664	U	0.00747
Barium	7440-39-3	0.549	QB-01, U	0.853
Beryllium	7440-41-7	9.63E-4	GC-BS, U	0.00255
Cadmium	7440-43-9	0.00439	U	0.0591
Chromium	7440-47-3	1.20	U	1.76
Cobalt	7440-48-4	0.0217	U	0.0348
Copper	**7440-50-8**	**3.10**	FB-01	**2.10**
Lead	7439-92-1	0.168	U	0.171
Manganese	7439-96-5	0.263	U	1.51
Molybdenum	7439-98-7	0.224	U	0.286
Nickel	7440-02-0	0.241	U	0.520
Selenium	7782-49-2	0.00555	U	0.00715
Thallium	7440-28-0	1.22E-4	U	4.70E-4
Vanadium	7440-62-2	0.0100	U	0.0422
Zinc	7440-66-6	19.1	U	61.2

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021824-HM
Matrix: Air
Lab ID: 4022628-15
Sample Volume: 2058.057 m³
Filter ID:
Sampled: 02/18/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 05:06

Comments: Q9545051 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0436**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.599**		**0.00741**
Barium	**7440-39-3**	**7.01**	QB-01	**0.846**
Beryllium	**7440-41-7**	**0.0143**	GC-BS	**0.00253**
Cadmium	7440-43-9	0.0425	U	0.0586
Chromium	**7440-47-3**	**3.17**		**1.75**
Cobalt	**7440-48-4**	**0.656**		**0.0345**
Copper	**7440-50-8**	**26.4**		**2.08**
Lead	**7439-92-1**	**1.15**		**0.169**
Manganese	**7439-96-5**	**22.8**		**1.49**
Molybdenum	**7439-98-7**	**1.19**		**0.284**
Nickel	**7440-02-0**	**0.951**		**0.515**
Selenium	**7782-49-2**	**0.289**		**0.00708**
Thallium	**7440-28-0**	**0.00475**		**4.66E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0418**
Zinc	7440-66-6	33.2	U	60.7

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021824-HM
Matrix: Air
Lab ID: 4022628-16
Sample Volume: 2136.957 m³
Filter ID:
Sampled: 02/18/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 05:22

Comments: Q9545049 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0294**
Arsenic	**7440-38-2**	**1.04**		**0.00713**
Barium	**7440-39-3**	**9.06**	QB-01	**0.815**
Beryllium	**7440-41-7**	**0.0176**	GC-BS	**0.00244**
Cadmium	7440-43-9	0.0531	U	0.0564
Chromium	**7440-47-3**	**3.40**		**1.68**
Cobalt	**7440-48-4**	**0.707**		**0.0332**
Copper	**7440-50-8**	**29.6**		**2.00**
Lead	**7439-92-1**	**2.85**		**0.163**
Manganese	**7439-96-5**	**20.7**		**1.44**
Molybdenum	**7439-98-7**	**0.880**		**0.273**
Nickel	**7440-02-0**	**1.88**		**0.496**
Selenium	**7782-49-2**	**0.270**		**0.00682**
Thallium	**7440-28-0**	**0.00414**		**4.48E-4**
Vanadium	**7440-62-2**	**1.81**		**0.0403**
Zinc	7440-66-6	53.0	U	58.5

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021824-HM
Matrix: Air
Lab ID: 4022628-17
Sample Volume: 1916.795 m³
Filter ID:
Sampled: 02/18/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 05:38

Comments: Q9545045 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0323	SL, U	0.0328
Arsenic	**7440-38-2**	**0.198**		**0.00795**
Barium	**7440-39-3**	**4.01**	QB-01	**0.908**
Beryllium	**7440-41-7**	**0.00413**	GC-BS	**0.00272**
Cadmium	7440-43-9	0.0295	U	0.0629
Chromium	7440-47-3	1.55	U	1.88
Cobalt	**7440-48-4**	**0.0899**		**0.0370**
Copper	**7440-50-8**	**43.0**		**2.23**
Lead	**7439-92-1**	**0.758**		**0.182**
Manganese	**7439-96-5**	**2.46**		**1.60**
Molybdenum	**7439-98-7**	**2.44**		**0.305**
Nickel	7440-02-0	0.446	U	0.553
Selenium	**7782-49-2**	**0.169**		**0.00761**
Thallium	**7440-28-0**	**0.00351**		**5.00E-4**
Vanadium	**7440-62-2**	**0.207**		**0.0449**
Zinc	7440-66-6	20.9	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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021824-HM
Matrix: Air
Lab ID: 4022628-18
Sample Volume: 1886.561 m³
Filter ID:
Sampled: 02/18/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 05:54

Comments: Q9545044 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0710**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.322**		**0.00808**
Barium	**7440-39-3**	**5.37**	QB-01	**0.923**
Beryllium	**7440-41-7**	**0.00587**	GC-BS	**0.00276**
Cadmium	7440-43-9	0.0340	U	0.0639
Chromium	**7440-47-3**	**2.11**		**1.91**
Cobalt	**7440-48-4**	**0.161**		**0.0376**
Copper	**7440-50-8**	**28.5**		**2.27**
Lead	**7439-92-1**	**1.32**		**0.185**
Manganese	**7439-96-5**	**5.00**		**1.63**
Molybdenum	**7439-98-7**	**1.47**		**0.310**
Nickel	**7440-02-0**	**0.600**		**0.562**
Selenium	**7782-49-2**	**0.213**		**0.00773**
Thallium	**7440-28-0**	**0.00430**		**5.08E-4**
Vanadium	**7440-62-2**	**0.422**		**0.0456**
Zinc	7440-66-6	36.0	U	66.2

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-021924-HM/MS/MS **Lab ID:** 4022628-19 **Sampled:** 02/19/24 23:59
Matrix: Air **Sample Volume:** 2046.027 m³ **Received:** 02/26/24 14:05
Filter ID: **Analysis Date:** 02/28/24 18:04

Comments: Q9545043 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0312**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.411**	D-F, QM-07	**0.00745**
Barium	**7440-39-3**	**3.09**	QB-01	**0.851**
Beryllium	**7440-41-7**	**0.00835**	GC-BS	**0.00254**
Cadmium	**7440-43-9**	**0.0764**		**0.0589**
Chromium	**7440-47-3**	**2.21**		**1.76**
Cobalt	**7440-48-4**	**0.297**		**0.0347**
Copper	**7440-50-8**	**39.3**	QM-07	**2.09**
Lead	**7439-92-1**	**0.570**		**0.170**
Manganese	**7439-96-5**	**9.64**	QM-07	**1.50**
Molybdenum	**7439-98-7**	**1.78**	QM-07	**0.285**
Nickel	**7440-02-0**	**0.671**		**0.518**
Selenium	**7782-49-2**	**0.178**		**0.00712**
Thallium	**7440-28-0**	**0.00170**		**4.68E-4**
Vanadium	**7440-62-2**	**0.783**		**0.0421**
Zinc	7440-66-6	25.0	U	61.1

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-021924-HM
Matrix: Air
Lab ID: 4022628-20
Sample Volume: 2146.286 m³
Filter ID:
Sampled: 02/19/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 06:09

Comments: Q9545042 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0910**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.232**		**0.00710**
Barium	**7440-39-3**	**5.27**	QB-01	**0.811**
Beryllium	**7440-41-7**	**0.00653**	GC-BS	**0.00243**
Cadmium	7440-43-9	0.0172	U	0.0562
Chromium	**7440-47-3**	**1.86**		**1.68**
Cobalt	**7440-48-4**	**0.199**		**0.0331**
Copper	**7440-50-8**	**21.3**		**1.99**
Lead	**7439-92-1**	**0.824**		**0.162**
Manganese	**7439-96-5**	**6.04**		**1.43**
Molybdenum	**7439-98-7**	**1.01**		**0.272**
Nickel	**7440-02-0**	**0.729**		**0.494**
Selenium	**7782-49-2**	**0.161**		**0.00679**
Thallium	**7440-28-0**	**0.00156**		**4.46E-4**
Vanadium	**7440-62-2**	**0.562**		**0.0401**
Zinc	7440-66-6	23.6	U	58.2

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-021924-HM
Matrix: Air
Lab ID: 4022628-21
Sample Volume: 1943.827 m³
Filter ID:
Sampled: 02/19/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 06:26

Comments: Q9545041 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0363**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.155**		**0.00784**
Barium	**7440-39-3**	**2.49**	QB-01	**0.896**
Beryllium	**7440-41-7**	**0.00527**	GC-BS	**0.00268**
Cadmium	7440-43-9	0.0156	U	0.0620
Chromium	**7440-47-3**	**2.03**		**1.85**
Cobalt	**7440-48-4**	**0.146**		**0.0365**
Copper	**7440-50-8**	**53.9**		**2.20**
Lead	**7439-92-1**	**0.741**		**0.179**
Manganese	**7439-96-5**	**3.39**		**1.58**
Molybdenum	**7439-98-7**	**2.66**		**0.300**
Nickel	**7440-02-0**	**0.578**		**0.546**
Selenium	**7782-49-2**	**0.152**		**0.00750**
Thallium	**7440-28-0**	**0.00142**		**4.93E-4**
Vanadium	**7440-62-2**	**0.284**		**0.0443**
Zinc	7440-66-6	26.9	U	64.3

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-021924-HM
Matrix: Air
Lab ID: 4022628-22
Sample Volume: 1920.5 m³
Filter ID:
Sampled: 02/19/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 07:35

Comments: Q9545037 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0458**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.203**		**0.00794**
Barium	**7440-39-3**	**2.79**	QB-01	**0.906**
Beryllium	**7440-41-7**	**0.00423**	GC-BS	**0.00271**
Cadmium	7440-43-9	0.0181	U	0.0628
Chromium	7440-47-3	1.78	U	1.87
Cobalt	**7440-48-4**	**0.128**		**0.0369**
Copper	**7440-50-8**	**23.2**		**2.23**
Lead	**7439-92-1**	**0.624**		**0.181**
Manganese	**7439-96-5**	**3.82**		**1.60**
Molybdenum	**7439-98-7**	**1.49**		**0.304**
Nickel	7440-02-0	0.482	U	0.552
Selenium	**7782-49-2**	**0.150**		**0.00759**
Thallium	**7440-28-0**	**0.00145**		**4.99E-4**
Vanadium	**7440-62-2**	**0.314**		**0.0448**
Zinc	7440-66-6	20.1	U	65.1

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-021924-HM
Matrix: Air
Lab ID: 4022628-23
Sample Volume: 2046.027 m³
Filter ID:
Sampled: 02/19/24 00:00
Received: 02/26/24 14:05
Analysis Date: 02/29/24 07:51

Comments: Q9545033 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00704	SL, U	0.0307
Arsenic	**7440-38-2**	**0.00874**	FB-01	**0.00745**
Barium	7440-39-3	0.679	QB-01, U	0.851
Beryllium	7440-41-7	9.05E-4	GC-BS, U	0.00254
Cadmium	7440-43-9	0.00249	U	0.0589
Chromium	7440-47-3	1.48	U	1.76
Cobalt	7440-48-4	0.0269	U	0.0347
Copper	**7440-50-8**	**5.53**	FB-01	**2.09**
Lead	**7439-92-1**	**0.252**	FB-01	**0.170**
Manganese	7439-96-5	0.273	U	1.50
Molybdenum	7439-98-7	0.256	U	0.285
Nickel	**7440-02-0**	**0.699**	FB-01	**0.518**
Selenium	7782-49-2	0.00604	U	0.00712
Thallium	7440-28-0	1.22E-4	U	4.68E-4
Vanadium	7440-62-2	0.00978	U	0.0421
Zinc	7440-66-6	18.2	U	61.1

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022024-HM
Matrix: Air
Lab ID: 4022628-24
Sample Volume: 2075.243 m³
Filter ID:
Sampled: 02/20/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 08:05

Comments: Q9545035 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.136**	SL	**0.0303**
Arsenic	**7440-38-2**	**2.82**		**0.00735**
Barium	**7440-39-3**	**8.02**	QB-01	**0.839**
Beryllium	**7440-41-7**	**0.00480**	GC-BS	**0.00251**
Cadmium	7440-43-9	0.0387	U	0.0581
Chromium	**7440-47-3**	**2.49**		**1.73**
Cobalt	**7440-48-4**	**0.193**		**0.0342**
Copper	**7440-50-8**	**50.0**		**2.06**
Lead	**7439-92-1**	**1.63**		**0.168**
Manganese	**7439-96-5**	**5.92**		**1.48**
Molybdenum	**7439-98-7**	**2.04**		**0.281**
Nickel	**7440-02-0**	**0.827**		**0.511**
Selenium	**7782-49-2**	**0.124**		**0.00702**
Thallium	**7440-28-0**	**0.00141**		**4.62E-4**
Vanadium	**7440-62-2**	**0.626**		**0.0415**
Zinc	7440-66-6	38.0	U	60.2

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022024-HM
Matrix: Air
Lab ID: 4022628-25
Sample Volume: 2183.151 m³
Filter ID:
Sampled: 02/20/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 08:23

Comments: Q9545031 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0996**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.270**		**0.00698**
Barium	**7440-39-3**	**5.88**	QB-01	**0.797**
Beryllium	**7440-41-7**	**0.0110**	GC-BS	**0.00238**
Cadmium	7440-43-9	0.0423	U	0.0552
Chromium	**7440-47-3**	**2.47**		**1.65**
Cobalt	**7440-48-4**	**0.418**		**0.0325**
Copper	**7440-50-8**	**21.6**		**1.96**
Lead	**7439-92-1**	**0.790**		**0.159**
Manganese	**7439-96-5**	**12.6**		**1.41**
Molybdenum	**7439-98-7**	**0.901**		**0.268**
Nickel	**7440-02-0**	**1.30**		**0.486**
Selenium	**7782-49-2**	**0.165**		**0.00668**
Thallium	**7440-28-0**	**0.00141**		**4.39E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0394**
Zinc	7440-66-6	25.3	U	57.2

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022024-HM
Matrix: Air
Lab ID: 4022628-26
Sample Volume: 1984.987 m³
Filter ID:
Sampled: 02/20/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 08:38

Comments: Q9545030 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0257	SL, U	0.0316
Arsenic	**7440-38-2**	**0.546**		**0.00768**
Barium	**7440-39-3**	**2.56**	QB-01	**0.877**
Beryllium	**7440-41-7**	**0.0146**	GC-BS	**0.00262**
Cadmium	7440-43-9	0.0127	U	0.0607
Chromium	**7440-47-3**	**2.59**		**1.81**
Cobalt	**7440-48-4**	**0.249**		**0.0357**
Copper	**7440-50-8**	**48.5**		**2.16**
Lead	**7439-92-1**	**0.433**		**0.175**
Manganese	**7439-96-5**	**5.95**		**1.55**
Molybdenum	**7439-98-7**	**2.57**		**0.294**
Nickel	**7440-02-0**	**0.828**		**0.534**
Selenium	**7782-49-2**	**0.144**		**0.00734**
Thallium	**7440-28-0**	**0.00132**		**4.83E-4**
Vanadium	**7440-62-2**	**0.641**		**0.0434**
Zinc	7440-66-6	17.7	U	62.9

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022024-HM
Matrix: Air
Lab ID: 4022628-27
Sample Volume: 1939.714 m³
Filter ID:
Sampled: 02/20/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 08:53

Comments: Q9545028 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0545**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.210**		**0.00786**
Barium	**7440-39-3**	**3.70**	QB-01	**0.897**
Beryllium	**7440-41-7**	**0.00741**	GC-BS	**0.00268**
Cadmium	7440-43-9	0.0141	U	0.0622
Chromium	**7440-47-3**	**2.15**		**1.85**
Cobalt	**7440-48-4**	**0.235**		**0.0366**
Copper	**7440-50-8**	**23.5**		**2.21**
Lead	**7439-92-1**	**0.773**		**0.179**
Manganese	**7439-96-5**	**6.32**		**1.59**
Molybdenum	**7439-98-7**	**1.42**		**0.301**
Nickel	**7440-02-0**	**0.824**		**0.547**
Selenium	**7782-49-2**	**0.145**		**0.00752**
Thallium	**7440-28-0**	**0.00132**		**4.94E-4**
Vanadium	**7440-62-2**	**0.619**		**0.0444**
Zinc	7440-66-6	24.3	U	64.4

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022124-HM
Matrix: Air
Lab ID: 4022628-28
Sample Volume: 2048.936 m³
Filter ID:
Sampled: 02/21/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 09:23

Comments: Q9545027 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0374**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.503**		**0.00744**
Barium	**7440-39-3**	**3.37**	QB-01	**0.850**
Beryllium	**7440-41-7**	**0.00647**	GC-BS	**0.00254**
Cadmium	7440-43-9	0.0126	U	0.0588
Chromium	**7440-47-3**	**2.03**		**1.75**
Cobalt	**7440-48-4**	**0.241**		**0.0346**
Copper	**7440-50-8**	**52.5**		**2.09**
Lead	**7439-92-1**	**0.576**		**0.170**
Manganese	**7439-96-5**	**6.49**		**1.50**
Molybdenum	**7439-98-7**	**2.22**		**0.285**
Nickel	**7440-02-0**	**1.05**		**0.518**
Selenium	**7782-49-2**	**0.145**		**0.00711**
Thallium	**7440-28-0**	**0.00103**		**4.68E-4**
Vanadium	**7440-62-2**	**0.855**		**0.0420**
Zinc	7440-66-6	21.3	U	61.0

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022124-HM
Matrix: Air
Lab ID: 4022628-29
Sample Volume: 2096.839 m³
Filter ID:
Sampled: 02/21/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 09:38

Comments: Q9545026 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0811**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.236**		**0.00727**
Barium	**7440-39-3**	**3.69**	QB-01	**0.830**
Beryllium	**7440-41-7**	**0.00651**	GC-BS	**0.00248**
Cadmium	7440-43-9	0.0156	U	0.0575
Chromium	**7440-47-3**	**1.86**		**1.71**
Cobalt	**7440-48-4**	**0.202**		**0.0338**
Copper	**7440-50-8**	**19.5**		**2.04**
Lead	**7439-92-1**	**0.667**		**0.166**
Manganese	**7439-96-5**	**5.46**		**1.47**
Molybdenum	**7439-98-7**	**1.07**		**0.279**
Nickel	**7440-02-0**	**0.820**		**0.506**
Selenium	**7782-49-2**	**0.155**		**0.00695**
Thallium	**7440-28-0**	**9.81E-4**		**4.57E-4**
Vanadium	**7440-62-2**	**0.905**		**0.0410**
Zinc	7440-66-6	20.5	U	59.6

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022124-HM
Matrix: Air
Lab ID: 4022628-30
Sample Volume: 1971.624 m³
Filter ID:
Sampled: 02/21/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 09:53

Comments: Q9545025 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0636**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.181**		**0.00773**
Barium	**7440-39-3**	**3.43**	QB-01	**0.883**
Beryllium	**7440-41-7**	**0.0214**	GC-BS	**0.00264**
Cadmium	7440-43-9	0.0121	U	0.0611
Chromium	**7440-47-3**	**2.51**		**1.82**
Cobalt	**7440-48-4**	**0.341**		**0.0360**
Copper	**7440-50-8**	**51.1**		**2.17**
Lead	**7439-92-1**	**0.526**		**0.177**
Manganese	**7439-96-5**	**7.49**		**1.56**
Molybdenum	**7439-98-7**	**2.64**		**0.296**
Nickel	**7440-02-0**	**1.27**		**0.538**
Selenium	**7782-49-2**	**0.181**		**0.00739**
Thallium	**7440-28-0**	**0.00107**		**4.86E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0437**
Zinc	7440-66-6	20.0	U	63.4

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022124-HM
Matrix: Air
Lab ID: 4022628-31
Sample Volume: 1863.554 m³
Filter ID:
Sampled: 02/21/24 23:59
Received: 02/26/24 14:05
Analysis Date: 02/29/24 10:57

Comments: Q9545024 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0563**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.130**		**0.00818**
Barium	**7440-39-3**	**2.98**	LJ, QB-01, QX	**0.934**
Beryllium	**7440-41-7**	**0.00522**	GC-BS	**0.00279**
Cadmium	7440-43-9	0.0137	U	0.0647
Chromium	**7440-47-3**	**2.07**		**1.93**
Cobalt	**7440-48-4**	**0.159**		**0.0381**
Copper	**7440-50-8**	**21.1**		**2.30**
Lead	**7439-92-1**	**0.490**		**0.187**
Manganese	**7439-96-5**	**5.00**		**1.65**
Molybdenum	**7439-98-7**	**1.40**		**0.313**
Nickel	**7440-02-0**	**0.702**		**0.569**
Selenium	**7782-49-2**	**0.160**		**0.00782**
Thallium	**7440-28-0**	**0.00102**		**5.14E-4**
Vanadium	**7440-62-2**	**0.886**		**0.0462**
Zinc	7440-66-6	18.0	U	67.1

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FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-022124-HM
Matrix: Air
Lab ID: 4022628-32
Sample Volume: 2048.936 m³
Filter ID:
Sampled: 02/21/24 00:00
Received: 02/26/24 14:05
Analysis Date: 02/29/24 11:12

Comments: Q9545021 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00765	SL, U	0.0307
Arsenic	**7440-38-2**	**0.00924**	FB-01	**0.00744**
Barium	7440-39-3	0.649	LJ, QB-01, QX, U	0.850
Beryllium	7440-41-7	9.15E-4	GC-BS, U	0.00254
Cadmium	7440-43-9	0.00289	U	0.0588
Chromium	7440-47-3	1.52	U	1.75
Cobalt	7440-48-4	0.0253	U	0.0346
Copper	7440-50-8	0.590	U	2.09
Lead	7439-92-1	0.0731	U	0.170
Manganese	7439-96-5	0.197	U	1.50
Molybdenum	7439-98-7	0.264	U	0.285
Nickel	7440-02-0	0.290	U	0.518
Selenium	**7782-49-2**	**0.00860**	FB-01	**0.00711**
Thallium	7440-28-0	1.19E-4	U	4.68E-4
Vanadium	7440-62-2	0.00373	U	0.0420
Zinc	7440-66-6	11.6	U	61.0

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FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
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 2402090 - B4B2803										
Calibration Blank (2402090-CCB1)				Prepared & Analyzed: 02/28/24						
Antimony	1.67		ng/l							
Arsenic	-2.73		ng/l							U
Barium	3.18		ng/l							
Beryllium	0.475		ng/l							
Cadmium	0.327		ng/l							
Chromium	11.2		ng/l							
Cobalt	1.20		ng/l							
Copper	559		ng/l							
Lead	5.46		ng/l							
Manganese	13.9		ng/l							
Molybdenum	12.7		ng/l							
Nickel	3.58		ng/l							
Selenium	13.6		ng/l							
Thallium	1.13		ng/l							
Vanadium	-46.9		ng/l							U
Zinc	52.7		ng/l							
Calibration Blank (2402090-CCB2)				Prepared & Analyzed: 02/28/24						
Antimony	0.620		ng/l							
Arsenic	-4.72		ng/l							U
Barium	4.41		ng/l							
Beryllium	0.514		ng/l							
Cadmium	0.325		ng/l							
Chromium	11.1		ng/l							
Cobalt	1.09		ng/l							
Copper	299		ng/l							
Lead	5.23		ng/l							
Manganese	14.2		ng/l							
Molybdenum	4.76		ng/l							
Nickel	2.67		ng/l							
Selenium	10.8		ng/l							
Thallium	0.773		ng/l							
Vanadium	-47.1		ng/l							U
Zinc	25.9		ng/l							
Calibration Blank (2402090-CCB3)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	1.81		ng/l							
Arsenic	5.13		ng/l							
Barium	6.37		ng/l							
Beryllium	1.05		ng/l							

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SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2402090 - B4B2803										
Calibration Blank (2402090-CCB3) Contin				Prepared: 02/28/24 Analyzed: 02/29/24						
Cadmium	0.593		ng/l							
Chromium	15.5		ng/l							
Cobalt	1.66		ng/l							
Copper	235		ng/l							
Lead	8.32		ng/l							
Manganese	22.3		ng/l							
Molybdenum	11.8		ng/l							
Nickel	4.28		ng/l							
Selenium	10.9		ng/l							
Thallium	1.14		ng/l							
Vanadium	-48.6		ng/l							U
Zinc	34.9		ng/l							
Calibration Blank (2402090-CCB4)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	0.733		ng/l							
Arsenic	2.48		ng/l							
Barium	5.48		ng/l							
Beryllium	0.0906		ng/l							
Cadmium	0.121		ng/l							
Chromium	12.3		ng/l							
Cobalt	1.17		ng/l							
Copper	119		ng/l							
Lead	4.56		ng/l							
Manganese	15.6		ng/l							
Molybdenum	3.80		ng/l							
Nickel	4.42		ng/l							
Selenium	7.01		ng/l							
Thallium	0.379		ng/l							
Vanadium	-47.0		ng/l							U
Zinc	37.9		ng/l							
Calibration Blank (2402090-CCB5)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	0.420		ng/l							
Arsenic	3.00		ng/l							
Barium	2.36		ng/l							
Beryllium	-0.196		ng/l							U
Cadmium	0.0172		ng/l							
Chromium	12.5		ng/l							
Cobalt	0.704		ng/l							
Copper	86.6		ng/l							

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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 2402090 - B4B2803										
Calibration Blank (2402090-CCB5) Contin				Prepared: 02/28/24 Analyzed: 02/29/24						
Lead	2.20		ng/l							
Manganese	11.9		ng/l							
Molybdenum	5.50		ng/l							
Nickel	1.41		ng/l							
Selenium	9.98		ng/l							
Thallium	0.547		ng/l							
Vanadium	-49.9		ng/l							U
Zinc	19.4		ng/l							
Calibration Blank (2402090-CCB6)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	0.571		ng/l							
Arsenic	4.05		ng/l							
Barium	2.90		ng/l							
Beryllium	-0.325		ng/l							U
Cadmium	-0.0267		ng/l							U
Chromium	14.3		ng/l							
Cobalt	0.612		ng/l							
Copper	84.6		ng/l							
Lead	2.79		ng/l							
Manganese	11.4		ng/l							
Molybdenum	6.32		ng/l							
Nickel	2.44		ng/l							
Selenium	15.5		ng/l							
Thallium	0.605		ng/l							
Vanadium	-50.3		ng/l							U
Zinc	26.7		ng/l							
Calibration Blank (2402090-CCB7)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	0.838		ng/l							
Arsenic	4.33		ng/l							
Barium	3.63		ng/l							
Beryllium	-0.156		ng/l							U
Cadmium	0.0851		ng/l							
Chromium	14.6		ng/l							
Cobalt	0.857		ng/l							
Copper	124		ng/l							
Lead	2.82		ng/l							
Manganese	13.0		ng/l							
Molybdenum	5.76		ng/l							
Nickel	0.545		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 2402090 - B4B2803										
Calibration Blank (2402090-CCB7) Contin				Prepared: 02/28/24 Analyzed: 02/29/24						
Selenium	20.3		ng/l							
Thallium	0.575		ng/l							
Vanadium	-50.6		ng/l							U
Zinc	24.0		ng/l							
Calibration Check (2402090-CCV1)				Prepared & Analyzed: 02/28/24						
Antimony	19700		ng/l	20000		98.3	90-110			
Arsenic	19500		ng/l	20000		97.7	90-110			
Barium	195000		ng/l	200000		97.6	90-110			
Beryllium	4830		ng/l	5000.0		96.6	90-110			
Cadmium	19900		ng/l	20000		99.5	90-110			
Chromium	230000		ng/l	240000		95.7	90-110			
Cobalt	49100		ng/l	50000		98.1	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.6	90-110			
Lead	195000		ng/l	200000		97.4	90-110			
Manganese	480000		ng/l	500000		96.1	90-110			
Molybdenum	49000		ng/l	50000		98.1	90-110			
Nickel	118000		ng/l	120000		98.1	90-110			
Selenium	19800		ng/l	20000		98.9	90-110			
Thallium	487		ng/l	500.00		97.3	90-110			
Vanadium	19400		ng/l	20000		96.9	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2402090-CCV2)				Prepared & Analyzed: 02/28/24						
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4610		ng/l	5000.0		92.1	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50700		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	542000		ng/l	500000		108	90-110			

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SUBMITTED: 02/26/24
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 2402090 - B4B2803										
Calibration Check (2402090-CCV3)				Prepared & Analyzed: 02/28/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4740		ng/l	5000.0		94.9	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	236000		ng/l	240000		98.3	90-110			
Cobalt	49300		ng/l	50000		98.7	90-110			
Copper	2.00E6		ng/l	2.0000E6		100	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	497000		ng/l	500000		99.3	90-110			
Molybdenum	50700		ng/l	50000		101	90-110			
Nickel	118000		ng/l	120000		98.6	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	496		ng/l	500.00		99.2	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	534000		ng/l	500000		107	90-110			
Calibration Check (2402090-CCV4)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5160		ng/l	5000.0		103	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	235000		ng/l	240000		97.9	90-110			
Cobalt	49200		ng/l	50000		98.4	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	117000		ng/l	120000		97.8	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	19700		ng/l	20000		98.4	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2402090-CCV5)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	220000		ng/l	200000		110	90-110			
Beryllium	4760		ng/l	5000.0		95.2	90-110			

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SUBMITTED: 02/26/24
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 2402090 - B4B2803										
Calibration Check (2402090-CCV5) Contin				Prepared: 02/28/24 Analyzed: 02/29/24						
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	519000		ng/l	500000		104	90-110			
Molybdenum	52900		ng/l	50000		106	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	546000		ng/l	500000		109	90-110			
Calibration Check (2402090-CCV6)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	5260		ng/l	5000.0		105	90-110			
Cadmium	19900		ng/l	20000		99.5	90-110			
Chromium	234000		ng/l	240000		97.4	90-110			
Cobalt	49100		ng/l	50000		98.2	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.3	90-110			
Manganese	499000		ng/l	500000		99.9	90-110			
Molybdenum	51500		ng/l	50000		103	90-110			
Nickel	116000		ng/l	120000		97.1	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	476		ng/l	500.00		95.2	90-110			
Vanadium	19400		ng/l	20000		97.0	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2402090-CCV7)				Prepared: 02/28/24 Analyzed: 02/29/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	225000		ng/l	200000		112	90-110			LJ, QX
Beryllium	4800		ng/l	5000.0		95.9	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			

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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: 03/05/24 15:59
SUBMITTED: 02/26/24
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 2402090 - B4B2803										
Calibration Check (2402090-CCV7) Contin					Prepared: 02/28/24 Analyzed: 02/29/24					
Lead	204000		ng/l	200000		102	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	53400		ng/l	50000		107	90-110			
Nickel	120000		ng/l	120000		99.8	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	500		ng/l	500.00		100	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	541000		ng/l	500000		108	90-110			
High Cal Check (2402090-HCV1)					Prepared & Analyzed: 02/28/24					
Antimony	39700		ng/l	40000		99.3	95-105			
Arsenic	40000		ng/l	40000		100	95-105			
Barium	398000		ng/l	400000		99.5	95-105			
Beryllium	9520		ng/l	10000		95.2	95-105			
Cadmium	39500		ng/l	40000		98.7	95-105			
Chromium	475000		ng/l	480000		99.0	95-105			
Cobalt	98000		ng/l	100000		98.0	95-105			
Copper	3.90E6		ng/l	4.0000E6		97.6	95-105			
Lead	394000		ng/l	400000		98.4	95-105			
Manganese	978000		ng/l	1.0000E6		97.8	95-105			
Molybdenum	98100		ng/l	100000		98.1	95-105			
Nickel	234000		ng/l	240000		97.7	95-105			
Selenium	39900		ng/l	40000		99.8	95-105			
Thallium	987		ng/l	1000.0		98.7	95-105			
Vanadium	39900		ng/l	40000		99.8	95-105			
Zinc	1.04E6		ng/l	1.0000E6		104	95-105			
Initial Cal Blank (2402090-ICB1)					Prepared & Analyzed: 02/28/24					
Antimony	1.70		ng/l							
Arsenic	-6.93		ng/l							U
Barium	2.08		ng/l							
Beryllium	0.482		ng/l							
Cadmium	0.136		ng/l							
Chromium	6.31		ng/l							
Cobalt	0.873		ng/l							
Copper	266		ng/l							
Lead	4.66		ng/l							
Manganese	12.8		ng/l							
Molybdenum	5.16		ng/l							
Nickel	-0.561		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 2402090 - B4B2803										
Initial Cal Blank (2402090-ICB1) Continu				Prepared & Analyzed: 02/28/24						
Selenium	4.04		ng/l							
Thallium	0.917		ng/l							
Vanadium	-48.8		ng/l							U
Zinc	81.8		ng/l							
Initial Cal Check (2402090-ICV1)				Prepared & Analyzed: 02/28/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4860		ng/l	5000.0		97.2	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	236000		ng/l	240000		98.5	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.4	90-110			
Manganese	492000		ng/l	500000		98.4	90-110			
Molybdenum	50700		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20900		ng/l	20000		105	90-110			
Thallium	513		ng/l	500.00		103	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	542000		ng/l	500000		108	90-110			
Interference Check A (2402090-IFA1)				Prepared & Analyzed: 02/28/24						
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	304000		ng/l	300000		101	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 2402090 - B4B2803										
Interference Check B (2402090-IFB1)				Prepared & Analyzed: 02/28/24						
Antimony	20500		ng/l	20000		102	80-120			
Arsenic	20500		ng/l	20000		103	80-120			
Barium	203000		ng/l	200000		102	80-120			
Beryllium	4800		ng/l	5000.0		96.0	80-120			
Cadmium	19800		ng/l	20000		99.2	80-120			
Chromium	229000		ng/l	240000		95.3	80-120			
Cobalt	49500		ng/l	50000		99.0	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.4	80-120			
Lead	205000		ng/l	200000		102	80-120			
Manganese	515000		ng/l	500000		103	80-120			
Molybdenum	356000		ng/l	350000		102	80-120			
Nickel	116000		ng/l	120000		96.8	80-120			
Selenium	19300		ng/l	20000		96.7	80-120			
Thallium	516		ng/l	500.00		103	80-120			
Vanadium	18900		ng/l	20000		94.5	80-120			
Zinc	491000		ng/l	500000		98.3	80-120			
Batch B4B2803 - ICP-MS Extraction										
Blank (B4B2803-BLK1)				Prepared & Analyzed: 02/28/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m³ Air							GC-BS, U
Cadmium	ND	0.0793	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
Blank (B4B2803-BLK2)				Prepared & Analyzed: 02/28/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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 B4B2803 - ICP-MS Extraction										
Blank (B4B2803-BLK2) Continued					Prepared & Analyzed: 02/28/24					
Beryllium	ND	0.00320	ng/m³ Air							GC-BS, U
Cadmium	ND	0.0793	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 (B4B2803-BS1)					Prepared & Analyzed: 02/28/24					
Antimony	0.665	0.0386	ng/m³ Air	1.3829		48.1	80-120			SL
Arsenic	2.31	0.00937	ng/m³ Air	2.7658		83.6	80-120			
Barium	23.9	1.07	ng/m³ Air	27.658		86.5	80-120			QB-01
Beryllium	1.10	0.00320	ng/m³ Air	1.3829		79.4	80-120			GC-BS
Cadmium	1.21	0.0793	ng/m³ Air	1.3829		87.2	80-120			
Chromium	13.3	2.21	ng/m³ Air	13.829		95.9	80-120			
Cobalt	1.17	0.0436	ng/m³ Air	1.3829		84.9	80-120			
Copper	25.9	2.63	ng/m³ Air	27.658		93.5	80-120			
Lead	11.5	0.214	ng/m³ Air	13.829		83.2	80-120			
Manganese	7.35	1.89	ng/m³ Air	8.2975		88.5	80-120			
Molybdenum	1.29	0.359	ng/m³ Air	1.3829		93.3	80-120			
Nickel	2.70	0.652	ng/m³ Air	2.7658		97.7	80-120			
Selenium	2.40	0.00896	ng/m³ Air	2.7658		86.7	80-120			
Thallium	0.112	5.89E-4	ng/m³ Air	0.13829		81.0	80-120			
Vanadium	2.38	0.0529	ng/m³ Air	2.7658		86.1	80-120			
Zinc	113	76.8	ng/m³ Air	82.975		136	80-120			
LCS (B4B2803-BS2)					Prepared & Analyzed: 02/28/24					
Antimony	0.730	0.0386	ng/m³ Air	1.3829		52.8	80-120			SL
Arsenic	2.50	0.00937	ng/m³ Air	2.7658		90.2	80-120			
Barium	26.1	1.07	ng/m³ Air	27.658		94.4	80-120			QB-01
Beryllium	1.17	0.00320	ng/m³ Air	1.3829		84.5	80-120			GC-BS
Cadmium	1.30	0.0793	ng/m³ Air	1.3829		94.1	80-120			
Chromium	14.4	2.21	ng/m³ Air	13.829		104	80-120			
Cobalt	1.26	0.0436	ng/m³ Air	1.3829		90.9	80-120			

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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 B4B2803 - ICP-MS Extraction										
LCS (B4B2803-BS2) Continued					Prepared & Analyzed: 02/28/24					
Copper	27.5	2.63	ng/m³ Air	27.658		99.5	80-120			
Lead	12.5	0.214	ng/m³ Air	13.829		90.1	80-120			
Manganese	7.91	1.89	ng/m³ Air	8.2975		95.4	80-120			
Molybdenum	1.41	0.359	ng/m³ Air	1.3829		102	80-120			
Nickel	2.93	0.652	ng/m³ Air	2.7658		106	80-120			
Selenium	2.56	0.00896	ng/m³ Air	2.7658		92.7	80-120			
Thallium	0.121	5.89E-4	ng/m³ Air	0.13829		87.2	80-120			
Vanadium	2.58	0.0529	ng/m³ Air	2.7658		93.3	80-120			
Zinc	126	76.8	ng/m³ Air	82.975		152	80-120			
Duplicate (B4B2803-DUP1)			**Source: 4022628-19**		Prepared & Analyzed: 02/28/24					
Antimony	ND	0.0307	ng/m³ Air		0.0312				10	SL, U
Arsenic	0.309	0.00745	ng/m³ Air		0.411			28.5	10	D-F
Barium	2.71	0.851	ng/m³ Air		3.09			13.1	10	QB-01
Beryllium	0.00776	0.00254	ng/m³ Air		0.00835			7.39	10	GC-BS
Cadmium	ND	0.0631	ng/m³ Air		0.0764				10	U
Chromium	2.17	1.76	ng/m³ Air		2.21			1.73	10	
Cobalt	0.266	0.0347	ng/m³ Air		0.297			11.0	10	
Copper	36.9	2.09	ng/m³ Air		39.3			6.13	10	
Lead	0.604	0.170	ng/m³ Air		0.570			5.75	10	
Manganese	8.62	1.50	ng/m³ Air		9.64			11.2	10	
Molybdenum	1.61	0.285	ng/m³ Air		1.78			10.5	10	
Nickel	0.688	0.518	ng/m³ Air		0.671			2.49	10	
Selenium	0.162	0.00712	ng/m³ Air		0.178			9.45	10	
Thallium	0.00139	4.68E-4	ng/m³ Air		0.00170			19.9	10	
Vanadium	0.712	0.0421	ng/m³ Air		0.783			9.46	10	
Zinc	ND	61.1	ng/m³ Air		ND				10	U
Duplicate (B4B2803-DUP2)			**Source: 4022628-08**		Prepared & Analyzed: 02/28/24					
Antimony	ND	0.0330	ng/m³ Air		ND				10	SL, U
Arsenic	0.0546	0.00801	ng/m³ Air		0.0685			22.7	10	D-F
Barium	1.38	0.914	ng/m³ Air		1.62			16.5	10	QB-01
Beryllium	0.00896	0.00273	ng/m³ Air		0.0110			20.2	10	GC-BS
Cadmium	ND	0.0678	ng/m³ Air		ND				10	U
Chromium	ND	1.89	ng/m³ Air		2.13				10	U
Cobalt	0.169	0.0373	ng/m³ Air		0.211			22.0	10	
Copper	36.8	2.25	ng/m³ Air		34.1			7.47	10	
Lead	0.398	0.183	ng/m³ Air		0.419			5.05	10	
Manganese	4.60	1.62	ng/m³ Air		5.40			16.0	10	
Molybdenum	1.69	0.307	ng/m³ Air		1.89			10.8	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 B4B2803 - ICP-MS Extraction										
Duplicate (B4B2803-DUP2) Continued			**Source: 4022628-08**		Prepared & Analyzed: 02/28/24					
Nickel	0.776	0.557	ng/m³ Air		0.876			12.1	10	
Selenium	0.129	0.00766	ng/m³ Air		0.148			13.5	10	
Thallium	0.00103	5.03E-4	ng/m³ Air		0.00121			16.1	10	
Vanadium	0.407	0.0452	ng/m³ Air		0.483			17.2	10	
Zinc	ND	65.6	ng/m³ Air		ND				10	U
Duplicate (B4B2803-DUP3)			**Source: 4022628-02**		Prepared: 02/28/24 Analyzed: 02/29/24					
Antimony	0.0752	0.0297	ng/m³ Air		0.0758			0.752	10	SL
Arsenic	0.295	0.00721	ng/m³ Air		0.295			0.0443	10	
Barium	2.78	0.824	ng/m³ Air		2.77			0.239	10	QB-01
Beryllium	0.00527	0.00246	ng/m³ Air		0.00506			4.11	10	GC-BS
Cadmium	ND	0.0610	ng/m³ Air		ND				10	U
Chromium	ND	1.70	ng/m³ Air		ND				10	U
Cobalt	0.152	0.0336	ng/m³ Air		0.150			1.37	10	
Copper	16.3	2.02	ng/m³ Air		16.2			0.390	10	
Lead	0.701	0.165	ng/m³ Air		0.700			0.142	10	
Manganese	4.22	1.45	ng/m³ Air		4.19			0.713	10	
Molybdenum	0.719	0.276	ng/m³ Air		0.717			0.236	10	
Nickel	0.658	0.502	ng/m³ Air		0.655			0.521	10	
Selenium	0.139	0.00690	ng/m³ Air		0.136			1.98	10	
Thallium	6.99E-4	4.53E-4	ng/m³ Air		6.68E-4			4.49	10	
Vanadium	0.404	0.0407	ng/m³ Air		0.404			0.0630	10	
Zinc	ND	59.1	ng/m³ Air		ND				10	U
Duplicate (B4B2803-DUP4)			**Source: 4022628-27**		Prepared: 02/28/24 Analyzed: 02/29/24					
Antimony	0.0541	0.0324	ng/m³ Air		0.0545			0.837	10	SL
Arsenic	0.206	0.00786	ng/m³ Air		0.210			1.60	10	
Barium	3.71	0.897	ng/m³ Air		3.70			0.0528	10	QB-01
Beryllium	0.00701	0.00268	ng/m³ Air		0.00741			5.54	10	GC-BS
Cadmium	ND	0.0665	ng/m³ Air		ND				10	U
Chromium	2.13	1.85	ng/m³ Air		2.15			1.01	10	
Cobalt	0.235	0.0366	ng/m³ Air		0.235			0.112	10	
Copper	23.4	2.21	ng/m³ Air		23.5			0.630	10	
Lead	0.774	0.179	ng/m³ Air		0.773			0.147	10	
Manganese	6.31	1.59	ng/m³ Air		6.32			0.238	10	
Molybdenum	1.41	0.301	ng/m³ Air		1.42			1.07	10	
Nickel	0.815	0.547	ng/m³ Air		0.824			1.07	10	
Selenium	0.152	0.00752	ng/m³ Air		0.145			4.64	10	
Thallium	0.00127	4.94E-4	ng/m³ Air		0.00132			3.84	10	
Vanadium	0.617	0.0444	ng/m³ Air		0.619			0.324	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 B4B2803 - ICP-MS Extraction										
Duplicate (B4B2803-DUP4) Continued		**Source: 4022628-27**			Prepared: 02/28/24 Analyzed: 02/29/24					
Zinc	ND	64.4	ng/m³ Air		ND				10	U
Matrix Spike (B4B2803-MS1)		**Source: 4022628-19**			Prepared & Analyzed: 02/28/24					
Antimony	0.383	0.0307	ng/m³ Air	1.0997	0.0312	32.0	80-120			SL
Arsenic	2.15	0.00745	ng/m³ Air	2.1994	0.411	78.9	80-120			QM-07
Barium	21.6	0.851	ng/m³ Air	21.994	3.09	84.2	80-120			QB-01
Beryllium	0.942	0.00254	ng/m³ Air	1.0997	0.00835	84.9	80-120			GC-BS
Cadmium	1.01	0.0631	ng/m³ Air	1.0997	0.0764	85.1	80-120			
Chromium	11.8	1.76	ng/m³ Air	10.997	2.21	86.8	80-120			
Cobalt	1.22	0.0347	ng/m³ Air	1.0997	0.297	83.8	80-120			
Copper	54.0	2.09	ng/m³ Air	21.994	39.3	67.0	80-120			QM-07
Lead	9.89	0.170	ng/m³ Air	10.997	0.570	84.8	80-120			
Manganese	14.6	1.50	ng/m³ Air	6.5982	9.64	74.7	80-120			QM-07
Molybdenum	2.53	0.285	ng/m³ Air	1.0997	1.78	68.1	80-120			QM-07
Nickel	2.45	0.518	ng/m³ Air	2.1994	0.671	80.9	80-120			
Selenium	2.07	0.00712	ng/m³ Air	2.1994	0.178	86.2	80-120			
Thallium	0.0917	4.68E-4	ng/m³ Air	0.10997	0.00170	81.8	80-120			
Vanadium	2.60	0.0421	ng/m³ Air	2.1994	0.783	82.6	80-120			
Zinc	80.9	61.1	ng/m³ Air	65.982	ND	123	80-120			
Matrix Spike (B4B2803-MS2)		**Source: 4022628-08**			Prepared & Analyzed: 02/28/24					
Antimony	0.436	0.0330	ng/m³ Air	1.1818	ND	36.9	80-120			SL
Arsenic	2.13	0.00801	ng/m³ Air	2.3636	0.0685	87.4	80-120			
Barium	22.9	0.914	ng/m³ Air	23.636	1.62	90.2	80-120			QB-01
Beryllium	1.04	0.00273	ng/m³ Air	1.1818	0.0110	87.5	80-120			GC-BS
Cadmium	1.09	0.0678	ng/m³ Air	1.1818	ND	91.8	80-120			
Chromium	12.5	1.89	ng/m³ Air	11.818	2.13	88.0	80-120			
Cobalt	1.20	0.0373	ng/m³ Air	1.1818	0.211	83.3	80-120			
Copper	54.8	2.25	ng/m³ Air	23.636	34.1	87.2	80-120			
Lead	10.9	0.183	ng/m³ Air	11.818	0.419	88.8	80-120			
Manganese	11.3	1.62	ng/m³ Air	7.0907	5.40	83.1	80-120			
Molybdenum	2.66	0.307	ng/m³ Air	1.1818	1.89	64.9	80-120			QM-07
Nickel	3.22	0.557	ng/m³ Air	2.3636	0.876	99.0	80-120			
Selenium	2.24	0.00766	ng/m³ Air	2.3636	0.148	88.7	80-120			
Thallium	0.101	5.03E-4	ng/m³ Air	0.11818	0.00121	84.3	80-120			
Vanadium	2.53	0.0452	ng/m³ Air	2.3636	0.483	86.4	80-120			
Zinc	99.3	65.6	ng/m³ Air	70.907	ND	140	80-120			QM-07
Matrix Spike Dup (B4B2803-MSD1)		**Source: 4022628-19**			Prepared & Analyzed: 02/28/24					
Antimony	0.408	0.0307	ng/m³ Air	1.0997	0.0312	34.3	80-120	6.37	20	SL
Arsenic	2.19	0.00745	ng/m³ Air	2.1994	0.411	80.7	80-120	1.88	20	

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FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
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 B4B2803 - ICP-MS Extraction										
Matrix Spike Dup (B4B2803-MSD1) Conti				**Source: 4022628-19**		Prepared & Analyzed: 02/28/24				
Barium	22.1	0.851	ng/m³ Air	21.994	3.09	86.6	80-120	2.40	20	QB-01
Beryllium	0.961	0.00254	ng/m³ Air	1.0997	0.00835	86.6	80-120	2.02	20	GC-BS
Cadmium	1.02	0.0631	ng/m³ Air	1.0997	0.0764	85.9	80-120	0.879	20	
Chromium	12.3	1.76	ng/m³ Air	10.997	2.21	91.9	80-120	4.63	20	
Cobalt	1.26	0.0347	ng/m³ Air	1.0997	0.297	88.0	80-120	3.69	20	
Copper	57.3	2.09	ng/m³ Air	21.994	39.3	81.9	80-120	5.92	20	
Lead	10.2	0.170	ng/m³ Air	10.997	0.570	87.6	80-120	3.16	20	
Manganese	15.3	1.50	ng/m³ Air	6.5982	9.64	86.1	80-120	5.06	20	
Molybdenum	2.64	0.285	ng/m³ Air	1.0997	1.78	78.3	80-120	4.32	20	QM-07
Nickel	2.58	0.518	ng/m³ Air	2.1994	0.671	86.9	80-120	5.26	20	
Selenium	2.13	0.00712	ng/m³ Air	2.1994	0.178	88.6	80-120	2.54	20	
Thallium	0.0935	4.68E-4	ng/m³ Air	0.10997	0.00170	83.5	80-120	2.01	20	
Vanadium	2.67	0.0421	ng/m³ Air	2.1994	0.783	85.7	80-120	2.56	20	
Zinc	85.6	61.1	ng/m³ Air	65.982	ND	130	80-120	5.57	20	
Matrix Spike Dup (B4B2803-MSD2)				**Source: 4022628-08**		Prepared & Analyzed: 02/28/24				
Antimony	0.538	0.0330	ng/m³ Air	1.1818	ND	45.5	80-120	20.9	20	SL
Arsenic	2.14	0.00801	ng/m³ Air	2.3636	0.0685	87.7	80-120	0.341	20	
Barium	23.5	0.914	ng/m³ Air	23.636	1.62	92.7	80-120	2.57	20	QB-01
Beryllium	1.03	0.00273	ng/m³ Air	1.1818	0.0110	86.3	80-120	1.31	20	GC-BS
Cadmium	1.09	0.0678	ng/m³ Air	1.1818	ND	91.9	80-120	0.0880	20	
Chromium	12.8	1.89	ng/m³ Air	11.818	2.13	90.3	80-120	2.15	20	
Cobalt	1.23	0.0373	ng/m³ Air	1.1818	0.211	86.6	80-120	3.25	20	
Copper	52.0	2.25	ng/m³ Air	23.636	34.1	75.6	80-120	5.15	20	QM-07
Lead	10.9	0.183	ng/m³ Air	11.818	0.419	88.5	80-120	0.308	20	
Manganese	11.7	1.62	ng/m³ Air	7.0907	5.40	88.4	80-120	3.27	20	
Molybdenum	2.69	0.307	ng/m³ Air	1.1818	1.89	67.5	80-120	1.13	20	QM-07
Nickel	2.84	0.557	ng/m³ Air	2.3636	0.876	82.9	80-120	12.6	20	
Selenium	2.31	0.00766	ng/m³ Air	2.3636	0.148	91.6	80-120	3.00	20	
Thallium	0.100	5.03E-4	ng/m³ Air	0.11818	0.00121	83.9	80-120	0.465	20	
Vanadium	2.59	0.0452	ng/m³ Air	2.3636	0.483	89.1	80-120	2.51	20	
Zinc	97.1	65.6	ng/m³ Air	70.907	ND	137	80-120	2.25	20	QM-07
Post Spike (B4B2803-PS1)				**Source: 4022628-19**		Prepared & Analyzed: 02/28/24				
Antimony	0.250	0.0307	ng/m³ Air	0.21994	0.0312	99.6	75-125			SL
Arsenic	1.47	0.00745	ng/m³ Air	1.0997	0.411	96.5	75-125			
Barium	5.26	0.851	ng/m³ Air	2.1994	3.09	98.5	75-125			QB-01
Beryllium	0.219	0.00254	ng/m³ Air	0.21994	0.00835	95.6	75-125			GC-BS
Cadmium	0.187	0.0631	ng/m³ Air	0.10997	0.0764	101	75-125			
Chromium	3.46	1.76	ng/m³ Air	1.0997	2.21	113	75-125			

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FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
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 B4B2803 - ICP-MS Extraction										
Post Spike (B4B2803-PS1) Continued			**Source: 4022628-19**		Prepared & Analyzed: 02/28/24					
Cobalt	0.522	0.0347	ng/m³ Air	0.21994	0.297	102	75-125			
Copper	51.7	2.09	ng/m³ Air	10.997	39.3	112	75-125			
Lead	21.9	0.170	ng/m³ Air	21.994	0.570	97.1	75-125			
Manganese	12.1	1.50	ng/m³ Air	2.1994	9.64	112	75-125			
Molybdenum	2.85	0.285	ng/m³ Air	1.0997	1.78	97.2	75-125			
Nickel	2.81	0.518	ng/m³ Air	2.1994	0.671	97.3	75-125			
Selenium	1.25	0.00712	ng/m³ Air	1.0997	0.178	97.7	75-125			
Thallium	0.0566	4.68E-4	ng/m³ Air	5.4985E-2	0.00170	99.9	75-125			
Vanadium	1.86	0.0421	ng/m³ Air	1.0997	0.783	97.6	75-125			
Zinc	ND	61.1	ng/m³ Air	21.994	ND		75-125			U
Post Spike (B4B2803-PS2)			**Source: 4022628-08**		Prepared & Analyzed: 02/28/24					
Antimony	0.253	0.0330	ng/m³ Air	0.23636	ND	107	75-125			SL
Arsenic	1.20	0.00801	ng/m³ Air	1.1818	0.0685	95.7	75-125			
Barium	4.06	0.914	ng/m³ Air	2.3636	1.62	103	75-125			QB-01
Beryllium	0.232	0.00273	ng/m³ Air	0.23636	0.0110	93.4	75-125			GC-BS
Cadmium	0.130	0.0678	ng/m³ Air	0.11818	ND	110	75-125			
Chromium	3.28	1.89	ng/m³ Air	1.1818	2.13	97.1	75-125			
Cobalt	0.441	0.0373	ng/m³ Air	0.23636	0.211	97.1	75-125			
Copper	45.9	2.25	ng/m³ Air	11.818	34.1	99.6	75-125			
Lead	23.4	0.183	ng/m³ Air	23.636	0.419	97.4	75-125			
Manganese	7.80	1.62	ng/m³ Air	2.3636	5.40	101	75-125			
Molybdenum	3.02	0.307	ng/m³ Air	1.1818	1.89	96.2	75-125			
Nickel	3.10	0.557	ng/m³ Air	2.3636	0.876	94.1	75-125			
Selenium	1.29	0.00766	ng/m³ Air	1.1818	0.148	96.4	75-125			
Thallium	0.0602	5.03E-4	ng/m³ Air	5.9089E-2	0.00121	99.9	75-125			
Vanadium	1.63	0.0452	ng/m³ Air	1.1818	0.483	97.1	75-125			
Zinc	72.9	65.6	ng/m³ Air	23.636	ND	309	75-125			
Dilution Check (B4B2803-SRL1)			**Source: 4022628-19**		Prepared & Analyzed: 02/28/24					
Antimony	ND	0.153	ng/m³ Air		ND				10	SL, U
Arsenic	0.406	0.0373	ng/m³ Air		0.411			1.38	10	
Barium	ND	4.25	ng/m³ Air		ND				10	QB-01, U
Beryllium	ND	0.0127	ng/m³ Air		ND				10	GC-BS, U
Cadmium	ND	0.315	ng/m³ Air		ND				10	U
Chromium	ND	8.79	ng/m³ Air		ND				10	U
Cobalt	0.306	0.173	ng/m³ Air		0.297			2.78	10	
Copper	40.6	10.5	ng/m³ Air		39.3			3.19	10	
Lead	ND	0.851	ng/m³ Air		ND				10	U
Manganese	9.82	7.51	ng/m³ Air		9.64			1.84	10	

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

FILE #: 4205.00.003.001
REPORTED: 03/05/24 15:59
SUBMITTED: 02/26/24
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 B4B2803 - ICP-MS Extraction										
Dilution Check (B4B2803-SRL1) Continue				**Source: 4022628-19**		Prepared & Analyzed: 02/28/24				
Molybdenum	1.80	1.43	ng/m³ Air		1.78			1.15	10	
Nickel	ND	2.59	ng/m³ Air		ND				10	U
Selenium	0.174	0.0356	ng/m³ Air		0.178			2.03	10	
Thallium	ND	0.00234	ng/m³ Air		ND				10	U
Vanadium	0.776	0.210	ng/m³ Air		0.783			0.915	10	
Zinc	ND	305	ng/m³ Air		ND				10	U
Dilution Check (B4B2803-SRL2)				**Source: 4022628-08**		Prepared & Analyzed: 02/28/24				
Antimony	ND	0.165	ng/m³ Air		ND				10	SL, U
Arsenic	0.0726	0.0400	ng/m³ Air		0.0685			5.76	10	
Barium	ND	4.57	ng/m³ Air		ND				10	QB-01, U
Beryllium	ND	0.0137	ng/m³ Air		ND				10	GC-BS, U
Cadmium	ND	0.339	ng/m³ Air		ND				10	U
Chromium	ND	9.44	ng/m³ Air		ND				10	U
Cobalt	0.217	0.186	ng/m³ Air		0.211			2.84	10	
Copper	35.4	11.2	ng/m³ Air		34.1			3.64	10	
Lead	ND	0.914	ng/m³ Air		ND				10	U
Manganese	ND	8.08	ng/m³ Air		ND				10	U
Molybdenum	1.90	1.53	ng/m³ Air		1.89			0.875	10	
Nickel	ND	2.79	ng/m³ Air		ND				10	U
Selenium	0.169	0.0383	ng/m³ Air		0.148			13.8	10	
Thallium	ND	0.00252	ng/m³ Air		ND				10	U
Vanadium	0.483	0.226	ng/m³ Air		0.483			0.0580	10	
Zinc	ND	328	ng/m³ Air		ND				10	U

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SITE CODE: Lahaina fires

Notes and Definitions

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

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

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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 3/08/2024 and Shanna Vasser 3/11/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 2/15/2024 - 2/21/2024
Report No: 4022628

√	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 and copper in MFL-FB01-021524-HM; copper in MFL-FB01-021724-HM; arsenic, copper, lead, and nickel in MFL-FB01-021924-HM; and arsenic and selenium in MFL-FB01-022124-HM.

Notes: None

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

February 22 through February 28, 2024
[Report Updated: December 4, 2024]

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

Particulate monitoring and air sampling occurred from February 22 through February 28, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from February 22 through February 28 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

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

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

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

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

the comment “Numerous gypsum fibers present” for samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on February 22 through 28
- WW Pump Station #4 on February 22 through 23, and 25 through 28
- Lahaina Intermediate School on February 22 through 27
- Lahaina Boys & Girls Club on February 22 through 25, and 27

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

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

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

Meteorological Summary

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

Quality Control Summary

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

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

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

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

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

- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

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

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

Attachments

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
February 22 through February 28, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
2/22/2024	Leialii Hawaiian Homelands (AM-01)	5.6
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	6.3
	Lahaina Boys & Girls Club (AM-04)	6.8
2/23/2024	Leialii Hawaiian Homelands (AM-01)	7.2
	WW Pump Station #4 (AM-02)	6.8
	Lahaina Intermediate School (AM-03)	6.1
	Lahaina Boys & Girls Club (AM-04)	5.7
2/24/2024	Leialii Hawaiian Homelands (AM-01)	5.0
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	7.5
	Lahaina Boys & Girls Club (AM-04)	6.5
2/25/2024	Leialii Hawaiian Homelands (AM-01)	8.2
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	7.2
	Lahaina Boys & Girls Club (AM-04)	6.8
2/26/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	8.0
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Boys & Girls Club (AM-04)	5.9
2/27/2024	Leialii Hawaiian Homelands (AM-01)	9.4
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	9.1
2/28/2024	Leialii Hawaiian Homelands (AM-01)	7.6
	WW Pump Station #4 (AM-02)	7.9
	Lahaina Intermediate School (AM-03)	9.2
	Lahaina Boys & Girls Club (AM-04)	7.8

Notes:
µg/m3 = micrograms per cubic meter
All Stations on February 18 are based off of a 23 hr TWA calculation
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation
Results from WW Pump Station 4 on 2/28 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
2/22//2024-2/28/2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
2/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.000146	0.00101	0.00285	0.00000574	ND	0.00217	0.000223	0.0360	0.000540	0.00641	0.00156	0.000723	0.000133	0.000000891	0.000818	ND
	WW Pump Station #4 (AM-02)	<0.0026	0.000234	0.000462	0.00455	0.0000125	ND	0.00276	0.000422	0.0231	0.000893	0.0113	0.00101	0.00193	0.000160	0.00000105	0.00138	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.000213	0.000712	0.00388	0.0000319	ND	0.00332	0.000528	0.0565	0.000457	0.0129	0.00229	0.00153	0.000187	0.00000103	0.00146	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000199	0.000460	0.00286	0.00000726	ND	0.00233	0.000201	0.0193	0.000646	0.00625	0.00106	0.000930	0.000138	0.000000776	0.000881	ND
2/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000359	0.000275	0.00156	0.00000298	ND	0.00181	0.000209	0.0378	0.000301	0.00274	0.00144	0.000576	0.0000862	0.000000502	0.000423	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000109	0.000227	0.00419	0.00000811	ND	0.00225	0.000280	0.0217	0.000588	0.00772	0.00102	0.00118	0.000154	0.000000742	0.00102	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000473	0.000319	0.00325	0.0000234	ND	0.00305	0.000424	0.0454	0.000405	0.00952	0.00219	0.00155	0.000162	0.000000802	0.00118	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000557	0.000180	0.00258	0.00000682	ND	0.00231	0.000194	0.0265	0.000616	0.00599	0.00122	0.000753	0.000144	0.000000842	0.000774	ND
2/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000745	0.000484	0.0132	0.00000886	ND	0.00248	0.000300	0.0469	0.000632	0.00926	0.00293	0.00105	0.000143	0.000000895	0.000930	ND
	WW Pump Station #4 (AM-02)	<0.0026	0.0000963	0.000237	0.00409	0.0000104	ND	0.00247	0.000321	0.0272	0.000635	0.00989	0.00158	0.00121	0.000161	0.00000111	0.00103	ND
	Lahaina Intermediate School (AM-03)	<0.0025	ND	0.000149	0.00201	0.0000117	ND	0.00227	0.000239	0.0394	0.000264	0.00654	0.00168	0.000876	0.000130	0.000000703	0.000741	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0026	0.0000741	0.000780	0.00361	0.0000112	ND	0.00318	0.000340	0.0311	0.00163	0.0109	0.00112	0.00109	0.000150	0.000000978	0.00109	ND
2/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000354	0.000586	0.00189	0.00000423	ND	0.00200	0.000132	0.0538	0.000405	0.00404	0.00404	0.000588	0.000115	0.000000831	0.000357	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.0000924	0.000219	0.00362	0.00000631	ND	0.00210	0.000162	0.0333	0.000495	0.00512	0.00185	0.000725	0.000166	0.000000983	0.000476	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000289	0.000126	0.00168	0.00000513	ND	0.00168	0.000169	0.0398	0.000299	0.00292	0.00146	0.000612	0.000130	0.000000756	0.000276	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0028	0.0000473	0.000130	0.00201	0.00000376	ND	ND	0.0000968	0.0301	0.000449	0.00255	0.00113	ND	0.000135	0.000000920	0.000257	ND
2/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000408	0.00113	0.00313	0.00000945	ND	0.00294	0.000332	0.0554	0.000530	0.00941	0.00386	0.000939	0.000156	0.00000115	0.000878	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000137	0.000310	0.00597	0.0000118	ND	0.00269	0.000420	0.0302	0.000727	0.0110	0.00193	0.00140	0.000174	0.00000112	0.00104	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000351	0.000175	0.00243	0.0000222	ND	0.00268	0.000414	0.0380	0.000482	0.00899	0.00138	0.00109	0.000151	0.000000959	0.000839	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000581	0.000174	0.00268	0.00000611	ND	0.00210	0.000158	0.0301	0.000621	0.00477	0.00109	0.000629	0.000135	0.000000825	0.000396	ND
2/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000437	0.000487	0.00272	0.00000911	ND	0.00301	0.000336	0.0362	0.000414	0.00969	0.00184	0.00105	0.000151	0.00000119	0.000844	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.0000836	0.000490	0.00587	0.0000189	0.0000907	0.00381	0.000771	0.0309	0.00118	0.0196	0.00162	0.00297	0.000215	0.00000149	0.00177	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000376	0.000319	0.00483	0.0000719	ND	0.00490	0.00101	0.0338	0.000582	0.0216	0.00131	0.00232	0.000283	0.00000156	0.00234	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000511	0.000347	0.00373	0.0000145	ND	0.00292	0.000442	0.0250	0.000987	0.0135	0.000961	0.00123	0.000192	0.00000142	0.00111	ND
2/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000425	0.000569	0.00420	0.0000117	ND	0.00285	0.000535	0.0593	0.00139	0.0127	0.00222	0.00118	0.000153	0.00000151	0.00114	ND
	WW Pump Station #4 (AM-02)	<0.0026	0.0000778	0.000313	0.00346	0.0000106	ND	0.00241	0.000294	0.0327	0.000900	0.00884	0.00200	0.00120	0.000174	0.00000141	0.000777	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000607	0.000259	0.00321	0.0000244	0.0000548	0.00286	0.000480	0.0323	0.000603	0.0115	0.00131	0.00137	0.000183	0.00000140	0.00100	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000445	0.000292	0.00269	0.00000799	ND	0.00202	0.000201	0.0202	0.000689	0.00661	0.000996	0.000671	0.000141	0.00000121	0.000514	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000510	0.00425	0.0000170	NA	0.00286	0.000420	0.0394	0.000770	0.0112	0.00196	0.00135	0.000170	0.00000110	0.00114	NA

Notes:
Heavy metals results for stations AM02-AM04 from 2/25-2/27 were reissued due to calibration and volume corrections
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
February 22 through February 28, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
2/22/2024	AM-01	Leialii Hawaiian Homelands	1.1	SSE	76	62	763.3
2/22/2024	AM-02	WW Pump Station #4	0.9	S	76	64	765.4
2/22/2024	AM-03	Lahaina Intermediate School	1.1	SSE	76	67	755.8
2/22/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	77	65	764.8
2/23/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	76	61	761.3
2/23/2024	AM-02	WW Pump Station #4	1.0	SE	76	64	763.4
2/23/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	67	753.9
2/23/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	76	66	762.9
2/24/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	74	67	761.2
2/24/2024	AM-02	WW Pump Station #4	0.9	SSE	75	68	763.3
2/24/2024	AM-03	Lahaina Intermediate School	1.0	SE	74	71	753.7
2/24/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	75	70	762.7
2/25/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	76	55	762.0
2/25/2024	AM-02	WW Pump Station #4	1.1	SE	75	59	764.1
2/25/2024	AM-03	Lahaina Intermediate School	1.1	ESE	75	62	754.6
2/25/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	75	61	763.7
2/26/2024	AM-01	Leialii Hawaiian Homelands	1.3	ESE	75	58	763.5
2/26/2024	AM-02	WW Pump Station #4	1.0	SE	75	61	765.6
2/26/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	64	756.1
2/26/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	75	64	765.4
2/27/2024	AM-01	Leialii Hawaiian Homelands	1.8	SE	77	55	763.4
2/27/2024	AM-02	WW Pump Station #4	1.5	SE	77	58	765.5
2/27/2024	AM-03	Lahaina Intermediate School	1.5	SE	77	60	755.9
2/27/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	77	58	765.2
2/28/2024	AM-01	Leialii Hawaiian Homelands	1.2	SSE	76	57	762.2
2/28/2024	AM-02	WW Pump Station #4	1.1	SSE	76	61	764.2
2/28/2024	AM-03	Lahaina Intermediate School	1.2	SSE	76	62	754.7
2/28/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	76	62	764.0

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/01/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022224-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7119.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	Random	*(4.00)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**1**	**1**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0040**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**1**	**1**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0040**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**1**	**1**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0040**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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: 042403988
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: 042403988-0001 **Customer Sample:** MFL-AM01-022224-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	A6	None Detected									
B2	D8	B	1	1	1.48	0.08	CD	Chrysotile		MG_22, MG_23	
B2	H6	None Detected									
B3	B7	None Detected									
B3	H7	None Detected									

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

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

EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/01/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-022224-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6961.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

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

EMSL Order ID:	**042403988**
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: 042403988-0002 **Customer Sample:** MFL-AM02-022224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J3	None Detected									
B5	F2	None Detected									
B5	B5	None Detected									
B6	J5	None Detected									
B6	C7	None Detected									

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

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EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/01/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022224-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7240.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0003 **Customer Sample:** MFL-AM03-022224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J6	None Detected									
C2	G4	None Detected									
C2	B4	None Detected									
C3	B7	None Detected									
C3	H5	None Detected									

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

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EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-022224-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403988-0004 **Customer Sample:** MFL-AM04-022224-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	J5	None Detected									
C5	F2	None Detected									
C5	B1	None Detected									
C6	B8	None Detected									
C6	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Analysis Date:	03/01/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022224-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0005 **Customer Sample:** MFL-FB01-022224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A9	None Detected									
D2	C7	None Detected									
D2	E7	None Detected									
D2	G8	None Detected									
D2	I6	None Detected									
D3	J4	None Detected									
D3	H3	None Detected									
D3	F2	None Detected									
D3	D4	None Detected									
D3	B5	None Detected									

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

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Analysis Date:	03/01/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022324-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7180.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0006 **Customer Sample:** MFL-AM01-022324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J5	None Detected									
D5	H8	None Detected									
D5	E9	None Detected									
D6	H8	None Detected									
D6	B6	None Detected									

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

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EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/01/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-022324-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7194.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0007 **Customer Sample:** MFL-AM02-022324-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	A5	None Detected									
E2	D3	None Detected									
E2	G2	None Detected									
E3	C3	None Detected									
E3	G6	None Detected									

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

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EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022324-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7082.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0008 **Customer Sample:** MFL-AM03-022324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B7	None Detected									
E5	D6	None Detected									
E5	G4	None Detected									
E6	C5	None Detected									
E6	H8	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-AM04-022324-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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: 042403988-0009 **Customer Sample:** MFL-AM04-022324-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	A5	None Detected									
F2	E3	None Detected									
F2	I5	None Detected									
F3	B7	None Detected									
F3	I9	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022324-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

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: 042403988-0010 **Customer Sample:** MFL-FB01-022324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A4	None Detected									
F5	C5	None Detected									
F5	E2	None Detected									
F5	G3	None Detected									
F5	I5	None Detected									
F6	A4	None Detected									
F6	C5	None Detected									
F6	E7	None Detected									
F6	G6	None Detected									
F6	I4	None Detected									

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

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Analysis Date:	03/04/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022424-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7060.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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:	**042403988**
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: 042403988-0011 **Customer Sample:** MFL-AM01-022424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J4	None Detected									
G2	F3	None Detected									
G2	B1	None Detected									
G3	I1	None Detected									
G3	C3	None Detected									

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

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EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/04/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-022424-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6970.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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

EMSL Order ID:	**042403988**
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: 042403988-0012 **Customer Sample:** MFL-AM02-022424-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	I2	None Detected									
G5	F3	None Detected									
G5	D5	None Detected									
G6	C4	None Detected									
G6	I3	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:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/04/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022424-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7190.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042403988-0013 **Customer Sample:** MFL-AM03-022424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J7	None Detected									
H2	G5	None Detected									
H2	E7	None Detected									
H3	H6	None Detected									
H3	C5	None Detected									

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

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EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/04/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-022424-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6952.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.36	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0014 **Customer Sample:** MFL-AM04-022424-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	B6	None Detected									
H5	D8	None Detected									
H5	G7	None Detected									
H6	B9	None Detected									
H6	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: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/04/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022424-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total All Structures	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	-	**Not Applicable**

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

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	-	**Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	-	**Not Applicable**

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042403988**
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: 042403988-0015 **Customer Sample:** MFL-FB01-022424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I3	J3	None Detected									
I3	I5	None Detected									
I3	H8	None Detected									
I3	G6	None Detected									
I3	D3	None Detected									
I4	A8	None Detected									
I4	C6	None Detected									
I4	E4	None Detected									
I4	G5	None Detected									
I4	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/04/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022524-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7068.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0016 **Customer Sample:** MFL-AM01-022524-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	B6	None Detected									
I5	D8	None Detected									
I5	G10	None Detected									
I6	J1	None Detected									
I6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

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Tetra Tech
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Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/04/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-022524-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7217.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0017 **Customer Sample:** MFL-AM02-022524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	B9	None Detected									
J2	E9	None Detected									
J2	I8	None Detected									
J3	H3	None Detected									
J3	B5	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:	1206126
Project ID:	

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Phone:	(703) 489-2674
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Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/04/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022524-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7259.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042403988**
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: 042403988-0018 **Customer Sample:** MFL-AM03-022524-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	A6	None Detected									
J5	E8	None Detected									
J5	H9	None Detected									
J6	A8	None Detected									
J6	H8	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-AM04-022524-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6484.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0028**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Actinolite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Amosite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Anthophyllite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Crocidolite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Tremolite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Other Minerals	-	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0028**	**Not Applicable**	**- 0.0028**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Actinolite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Amosite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Anthophyllite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Crocidolite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Tremolite	ADX	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Other Minerals	-	0	0	< 46.36	< 0.0028	Not Applicable	- 0.0028
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0028**	**Not Applicable**	**- 0.0028**

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: 042403988-0019 **Customer Sample:** MFL-AM04-022524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	J3	None Detected									
K2	G1	None Detected									
K2	B4	None Detected									
K3	G6	None Detected									
K3	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022524-AB**		**Sample Description:**	
EMSL Sample Number:	042403988-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042403988**
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: 042403988-0020 **Customer Sample:** MFL-FB01-022524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A3	None Detected									
K5	C4	None Detected									
K5	E3	None Detected									
K5	G4	None Detected									
K5	I5	None Detected									
K6	A5	None Detected									
K6	C3	None Detected									
K6	E1	None Detected									
K6	G2	None Detected									
K6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042403988
Customer ID:	TTDC42
Customer PO:	1206126
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	02/28/2024 09:50 AM
Analysis Date:	03/01/2024
Report Date:	03/05/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022224-AB**		**Sample Description:**	**Labblank**
EMSL Sample Number:	042403988-0021		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.18	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.18**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042403988**
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: 042403988-0021 LB **Customer Sample:** MFL-AM01-022224-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					
A1	J5	None Detected									
A1	H4	None Detected									
A1	F3	None Detected									
A1	D4	None Detected									
A1	B3	None Detected									
A2	A8	None Detected									
A2	C7	None Detected									
A2	E8	None Detected									
A2	G7	None Detected									
A2	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042403988

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042403988 RECEIVED EMSL

24 FEB 28 AM 10:53

200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	CINNAMINSON, NJ
Company Name:	TetraTech	Company Name:	
Contact Name:	Chelsea Saber	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.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	
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:	Elin Iturgen Saldaña	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-AM01-022224-AB		7,119.207	02/22/24 1106
MFL-AM02-022224-AB		6,961.426	02/22/24 1128
MFL-AM03-022224-AB		7,240.320	02/22/24 1306
MFL-AM04-022224-AB		7,162.272	02/22/24 1335
MFL-FB01-022224-AB		0	02/22/24 1200
MFL-AM01-022324-AB		7,180.439	02/23/24 1051
MFL-AM02-022324-AB		7,194.528	02/23/24 1131
MFL-AM03-022324-AB		7,082.406	02/23/24 1307

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: 02/26/24 1100	Received by: FX
Relinquished by:		Date/Time:	Received by:

Date/Time: 2/28/24 950am

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042403988

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042403988 RECEIVED EMSL CINNAMINSON, NJ

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.)

24 FEB 28 AM 10:53

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-022324-AB		7,207.632	02/23/24 1344
MFL-FB01-022324-AB		0	02/23/24 1200
MFL-AM01-022424-AB		7,060.879	02/24/24 1059
MFL-AM02-022424-AB		6,970.572	02/24/24 1125
MFL-AM03-022424-AB		7,190.363	02/24/24 1305
MFL-AM04-022424-AB		6,952.046	02/24/24 1329
MFL-FB01-022424-AB		0	02/24/24 1200
MFL-AM01-022524-AB		7,068.236	02/25/24 1100
MFL-AM02-022524-AB		7,217.179	02/25/24 1123
MFL-AM03-022524-AB		7,259.698	02/25/24 1306
MFL-AM04-022524-AB		6,484.335	02/25/24 1329
MFL-FB01-022524-AB		0	02/25/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 02/26/24 1100	Received by:	Date/Time
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 3/5/2024 and Shanna Vasser 3/6/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 2/22/2024 - 2/25/2024
Report No: 42403988

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes:

1. A revised report was issued on 3/6/2024 to correct sample ID in lab blank.

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:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022624-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6798.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

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:	**042404387**
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: 042404387-0001 **Customer Sample:** MFL-AM01-022624-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	A6	None Detected									
A5	D7	None Detected									
A5	H5	None Detected									
A6	D6	None Detected									
A6	H8	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:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-022624-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7040.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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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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:	**042404387**
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: 042404387-0002 **Customer Sample:** MFL-AM02-022624-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	A6	None Detected									
B2	D9	None Detected									
B2	G7	None Detected									
B3	I4	None Detected									
B3	D3	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:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/04/2024 08:50 AM
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Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022624-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0129
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.36	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.36**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404387**
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: 042404387-0003 **Customer Sample:** MFL-AM03-022624-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	J4	None Detected									
B5	F3	None Detected									
B5	C5	None Detected									
B6	I5	None Detected									
B6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina**

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Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-022624-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0004		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042404387**
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: 042404387-0004 **Customer Sample:** MFL-AM04-022624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J2	None Detected									
C2	G5	None Detected									
C2	B6	None Detected									
C3	I7	None Detected									
C3	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:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022624-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID:	**042404387**
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: 042404387-0005 **Customer Sample:** MFL-FB01-022624-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	J3	None Detected									
C5	H4	None Detected									
C5	F2	None Detected									
C5	D5	None Detected									
C5	B4	None Detected									
C6	A8	None Detected									
C6	C9	None Detected									
C6	E8	None Detected									
C6	G7	None Detected									
C6	I5	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:	042404387
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022724-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7020.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

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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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:	**042404387**
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: 042404387-0006 **Customer Sample:** MFL-AM01-022724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J4	None Detected									
D2	G3	None Detected									
D2	C5	None Detected									
D3	B5	None Detected									
D3	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:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-022724-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7062.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404387**
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: 042404387-0007 **Customer Sample:** MFL-AM02-022724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	E8	None Detected									
D5	H6	None Detected									
D6	C6	None Detected									
D6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022724-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7163.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404387**
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: 042404387-0008 **Customer Sample:** MFL-AM03-022724-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	J5	None Detected									
E2	F4	None Detected									
E2	C3	None Detected									
E3	C8	None Detected									
E3	I5	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:	

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Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-022724-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7147.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404387**
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: 042404387-0009 **Customer Sample:** MFL-AM04-022724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A6	None Detected									
E5	D8	None Detected									
E5	H10	None Detected									
E6	H4	None Detected									
E6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
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Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022724-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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: 042404387-0010 **Customer Sample:** MFL-FB01-022724-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	A9	None Detected									
F2	C8	None Detected									
F2	E9	None Detected									
F2	G10	None Detected									
F2	I8	None Detected									
F3	A8	None Detected									
F3	C7	None Detected									
F3	E8	None Detected									
F3	G9	None Detected									
F3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-022824-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7006.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

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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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404387**
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: 042404387-0011 **Customer Sample:** MFL-AM01-022824-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	J3	None Detected									
F5	G4	None Detected									
F5	A6	None Detected									
F6	C5	None Detected									
F6	H3	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:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-022824-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7028.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	-	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404387**
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: 042404387-0012 **Customer Sample:** MFL-AM02-022824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J8	None Detected									
G2	H7	None Detected									
G2	B6	None Detected									
G3	B4	None Detected									
G3	H3	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:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-022824-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7217.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042404387**
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: 042404387-0013 **Customer Sample:** MFL-AM03-022824-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	J7	None Detected									
G5	F7	None Detected									
G5	B8	None Detected									
G6	I7	None Detected									
G6	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	03/05/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-022824-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7166.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042404387**
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: 042404387-0014 **Customer Sample:** MFL-AM04-022824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J9	None Detected									
H2	G7	None Detected									
H2	B6	None Detected									
H3	H7	None Detected									
H3	B7	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:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-022824-AB**		**Sample Description:**	
EMSL Sample Number:	042404387-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404387**
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: 042404387-0015 **Customer Sample:** MFL-FB01-022824-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	J7	None Detected									
H5	H5	None Detected									
H5	F4	None Detected									
H5	D3	None Detected									
H5	B2	None Detected									
H6	J2	None Detected									
H6	H3	None Detected									
H6	F2	None Detected									
H6	D3	None Detected									
H6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042404387
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/04/2024 08:50 AM
Analysis Date:	03/05/2024
Report Date:	03/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042404387-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	-	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404387**
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: 042404387-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J7	None Detected									
A2	I9	None Detected									
A3	D10	None Detected									
A3	F8	None Detected									
A3	H8	None Detected									
A4	J3	None Detected									
A4	H2	None Detected									
A4	F4	None Detected									
A4	D5	None Detected									
A4	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042404387

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042404387

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.

RECEIVED EMSL CINNAMINSON, NJ 24 MAR -4 AM 11:28

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Sauber	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.sauber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	
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:	Elizabeth Sanderson	Sampled By Signature:	No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-022624-AB		6,798.917	02/26/24 1101
MFL-AM02-022624-AB		7,040.040	02/26/24 1121
MFL-AM03-022624-AB		7,165.008	02/26/24 1309
MFL-AM04-022624-AB		7,167.744	02/26/24 1331
MFL-FB01-022624-AB		0	02/26/24 1200
MFL-AM01-022724-AB		7,020.160	02/27/24 1101
MFL-AM02-022724-AB		7,062.902	02/27/24 1122
MFL-AM03-022724-AB		7,163.342	02/27/24 1315

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: 02/29/24 1100	Received by:	Date/Time: 3/4/24 850
Relinquished by:		Date/Time:	Received by:	Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042404387

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042404387

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-AM04-022724-AB		7,147.735	02/27/24 1337
MFL-FB01-022724-AB		0	02/27/24 1200
MFL-AM01-022824-AB		7,006.612	02/28/24 1059
MFL-AM02-022824-AB		7,028.028	02/28/24 1116
MFL-AM03-022824-AB		7,217.897	02/28/24 1317
MFL-AM04-022824-AB		7,166.880	02/28/24 1343
MFL-FB01-022824-AB		0	02/28/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAR -4 AM 11:28

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: 02/29/24 1100	Received by:	Date/Time
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 3/8/2024 and Shanna Vasser 3/11/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 2/26/2024 - 2/28/2024
Report No: 42404387

√	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.

[redacted]

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

March 20, 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 03/04/24 13:11.

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.

[redacted]

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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MFL-AM01-022224-HM	4030429-05	Air	02/22/24 23:59	03/04/24 13:11
MFL-AM02-022224-HM	4030429-06	Air	02/22/24 23:59	03/04/24 13:11
MFL-AM03-022224-HM	4030429-07	Air	02/22/24 23:59	03/04/24 13:11
MFL-AM04-022224-HM	4030429-08	Air	02/22/24 23:59	03/04/24 13:11
MFL-AM01-022324-HM	4030429-09	Air	02/23/24 23:59	03/04/24 13:11
MFL-AM02-022324-HM	4030429-10	Air	02/23/24 23:59	03/04/24 13:11
MFL-AM03-022324-HM/MS/I	4030429-11	Air	02/23/24 23:59	03/04/24 13:11
MFL-AM04-022324-HM	4030429-12	Air	02/23/24 23:59	03/04/24 13:11
MFL-FB01-022324-HM	4030429-13	Air	02/23/24 00:00	03/04/24 13:11
MFL-AM01-022424-HM	4030429-14	Air	02/24/24 23:59	03/04/24 13:11
MFL-AM02-022424-HM	4030429-15	Air	02/24/24 23:59	03/04/24 13:11
MFL-AM03-022424-HM	4030429-16	Air	02/24/24 23:59	03/04/24 13:11
MFL-AM04-022424-HM	4030429-17	Air	02/24/24 23:59	03/04/24 13:11
MFL-AM01-022524-HM	4030429-18	Air	02/25/24 23:59	03/04/24 13:11
MFL-AM02-022524-HM	4030429-19	Air	02/25/24 23:59	03/04/24 13:11
MFL-AM03-022524-HM	4030429-20	Air	02/25/24 23:59	03/04/24 13:11
MFL-AM04-022524-HM	4030429-21	Air	02/25/24 23:59	03/04/24 13:11

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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-FB01-022524-HM	4030429-22	Air	02/25/24 00:00	03/04/24 13:11
MFL-AM01-022624-HM	4030429-23	Air	02/26/24 23:59	03/04/24 13:11
MFL-AM02-022624-HM	4030429-24	Air	02/26/24 23:59	03/04/24 13:11
MFL-AM03-022624-HM	4030429-25	Air	02/26/24 23:59	03/04/24 13:11
MFL-AM04-022624-HM	4030429-26	Air	02/26/24 23:59	03/04/24 13:11
MFL-AM01-022724-HM	4030429-27	Air	02/27/24 23:59	03/04/24 13:11
MFL-AM02-022724-HM	4030429-28	Air	02/27/24 23:59	03/04/24 13:11
MFL-AM03-022724-HM	4030429-29	Air	02/27/24 23:59	03/04/24 13:11
MFL-AM04-022724-HM	4030429-30	Air	02/27/24 23:59	03/04/24 13:11
MFL-FB01-022724-HM	4030429-31	Air	02/27/24 00:00	03/04/24 13:11
MFL-AM01-022824-HM/MS/I	4030429-32	Air	02/28/24 23:59	03/04/24 13:11
MFL-AM02-022824-HM	4030429-33	Air	02/28/24 23:59	03/04/24 13:11
MFL-AM03-022824-HM	4030429-34	Air	02/28/24 23:59	03/04/24 13:11
MFL-AM04-022824-HM	4030429-35	Air	02/28/24 23:59	03/04/24 13:11

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[redacted]

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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022224-HM
Matrix: Air
Lab ID: 4030429-05
Sample Volume: 2082.186 m³
Filter ID:
Sampled: 02/22/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 00:43

Comments: Q9545023 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.146**	SL	**0.0302**
Arsenic	**7440-38-2**	**1.01**		**0.00732**
Barium	**7440-39-3**	**2.85**		**0.836**
Beryllium	**7440-41-7**	**0.00574**		**0.00250**
Cadmium	7440-43-9	0.0292	U	0.0579
Chromium	**7440-47-3**	**2.17**		**1.73**
Cobalt	**7440-48-4**	**0.223**		**0.0341**
Copper	**7440-50-8**	**36.0**		**2.06**
Lead	**7439-92-1**	**0.540**		**0.167**
Manganese	**7439-96-5**	**6.41**		**1.48**
Molybdenum	**7439-98-7**	**1.56**		**0.281**
Nickel	**7440-02-0**	**0.723**		**0.509**
Selenium	**7782-49-2**	**0.133**		**0.00700**
Thallium	**7440-28-0**	**8.91E-4**	QB-01	**4.60E-4**
Vanadium	**7440-62-2**	**0.818**		**0.0413**
Zinc	7440-66-6	34.4	U	60.0

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022224-HM
Matrix: Air
Lab ID: 4030429-06
Sample Volume: 2115.561 m³
Filter ID:
Sampled: 02/22/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 00:59

Comments: Q9545020 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.234**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.462**		**0.00721**
Barium	**7440-39-3**	**4.55**		**0.823**
Beryllium	**7440-41-7**	**0.0125**		**0.00246**
Cadmium	7440-43-9	0.0499	U	0.0570
Chromium	**7440-47-3**	**2.76**		**1.70**
Cobalt	**7440-48-4**	**0.422**		**0.0335**
Copper	**7440-50-8**	**23.1**		**2.02**
Lead	**7439-92-1**	**0.893**		**0.165**
Manganese	**7439-96-5**	**11.3**		**1.45**
Molybdenum	**7439-98-7**	**1.01**		**0.276**
Nickel	**7440-02-0**	**1.93**		**0.501**
Selenium	**7782-49-2**	**0.160**		**0.00689**
Thallium	**7440-28-0**	**0.00105**	QB-01	**4.53E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0407**
Zinc	7440-66-6	37.0	U	59.1

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022224-HM
Matrix: Air
Lab ID: 4030429-07
Sample Volume: 1966.603 m³
Filter ID:
Sampled: 02/22/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 01:16

Comments: Q9545019 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.213**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.712**		**0.00775**
Barium	**7440-39-3**	**3.88**		**0.885**
Beryllium	**7440-41-7**	**0.0319**		**0.00265**
Cadmium	7440-43-9	0.0482	U	0.0613
Chromium	**7440-47-3**	**3.32**		**1.83**
Cobalt	**7440-48-4**	**0.528**		**0.0361**
Copper	**7440-50-8**	**56.5**		**2.18**
Lead	**7439-92-1**	**0.457**		**0.177**
Manganese	**7439-96-5**	**12.9**		**1.56**
Molybdenum	**7439-98-7**	**2.29**		**0.297**
Nickel	**7440-02-0**	**1.53**		**0.539**
Selenium	**7782-49-2**	**0.187**		**0.00741**
Thallium	**7440-28-0**	**0.00103**	QB-01	**4.87E-4**
Vanadium	**7440-62-2**	**1.46**		**0.0438**
Zinc	7440-66-6	32.4	U	63.5

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022224-HM
Matrix: Air
Lab ID: 4030429-08
Sample Volume: 1997.093 m³
Filter ID:
Sampled: 02/22/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 01:31

Comments: Q9545018 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.199**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.460**		**0.00763**
Barium	**7440-39-3**	**2.86**		**0.872**
Beryllium	**7440-41-7**	**0.00726**		**0.00261**
Cadmium	7440-43-9	0.0361	U	0.0604
Chromium	**7440-47-3**	**2.33**		**1.80**
Cobalt	**7440-48-4**	**0.201**		**0.0355**
Copper	**7440-50-8**	**19.3**		**2.14**
Lead	**7439-92-1**	**0.646**		**0.174**
Manganese	**7439-96-5**	**6.25**		**1.54**
Molybdenum	**7439-98-7**	**1.06**		**0.292**
Nickel	**7440-02-0**	**0.930**		**0.531**
Selenium	**7782-49-2**	**0.138**		**0.00730**
Thallium	**7440-28-0**	**7.76E-4**	QB-01	**4.80E-4**
Vanadium	**7440-62-2**	**0.881**		**0.0431**
Zinc	7440-66-6	35.2	U	62.6

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022324-HM
Matrix: Air
Lab ID: 4030429-09
Sample Volume: 2238.375 m³
Filter ID:
Sampled: 02/23/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 01:47

Comments: Q9545016- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0359**	SL	**0.0281**
Arsenic	**7440-38-2**	**0.275**		**0.00681**
Barium	**7440-39-3**	**1.56**		**0.778**
Beryllium	**7440-41-7**	**0.00298**		**0.00233**
Cadmium	7440-43-9	0.00703	U	0.0539
Chromium	**7440-47-3**	**1.81**		**1.61**
Cobalt	**7440-48-4**	**0.209**		**0.0317**
Copper	**7440-50-8**	**37.8**		**1.91**
Lead	**7439-92-1**	**0.301**		**0.156**
Manganese	**7439-96-5**	**2.74**		**1.37**
Molybdenum	**7439-98-7**	**1.44**		**0.261**
Nickel	**7440-02-0**	**0.576**		**0.474**
Selenium	**7782-49-2**	**0.0862**		**0.00651**
Thallium	**7440-28-0**	**5.02E-4**	QB-01	**4.28E-4**
Vanadium	**7440-62-2**	**0.423**		**0.0385**
Zinc	7440-66-6	42.5	U	55.8

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022324-HM
Matrix: Air
Lab ID: 4030429-10
Sample Volume: 2170.834 m³
Filter ID:
Sampled: 02/23/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 02:02

Comments: Q9545013- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0289**
Arsenic	**7440-38-2**	**0.227**		**0.00702**
Barium	**7440-39-3**	**4.19**		**0.802**
Beryllium	**7440-41-7**	**0.00811**		**0.00240**
Cadmium	7440-43-9	0.0134	U	0.0555
Chromium	**7440-47-3**	**2.25**		**1.66**
Cobalt	**7440-48-4**	**0.280**		**0.0327**
Copper	**7440-50-8**	**21.7**		**1.97**
Lead	**7439-92-1**	**0.588**		**0.160**
Manganese	**7439-96-5**	**7.72**		**1.42**
Molybdenum	**7439-98-7**	**1.02**		**0.269**
Nickel	**7440-02-0**	**1.18**		**0.489**
Selenium	**7782-49-2**	**0.154**		**0.00672**
Thallium	**7440-28-0**	**7.42E-4**	QB-01	**4.41E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0396**
Zinc	7440-66-6	35.6	U	57.6

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022324-HM/MS/MS
Matrix: Air
Lab ID: 4030429-11
Sample Volume: 1934.051 m³
Filter ID:
Sampled: 02/23/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/05/24 17:12

Comments: Q9545011- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0473**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.319**		**0.00788**
Barium	**7440-39-3**	**3.25**		**0.900**
Beryllium	**7440-41-7**	**0.0234**		**0.00269**
Cadmium	7440-43-9	0.00891	U	0.0623
Chromium	**7440-47-3**	**3.05**		**1.86**
Cobalt	**7440-48-4**	**0.424**		**0.0367**
Copper	**7440-50-8**	**45.4**		**2.21**
Lead	**7439-92-1**	**0.405**		**0.180**
Manganese	**7439-96-5**	**9.52**		**1.59**
Molybdenum	**7439-98-7**	**2.19**		**0.302**
Nickel	**7440-02-0**	**1.55**		**0.548**
Selenium	**7782-49-2**	**0.162**		**0.00754**
Thallium	**7440-28-0**	**8.02E-4**	QB-01	**4.95E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0445**
Zinc	7440-66-6	32.2	U	64.6

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022324-HM
Matrix: Air
Lab ID: 4030429-12
Sample Volume: 1897.505 m³
Filter ID:
Sampled: 02/23/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 03:27

Comments: Q9545009- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0557**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.180**		**0.00803**
Barium	**7440-39-3**	**2.58**		**0.917**
Beryllium	**7440-41-7**	**0.00682**		**0.00274**
Cadmium	7440-43-9	0.00909	U	0.0635
Chromium	**7440-47-3**	**2.31**		**1.89**
Cobalt	**7440-48-4**	**0.194**		**0.0374**
Copper	**7440-50-8**	**26.5**		**2.26**
Lead	**7439-92-1**	**0.616**		**0.183**
Manganese	**7439-96-5**	**5.99**		**1.62**
Molybdenum	**7439-98-7**	**1.22**		**0.308**
Nickel	**7440-02-0**	**0.753**		**0.559**
Selenium	**7782-49-2**	**0.144**		**0.00768**
Thallium	**7440-28-0**	**8.42E-4**	QB-01	**5.05E-4**
Vanadium	**7440-62-2**	**0.774**		**0.0454**
Zinc	7440-66-6	43.3	U	65.9

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-022324-HM
Matrix: Air
Lab ID: 4030429-13
Sample Volume: 2238.375 m³
Filter ID:
Sampled: 02/23/24 00:00
Received: 03/04/24 13:11
Analysis Date: 03/06/24 03:42

Comments: Q9545003- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00625	SL, U	0.0281
Arsenic	7440-38-2	0.00446	U	0.00681
Barium	7440-39-3	0.485	U	0.778
Beryllium	7440-41-7	8.86E-4	U	0.00233
Cadmium	7440-43-9	0.00231	U	0.0539
Chromium	**7440-47-3**	**1.68**	FB-01	**1.61**
Cobalt	7440-48-4	0.0229	U	0.0317
Copper	**7440-50-8**	**2.05**	FB-01	**1.91**
Lead	7439-92-1	0.0897	U	0.156
Manganese	7439-96-5	0.175	U	1.37
Molybdenum	7439-98-7	0.236	U	0.261
Nickel	7440-02-0	0.228	U	0.474
Selenium	7782-49-2	0.00289	U	0.00651
Thallium	7440-28-0	1.91E-4	QB-01, U	4.28E-4
Vanadium	7440-62-2	0.0157	U	0.0385
Zinc	7440-66-6	18.5	U	55.8

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022424-HM
Matrix: Air
Lab ID: 4030429-14
Sample Volume: 1940.503 m³
Filter ID:
Sampled: 02/24/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 03:58

Comments: Q9545008- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0745**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.484**		**0.00786**
Barium	**7440-39-3**	**13.2**		**0.897**
Beryllium	**7440-41-7**	**0.00886**		**0.00268**
Cadmium	7440-43-9	0.0126	U	0.0621
Chromium	**7440-47-3**	**2.48**		**1.85**
Cobalt	**7440-48-4**	**0.300**		**0.0366**
Copper	**7440-50-8**	**46.9**		**2.21**
Lead	**7439-92-1**	**0.632**		**0.179**
Manganese	**7439-96-5**	**9.26**		**1.58**
Molybdenum	**7439-98-7**	**2.93**		**0.301**
Nickel	**7440-02-0**	**1.05**		**0.547**
Selenium	**7782-49-2**	**0.143**		**0.00751**
Thallium	**7440-28-0**	**8.95E-4**	QB-01	**4.94E-4**
Vanadium	**7440-62-2**	**0.930**		**0.0444**
Zinc	7440-66-6	24.3	U	64.4

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022424-HM
Matrix: Air
Lab ID: 4030429-15
Sample Volume: 1950.897 m³
Filter ID:
Sampled: 02/24/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 04:14

Comments: Q9545007- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0963**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.237**		**0.00781**
Barium	**7440-39-3**	**4.09**		**0.892**
Beryllium	**7440-41-7**	**0.0104**		**0.00267**
Cadmium	7440-43-9	0.0229	U	0.0618
Chromium	**7440-47-3**	**2.47**		**1.84**
Cobalt	**7440-48-4**	**0.321**		**0.0364**
Copper	**7440-50-8**	**27.2**		**2.19**
Lead	**7439-92-1**	**0.635**		**0.178**
Manganese	**7439-96-5**	**9.89**		**1.58**
Molybdenum	**7439-98-7**	**1.58**		**0.299**
Nickel	**7440-02-0**	**1.21**		**0.544**
Selenium	**7782-49-2**	**0.161**		**0.00747**
Thallium	**7440-28-0**	**0.00111**	QB-01	**4.91E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0441**
Zinc	7440-66-6	36.5	U	64.0

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022424-HM
Matrix: Air
Lab ID: 4030429-16
Sample Volume: 2112.661 m³
Filter ID:
Sampled: 02/24/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 04:45

Comments: Q9545006- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0295	SL, U	0.0297
Arsenic	**7440-38-2**	**0.149**		**0.00722**
Barium	**7440-39-3**	**2.01**		**0.824**
Beryllium	**7440-41-7**	**0.0117**		**0.00246**
Cadmium	7440-43-9	0.00826	U	0.0571
Chromium	**7440-47-3**	**2.27**		**1.70**
Cobalt	**7440-48-4**	**0.239**		**0.0336**
Copper	**7440-50-8**	**39.4**		**2.03**
Lead	**7439-92-1**	**0.264**		**0.165**
Manganese	**7439-96-5**	**6.54**		**1.46**
Molybdenum	**7439-98-7**	**1.68**		**0.276**
Nickel	**7440-02-0**	**0.876**		**0.502**
Selenium	**7782-49-2**	**0.130**		**0.00690**
Thallium	**7440-28-0**	**7.03E-4**	QB-01	**4.54E-4**
Vanadium	**7440-62-2**	**0.741**		**0.0407**
Zinc	7440-66-6	21.1	U	59.1

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022424-HM
Matrix: Air
Lab ID: 4030429-17
Sample Volume: 1779.407 m³
Filter ID:
Sampled: 02/24/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 04:59

Comments: Q9545002- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0741**	SL	**0.0353**
Arsenic	**7440-38-2**	**0.780**		**0.00857**
Barium	**7440-39-3**	**3.61**		**0.978**
Beryllium	**7440-41-7**	**0.0112**		**0.00293**
Cadmium	7440-43-9	0.0127	U	0.0678
Chromium	**7440-47-3**	**3.18**		**2.02**
Cobalt	**7440-48-4**	**0.340**		**0.0399**
Copper	**7440-50-8**	**31.1**		**2.40**
Lead	**7439-92-1**	**1.63**		**0.196**
Manganese	**7439-96-5**	**10.9**		**1.73**
Molybdenum	**7439-98-7**	**1.12**		**0.328**
Nickel	**7440-02-0**	**1.09**		**0.596**
Selenium	**7782-49-2**	**0.150**		**0.00819**
Thallium	**7440-28-0**	**9.78E-4**	QB-01	**5.39E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0484**
Zinc	7440-66-6	33.2	U	70.2

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022524-HM
Matrix: Air
Lab ID: 4030429-18
Sample Volume: 1987.062 m³
Filter ID:
Sampled: 02/25/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 05:15

Comments: Q9545001- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0354**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.586**		**0.00767**
Barium	**7440-39-3**	**1.89**		**0.876**
Beryllium	**7440-41-7**	**0.00423**		**0.00262**
Cadmium	7440-43-9	0.0147	U	0.0607
Chromium	**7440-47-3**	**2.00**		**1.81**
Cobalt	**7440-48-4**	**0.132**		**0.0357**
Copper	**7440-50-8**	**53.8**		**2.15**
Lead	**7439-92-1**	**0.405**		**0.175**
Manganese	**7439-96-5**	**4.04**		**1.55**
Molybdenum	**7439-98-7**	**4.04**		**0.294**
Nickel	**7440-02-0**	**0.588**		**0.534**
Selenium	**7782-49-2**	**0.115**		**0.00734**
Thallium	**7440-28-0**	**8.31E-4**	QB-01	**4.82E-4**
Vanadium	**7440-62-2**	**0.357**		**0.0433**
Zinc	7440-66-6	26.3	U	62.9

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022524-HM
Matrix: Air
Lab ID: 4030429-19
Sample Volume: 2086.037 m³
Filter ID:
Sampled: 02/25/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 05:30

Comments: Q9537249- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0924**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.219**		**0.00731**
Barium	**7440-39-3**	**3.62**		**0.835**
Beryllium	**7440-41-7**	**0.00631**		**0.00250**
Cadmium	7440-43-9	0.0104	U	0.0578
Chromium	**7440-47-3**	**2.10**		**1.72**
Cobalt	**7440-48-4**	**0.162**		**0.0340**
Copper	**7440-50-8**	**33.3**		**2.05**
Lead	**7439-92-1**	**0.495**		**0.167**
Manganese	**7439-96-5**	**5.12**		**1.47**
Molybdenum	**7439-98-7**	**1.85**		**0.280**
Nickel	**7440-02-0**	**0.725**		**0.509**
Selenium	**7782-49-2**	**0.166**		**0.00699**
Thallium	**7440-28-0**	**9.83E-4**	QB-01	**4.59E-4**
Vanadium	**7440-62-2**	**0.476**		**0.0413**
Zinc	7440-66-6	26.5	U	59.9

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022524-HM
Matrix: Air
Lab ID: 4030429-20
Sample Volume: 2199.916 m³
Filter ID:
Sampled: 02/25/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 05:45

Comments: Q9537259- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0289**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.126**		**0.00693**
Barium	**7440-39-3**	**1.68**		**0.791**
Beryllium	**7440-41-7**	**0.00513**		**0.00237**
Cadmium	7440-43-9	0.00907	U	0.0548
Chromium	**7440-47-3**	**1.68**		**1.63**
Cobalt	**7440-48-4**	**0.169**		**0.0322**
Copper	**7440-50-8**	**39.8**		**1.95**
Lead	**7439-92-1**	**0.299**		**0.158**
Manganese	**7439-96-5**	**2.92**		**1.40**
Molybdenum	**7439-98-7**	**1.46**		**0.266**
Nickel	**7440-02-0**	**0.612**		**0.482**
Selenium	**7782-49-2**	**0.130**		**0.00663**
Thallium	**7440-28-0**	**7.56E-4**	QB-01	**4.36E-4**
Vanadium	**7440-62-2**	**0.276**		**0.0391**
Zinc	7440-66-6	18.0	U	56.8

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022524-HM
Matrix: Air
Lab ID: 4030429-21
Sample Volume: 1549.608 m³
Filter ID:
Sampled: 02/25/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 06:49

Comments: Q9537258- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0473**	SL	**0.0405**
Arsenic	**7440-38-2**	**0.130**		**0.00984**
Barium	**7440-39-3**	**2.01**		**1.12**
Beryllium	**7440-41-7**	**0.00376**		**0.00336**
Cadmium	7440-43-9	0.00946	U	0.0778
Chromium	7440-47-3	2.23	U	2.32
Cobalt	**7440-48-4**	**0.0968**		**0.0458**
Copper	**7440-50-8**	**30.1**		**2.76**
Lead	**7439-92-1**	**0.449**		**0.225**
Manganese	**7439-96-5**	**2.55**		**1.98**
Molybdenum	**7439-98-7**	**1.13**		**0.377**
Nickel	7440-02-0	0.535	U	0.685
Selenium	**7782-49-2**	**0.135**		**0.00941**
Thallium	**7440-28-0**	**9.20E-4**	QB-01	**6.18E-4**
Vanadium	**7440-62-2**	**0.257**		**0.0555**
Zinc	7440-66-6	28.4	U	80.6

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-022524-HM
Matrix: Air
Lab ID: 4030429-22
Sample Volume: 1987.062 m³
Filter ID:
Sampled: 02/25/24 00:00
Received: 03/04/24 13:11
Analysis Date: 03/06/24 07:04

Comments: Q9537251- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00647	SL, U	0.0316
Arsenic	7440-38-2	0.00484	U	0.00767
Barium	7440-39-3	0.805	U	0.876
Beryllium	7440-41-7	8.71E-4	U	0.00262
Cadmium	7440-43-9	0.00302	U	0.0607
Chromium	7440-47-3	1.53	U	1.81
Cobalt	7440-48-4	0.0221	U	0.0357
Copper	7440-50-8	1.03	U	2.15
Lead	7439-92-1	0.0755	U	0.175
Manganese	7439-96-5	0.163	U	1.55
Molybdenum	7439-98-7	0.261	U	0.294
Nickel	7440-02-0	0.244	U	0.534
Selenium	7782-49-2	0.00298	U	0.00734
Thallium	7440-28-0	2.01E-4	QB-01, U	4.82E-4
Vanadium	7440-62-2	0.0204	U	0.0433
Zinc	7440-66-6	25.2	U	62.9

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022624-HM
Matrix: Air
Lab ID: 4030429-23
Sample Volume: 1999.994 m³
Filter ID:
Sampled: 02/26/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 07:19

Comments: Q9537254- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0408**	SL	**0.0314**
Arsenic	**7440-38-2**	**1.13**		**0.00762**
Barium	**7440-39-3**	**3.13**		**0.870**
Beryllium	**7440-41-7**	**0.00945**		**0.00260**
Cadmium	7440-43-9	0.0198	U	0.0603
Chromium	**7440-47-3**	**2.94**		**1.80**
Cobalt	**7440-48-4**	**0.332**		**0.0355**
Copper	**7440-50-8**	**55.4**		**2.14**
Lead	**7439-92-1**	**0.530**		**0.174**
Manganese	**7439-96-5**	**9.41**		**1.54**
Molybdenum	**7439-98-7**	**3.86**		**0.292**
Nickel	**7440-02-0**	**0.939**		**0.530**
Selenium	**7782-49-2**	**0.156**		**0.00729**
Thallium	**7440-28-0**	**0.00115**	QB-01	**4.79E-4**
Vanadium	**7440-62-2**	**0.878**		**0.0430**
Zinc	7440-66-6	24.4	U	62.5

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022624-HM
Matrix: Air
Lab ID: 4030429-24
Sample Volume: 2114.089 m³
Filter ID:
Sampled: 02/26/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 07:33

Comments: Q9537253- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.137**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.310**		**0.00721**
Barium	**7440-39-3**	**5.97**		**0.823**
Beryllium	**7440-41-7**	**0.0118**		**0.00246**
Cadmium	7440-43-9	0.0143	U	0.0570
Chromium	**7440-47-3**	**2.69**		**1.70**
Cobalt	**7440-48-4**	**0.420**		**0.0336**
Copper	**7440-50-8**	**30.2**		**2.02**
Lead	**7439-92-1**	**0.727**		**0.165**
Manganese	**7439-96-5**	**11.0**		**1.45**
Molybdenum	**7439-98-7**	**1.93**		**0.276**
Nickel	**7440-02-0**	**1.40**		**0.502**
Selenium	**7782-49-2**	**0.174**		**0.00690**
Thallium	**7440-28-0**	**0.00112**	QB-01	**4.53E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0407**
Zinc	7440-66-6	29.4	U	59.1

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022624-HM
Matrix: Air
Lab ID: 4030429-25
Sample Volume: 2186.5 m³
Filter ID:
Sampled: 02/26/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 07:48

Comments: Q9537252- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0351**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.175**		**0.00697**
Barium	**7440-39-3**	**2.43**		**0.796**
Beryllium	**7440-41-7**	**0.0222**		**0.00238**
Cadmium	7440-43-9	0.00968	U	0.0551
Chromium	**7440-47-3**	**2.68**		**1.64**
Cobalt	**7440-48-4**	**0.414**		**0.0324**
Copper	**7440-50-8**	**38.0**		**1.96**
Lead	**7439-92-1**	**0.482**		**0.159**
Manganese	**7439-96-5**	**8.99**		**1.41**
Molybdenum	**7439-98-7**	**1.38**		**0.267**
Nickel	**7440-02-0**	**1.09**		**0.485**
Selenium	**7782-49-2**	**0.151**		**0.00667**
Thallium	**7440-28-0**	**9.59E-4**	QB-01	**4.38E-4**
Vanadium	**7440-62-2**	**0.839**		**0.0394**
Zinc	7440-66-6	22.8	U	57.1

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022624-HM
Matrix: Air
Lab ID: 4030429-26
Sample Volume: 1869.937 m³
Filter ID:
Sampled: 02/26/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 08:04

Comments: Q9544998- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0581**	SL	**0.0336**
Arsenic	**7440-38-2**	**0.174**		**0.00815**
Barium	**7440-39-3**	**2.68**		**0.931**
Beryllium	**7440-41-7**	**0.00611**		**0.00278**
Cadmium	7440-43-9	0.0106	U	0.0645
Chromium	**7440-47-3**	**2.10**		**1.92**
Cobalt	**7440-48-4**	**0.158**		**0.0379**
Copper	**7440-50-8**	**30.1**		**2.29**
Lead	**7439-92-1**	**0.621**		**0.186**
Manganese	**7439-96-5**	**4.77**		**1.64**
Molybdenum	**7439-98-7**	**1.09**		**0.312**
Nickel	**7440-02-0**	**0.629**		**0.567**
Selenium	**7782-49-2**	**0.135**		**0.00780**
Thallium	**7440-28-0**	**8.25E-4**	QB-01	**5.12E-4**
Vanadium	**7440-62-2**	**0.396**		**0.0460**
Zinc	7440-66-6	24.6	U	66.8

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022724-HM
Matrix: Air
Lab ID: 4030429-27
Sample Volume: 2016.236 m³
Filter ID:
Sampled: 02/27/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 08:36

Comments: Q9544997- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0437**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.487**		**0.00756**
Barium	**7440-39-3**	**2.72**		**0.863**
Beryllium	**7440-41-7**	**0.00911**		**0.00258**
Cadmium	7440-43-9	0.0127	U	0.0598
Chromium	**7440-47-3**	**3.01**		**1.78**
Cobalt	**7440-48-4**	**0.336**		**0.0352**
Copper	**7440-50-8**	**36.2**		**2.12**
Lead	**7439-92-1**	**0.414**		**0.173**
Manganese	**7439-96-5**	**9.69**		**1.53**
Molybdenum	**7439-98-7**	**1.84**		**0.290**
Nickel	**7440-02-0**	**1.05**		**0.526**
Selenium	**7782-49-2**	**0.151**		**0.00723**
Thallium	**7440-28-0**	**0.00119**	QB-01	**4.75E-4**
Vanadium	**7440-62-2**	**0.844**		**0.0427**
Zinc	7440-66-6	18.8	U	62.0

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022724-HM
Matrix: Air
Lab ID: 4030429-28
Sample Volume: 2064.893 m³
Filter ID:
Sampled: 02/27/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 08:51

Comments: Q9544996- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0836**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.490**		**0.00738**
Barium	**7440-39-3**	**5.87**		**0.843**
Beryllium	**7440-41-7**	**0.0189**		**0.00252**
Cadmium	**7440-43-9**	**0.0907**		**0.0584**
Chromium	**7440-47-3**	**3.81**		**1.74**
Cobalt	**7440-48-4**	**0.771**		**0.0344**
Copper	**7440-50-8**	**30.9**		**2.07**
Lead	**7439-92-1**	**1.18**		**0.169**
Manganese	**7439-96-5**	**19.6**		**1.49**
Molybdenum	**7439-98-7**	**1.62**		**0.283**
Nickel	**7440-02-0**	**2.97**		**0.514**
Selenium	**7782-49-2**	**0.215**		**0.00706**
Thallium	**7440-28-0**	**0.00149**	QB-01	**4.64E-4**
Vanadium	**7440-62-2**	**1.77**		**0.0417**
Zinc	7440-66-6	35.0	U	60.5

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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022724-HM
Matrix: Air
Lab ID: 4030429-29
Sample Volume: 2148.517 m³
Filter ID:
Sampled: 02/27/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 09:07

Comments: Q9554717- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0376**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.319**		**0.00710**
Barium	**7440-39-3**	**4.83**		**0.810**
Beryllium	**7440-41-7**	**0.0719**		**0.00242**
Cadmium	7440-43-9	0.0186	U	0.0561
Chromium	**7440-47-3**	**4.90**		**1.67**
Cobalt	**7440-48-4**	**1.01**		**0.0330**
Copper	**7440-50-8**	**33.8**		**1.99**
Lead	**7439-92-1**	**0.582**		**0.162**
Manganese	**7439-96-5**	**21.6**		**1.43**
Molybdenum	**7439-98-7**	**1.31**		**0.272**
Nickel	**7440-02-0**	**2.32**		**0.494**
Selenium	**7782-49-2**	**0.283**		**0.00679**
Thallium	**7440-28-0**	**0.00156**	QB-01	**4.46E-4**
Vanadium	**7440-62-2**	**2.34**		**0.0401**
Zinc	7440-66-6	23.6	U	58.2

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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022724-HM
Matrix: Air
Lab ID: 4030429-30
Sample Volume: 1859.012 m³
Filter ID:
Sampled: 02/27/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 10:13

Comments: Q9554716- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0511**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.347**		**0.00820**
Barium	**7440-39-3**	**3.73**		**0.936**
Beryllium	**7440-41-7**	**0.0145**		**0.00280**
Cadmium	7440-43-9	0.0220	U	0.0649
Chromium	**7440-47-3**	**2.92**		**1.93**
Cobalt	**7440-48-4**	**0.442**		**0.0382**
Copper	**7440-50-8**	**25.0**		**2.30**
Lead	**7439-92-1**	**0.987**		**0.187**
Manganese	**7439-96-5**	**13.5**		**1.65**
Molybdenum	**7439-98-7**	**0.961**		**0.314**
Nickel	**7440-02-0**	**1.23**		**0.571**
Selenium	**7782-49-2**	**0.192**		**0.00784**
Thallium	**7440-28-0**	**0.00142**	QB-01	**5.15E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0463**
Zinc	7440-66-6	29.2	U	67.2

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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-022724-HM
Matrix: Air
Lab ID: 4030429-31
Sample Volume: 2016.236 m³
Filter ID:
Sampled: 02/27/24 00:00
Received: 03/04/24 13:11
Analysis Date: 03/06/24 10:29

Comments: Q9554714- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00679	SL, U	0.0311
Arsenic	7440-38-2	0.00659	U	0.00756
Barium	7440-39-3	0.624	U	0.863
Beryllium	7440-41-7	0.00121	U	0.00258
Cadmium	7440-43-9	0.00143	U	0.0598
Chromium	7440-47-3	1.24	U	1.78
Cobalt	7440-48-4	0.0199	U	0.0352
Copper	7440-50-8	0.931	U	2.12
Lead	7439-92-1	0.0695	U	0.173
Manganese	7439-96-5	0.312	U	1.53
Molybdenum	7439-98-7	0.230	U	0.290
Nickel	7440-02-0	0.264	U	0.526
Selenium	7782-49-2	0.00242	U	0.00723
Thallium	7440-28-0	1.81E-4	QB-01, U	4.75E-4
Vanadium	7440-62-2	0.0179	U	0.0427
Zinc	7440-66-6	16.4	U	62.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022824-HM/MS/MS
Matrix: Air
Lab ID: 4030429-32
Sample Volume: 1972.928 m³
Filter ID:
Sampled: 02/28/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/05/24 20:56

Comments: Q9554715- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0425**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.569**		**0.00773**
Barium	**7440-39-3**	**4.20**		**0.882**
Beryllium	**7440-41-7**	**0.0117**		**0.00264**
Cadmium	7440-43-9	0.0247	U	0.0611
Chromium	**7440-47-3**	**2.85**		**1.82**
Cobalt	**7440-48-4**	**0.535**		**0.0360**
Copper	**7440-50-8**	**59.3**	QM-07	**2.17**
Lead	**7439-92-1**	**1.39**		**0.176**
Manganese	**7439-96-5**	**12.7**		**1.56**
Molybdenum	**7439-98-7**	**2.22**		**0.296**
Nickel	**7440-02-0**	**1.18**		**0.538**
Selenium	**7782-49-2**	**0.153**		**0.00739**
Thallium	**7440-28-0**	**0.00151**	QB-01	**4.86E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0436**
Zinc	7440-66-6	32.6	U	63.3

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022824-HM
Matrix: Air
Lab ID: 4030429-33
Sample Volume: 2012.102 m³
Filter ID:
Sampled: 02/28/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 10:43

Comments: Q9554713- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0778**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.313**		**0.00758**
Barium	**7440-39-3**	**3.46**		**0.865**
Beryllium	**7440-41-7**	**0.0106**		**0.00259**
Cadmium	7440-43-9	0.0559	U	0.0599
Chromium	**7440-47-3**	**2.41**		**1.79**
Cobalt	**7440-48-4**	**0.294**		**0.0353**
Copper	**7440-50-8**	**32.7**		**2.13**
Lead	**7439-92-1**	**0.900**		**0.173**
Manganese	**7439-96-5**	**8.84**		**1.53**
Molybdenum	**7439-98-7**	**2.00**		**0.290**
Nickel	**7440-02-0**	**1.20**		**0.527**
Selenium	**7782-49-2**	**0.174**		**0.00725**
Thallium	**7440-28-0**	**0.00141**	QB-01	**4.76E-4**
Vanadium	**7440-62-2**	**0.777**		**0.0428**
Zinc	7440-66-6	38.8	U	62.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022824-HM
Matrix: Air
Lab ID: 4030429-34
Sample Volume: 2205.444 m³
Filter ID:
Sampled: 02/28/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 10:59

Comments: Q9554711- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0607**	SL	**0.0285**
Arsenic	**7440-38-2**	**0.259**		**0.00691**
Barium	**7440-39-3**	**3.21**		**0.789**
Beryllium	**7440-41-7**	**0.0244**		**0.00236**
Cadmium	**7440-43-9**	**0.0548**		**0.0547**
Chromium	**7440-47-3**	**2.86**		**1.63**
Cobalt	**7440-48-4**	**0.480**		**0.0322**
Copper	**7440-50-8**	**32.3**		**1.94**
Lead	**7439-92-1**	**0.603**		**0.158**
Manganese	**7439-96-5**	**11.5**		**1.39**
Molybdenum	**7439-98-7**	**1.31**		**0.265**
Nickel	**7440-02-0**	**1.37**		**0.481**
Selenium	**7782-49-2**	**0.183**		**0.00661**
Thallium	**7440-28-0**	**0.00140**	QB-01	**4.35E-4**
Vanadium	**7440-62-2**	**1.00**		**0.0390**
Zinc	7440-66-6	28.0	U	56.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022824-HM
Matrix: Air
Lab ID: 4030429-35
Sample Volume: 1869.158 m³
Filter ID:
Sampled: 02/28/24 23:59
Received: 03/04/24 13:11
Analysis Date: 03/06/24 11:14

Comments: Q9554710- Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0445**	SL	**0.0336**
Arsenic	**7440-38-2**	**0.292**		**0.00816**
Barium	**7440-39-3**	**2.69**		**0.931**
Beryllium	**7440-41-7**	**0.00799**		**0.00279**
Cadmium	7440-43-9	0.0108	U	0.0645
Chromium	**7440-47-3**	**2.02**		**1.92**
Cobalt	**7440-48-4**	**0.201**		**0.0380**
Copper	**7440-50-8**	**20.2**		**2.29**
Lead	**7439-92-1**	**0.689**		**0.186**
Manganese	**7439-96-5**	**6.61**		**1.65**
Molybdenum	**7439-98-7**	**0.996**		**0.312**
Nickel	**7440-02-0**	**0.671**		**0.568**
Selenium	**7782-49-2**	**0.141**		**0.00780**
Thallium	**7440-28-0**	**0.00121**	QB-01	**5.13E-4**
Vanadium	**7440-62-2**	**0.514**		**0.0460**
Zinc	7440-66-6	25.2	U	66.9

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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
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 2403017 - B4C0503										
Calibration Blank (2403017-CCB1)				Prepared & Analyzed: 03/05/24						
Antimony	0.500		ng/l							
Arsenic	3.38		ng/l							
Barium	0.774		ng/l							
Beryllium	0.281		ng/l							
Cadmium	0.196		ng/l							
Chromium	3.68		ng/l							
Cobalt	0.759		ng/l							
Copper	490		ng/l							
Lead	3.80		ng/l							
Manganese	11.5		ng/l							
Molybdenum	17.9		ng/l							
Nickel	2.87		ng/l							
Selenium	4.63		ng/l							
Thallium	1.03		ng/l							
Vanadium	39.5		ng/l							
Zinc	-2.46		ng/l							U
Calibration Blank (2403017-CCB2)				Prepared & Analyzed: 03/05/24						
Antimony	0.435		ng/l							
Arsenic	2.13		ng/l							
Barium	-0.0640		ng/l							U
Beryllium	0.113		ng/l							
Cadmium	-0.0828		ng/l							U
Chromium	1.55		ng/l							
Cobalt	0.290		ng/l							
Copper	324		ng/l							
Lead	1.97		ng/l							
Manganese	6.68		ng/l							
Molybdenum	5.27		ng/l							
Nickel	1.14		ng/l							
Selenium	-1.24		ng/l							U
Thallium	0.935		ng/l							
Vanadium	36.0		ng/l							
Zinc	-2.83		ng/l							U
Calibration Blank (2403017-CCB3)				Prepared & Analyzed: 03/05/24						
Antimony	0.441		ng/l							
Arsenic	6.74		ng/l							
Barium	0.476		ng/l							
Beryllium	-0.318		ng/l							U

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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
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 2403017 - B4C0503										
Calibration Blank (2403017-CCB3) Contin				Prepared & Analyzed: 03/05/24						
Cadmium	-0.0245		ng/l							U
Chromium	1.52		ng/l							
Cobalt	0.300		ng/l							
Copper	223		ng/l							
Lead	2.59		ng/l							
Manganese	6.47		ng/l							
Molybdenum	4.22		ng/l							
Nickel	2.00		ng/l							
Selenium	-0.354		ng/l							U
Thallium	1.00		ng/l							
Vanadium	25.9		ng/l							
Zinc	-72.7		ng/l							U
Calibration Blank (2403017-CCB4)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.242		ng/l							
Arsenic	5.97		ng/l							
Barium	-0.229		ng/l							U
Beryllium	0.0307		ng/l							
Cadmium	-0.0462		ng/l							U
Chromium	1.48		ng/l							
Cobalt	0.442		ng/l							
Copper	302		ng/l							
Lead	2.16		ng/l							
Manganese	8.25		ng/l							
Molybdenum	6.09		ng/l							
Nickel	2.42		ng/l							
Selenium	-2.15		ng/l							U
Thallium	1.25		ng/l							
Vanadium	28.1		ng/l							
Zinc	-73.4		ng/l							U
Calibration Blank (2403017-CCB5)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.157		ng/l							
Arsenic	7.77		ng/l							
Barium	0.790		ng/l							
Beryllium	-0.685		ng/l							U
Cadmium	0.168		ng/l							
Chromium	1.67		ng/l							
Cobalt	1.88		ng/l							
Copper	131		ng/l							

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
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 2403017 - B4C0503										
Calibration Blank (2403017-CCB5) Contin				Prepared: 03/05/24 Analyzed: 03/06/24						
Lead	1.86		ng/l							
Manganese	9.55		ng/l							
Molybdenum	5.81		ng/l							
Nickel	2.76		ng/l							
Selenium	1.97		ng/l							
Thallium	0.919		ng/l							
Vanadium	14.5		ng/l							
Zinc	-57.3		ng/l							U
Calibration Blank (2403017-CCB6)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.715		ng/l							
Arsenic	9.27		ng/l							
Barium	2.62		ng/l							
Beryllium	-0.313		ng/l							U
Cadmium	0.180		ng/l							
Chromium	5.38		ng/l							
Cobalt	0.855		ng/l							
Copper	129		ng/l							
Lead	3.63		ng/l							
Manganese	12.0		ng/l							
Molybdenum	7.00		ng/l							
Nickel	2.89		ng/l							
Selenium	2.34		ng/l							
Thallium	0.904		ng/l							
Vanadium	13.9		ng/l							
Zinc	-60.7		ng/l							U
Calibration Blank (2403017-CCB7)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	0.302		ng/l							
Arsenic	10.6		ng/l							
Barium	0.761		ng/l							
Beryllium	-0.517		ng/l							U
Cadmium	0.0665		ng/l							
Chromium	1.06		ng/l							
Cobalt	0.521		ng/l							
Copper	104		ng/l							
Lead	2.06		ng/l							
Manganese	7.44		ng/l							
Molybdenum	5.32		ng/l							
Nickel	1.92		ng/l							

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
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 2403017 - B4C0503										
Calibration Blank (2403017-CCB7) Contin				Prepared: 03/05/24 Analyzed: 03/06/24						
Selenium	-7.74		ng/l							U
Thallium	1.12		ng/l							
Vanadium	10.3		ng/l							
Zinc	-70.1		ng/l							U
Calibration Check (2403017-CCV1)				Prepared & Analyzed: 03/05/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4870		ng/l	5000.0		97.4	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Calibration Check (2403017-CCV2)				Prepared & Analyzed: 03/05/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	4880		ng/l	5000.0		97.7	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	540000		ng/l	500000		108	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 2403017 - B4C0503										
Calibration Check (2403017-CCV3)				Prepared & Analyzed: 03/05/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	4940		ng/l	5000.0		98.8	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50000		ng/l	50000		99.9	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	501000		ng/l	500000		100	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2403017-CCV4)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4880		ng/l	5000.0		97.5	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	541000		ng/l	500000		108	90-110			
Calibration Check (2403017-CCV5)				Prepared: 03/05/24 Analyzed: 03/06/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4870		ng/l	5000.0		97.5	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 2403017 - B4C0503										
Calibration Check (2403017-CCV5) Contin					Prepared: 03/05/24 Analyzed: 03/06/24					
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.3	90-110			
Cobalt	49700		ng/l	50000		99.3	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	49700		ng/l	50000		99.4	90-110			
Nickel	120000		ng/l	120000		99.7	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	472		ng/l	500.00		94.4	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Calibration Check (2403017-CCV6)					Prepared: 03/05/24 Analyzed: 03/06/24					
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4770		ng/l	5000.0		95.3	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	477		ng/l	500.00		95.4	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	543000		ng/l	500000		109	90-110			
Calibration Check (2403017-CCV7)					Prepared: 03/05/24 Analyzed: 03/06/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4650		ng/l	5000.0		92.9	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	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 2403017 - B4C0503										
Calibration Check (2403017-CCV7) Contin				Prepared: 03/05/24 Analyzed: 03/06/24						
Lead	203000		ng/l	200000		102	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	476		ng/l	500.00		95.3	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	537000		ng/l	500000		107	90-110			
High Cal Check (2403017-HCV1)				Prepared & Analyzed: 03/05/24						
Antimony	39600		ng/l	40000		99.0	95-105			
Arsenic	39500		ng/l	40000		98.7	95-105			
Barium	393000		ng/l	400000		98.3	95-105			
Beryllium	9560		ng/l	10000		95.6	95-105			
Cadmium	39300		ng/l	40000		98.3	95-105			
Chromium	477000		ng/l	480000		99.3	95-105			
Cobalt	97900		ng/l	100000		97.9	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.8	95-105			
Lead	397000		ng/l	400000		99.2	95-105			
Manganese	980000		ng/l	1.0000E6		98.0	95-105			
Molybdenum	98500		ng/l	100000		98.5	95-105			
Nickel	234000		ng/l	240000		97.7	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			
Thallium	991		ng/l	1000.0		99.1	95-105			
Vanadium	40100		ng/l	40000		100	95-105			
Zinc	967000		ng/l	1.0000E6		96.7	95-105			
Initial Cal Blank (2403017-ICB1)				Prepared & Analyzed: 03/05/24						
Antimony	0.941		ng/l							
Arsenic	-4.14		ng/l							U
Barium	-0.264		ng/l							U
Beryllium	-0.0451		ng/l							U
Cadmium	-0.0173		ng/l							U
Chromium	0.416		ng/l							
Cobalt	0.311		ng/l							
Copper	464		ng/l							
Lead	2.55		ng/l							
Manganese	9.55		ng/l							
Molybdenum	8.14		ng/l							
Nickel	-2.34		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 2403017 - B4C0503										
Initial Cal Blank (2403017-ICB1) Continu				Prepared & Analyzed: 03/05/24						
Selenium	-6.77		ng/l							U
Thallium	0.812		ng/l							
Vanadium	56.9		ng/l							
Zinc	-44.9		ng/l							U
Initial Cal Check (2403017-ICV1)				Prepared & Analyzed: 03/05/24						
Antimony	19500		ng/l	20000		97.5	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	195000		ng/l	200000		97.4	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	233000		ng/l	240000		97.0	90-110			
Cobalt	48700		ng/l	50000		97.4	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.3	90-110			
Lead	193000		ng/l	200000		96.5	90-110			
Manganese	475000		ng/l	500000		94.9	90-110			
Molybdenum	49000		ng/l	50000		97.9	90-110			
Nickel	117000		ng/l	120000		97.3	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	492		ng/l	500.00		98.3	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Interference Check A (2403017-IFA1)				Prepared & Analyzed: 03/05/24						
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	297000		ng/l	300000		99.1	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 2403017 - B4C0503										
Interference Check B (2403017-IFB1)				Prepared & Analyzed: 03/05/24						
Antimony	20300		ng/l	20000		102	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4880		ng/l	5000.0		97.5	80-120			
Cadmium	19500		ng/l	20000		97.4	80-120			
Chromium	229000		ng/l	240000		95.5	80-120			
Cobalt	48900		ng/l	50000		97.9	80-120			
Copper	1.90E6		ng/l	2.0000E6		95.0	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	512000		ng/l	500000		102	80-120			
Molybdenum	352000		ng/l	350000		101	80-120			
Nickel	115000		ng/l	120000		96.1	80-120			
Selenium	19200		ng/l	20000		95.9	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	18900		ng/l	20000		94.3	80-120			
Zinc	487000		ng/l	500000		97.4	80-120			
Batch B4C0503 - ICP-MS Extraction										
Blank (B4C0503-BLK1)				Prepared & Analyzed: 03/05/24						
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							QB-01, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4C0503-BS1)				Prepared & Analyzed: 03/05/24						
Antimony	0.923	0.0386	ng/m³ Air	1.3829		66.7	80-120			SL
Arsenic	2.71	0.00937	ng/m³ Air	2.7658		98.0	80-120			
Barium	27.3	1.07	ng/m³ Air	27.658		98.9	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 B4C0503 - ICP-MS Extraction										
LCS (B4C0503-BS1) Continued					Prepared & Analyzed: 03/05/24					
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.4	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.4	80-120			
Copper	30.5	2.63	ng/m³ Air	27.658		110	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.1	80-120			
Manganese	8.62	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.46	0.359	ng/m³ Air	1.3829		106	80-120			
Nickel	2.90	0.652	ng/m³ Air	2.7658		105	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		99.9	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.1	80-120			QB-01
Vanadium	2.77	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	126	76.8	ng/m³ Air	82.975		152	80-120			
LCS (B4C0503-BS2)					Prepared & Analyzed: 03/05/24					
Antimony	0.913	0.0386	ng/m³ Air	1.3829		66.0	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.0	80-120			
Barium	27.2	1.07	ng/m³ Air	27.658		98.4	80-120			
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.5	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.6	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.6	80-120			
Copper	30.0	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.7	80-120			
Manganese	8.45	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.43	0.359	ng/m³ Air	1.3829		103	80-120			
Nickel	2.89	0.652	ng/m³ Air	2.7658		104	80-120			
Selenium	2.68	0.00896	ng/m³ Air	2.7658		97.1	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.7	80-120			QB-01
Vanadium	2.75	0.0529	ng/m³ Air	2.7658		99.5	80-120			
Zinc	122	76.8	ng/m³ Air	82.975		148	80-120			
Duplicate (B4C0503-DUP1)		**Source: 4030429-11**			Prepared & Analyzed: 03/05/24					
Antimony	0.0536	0.0325	ng/m³ Air		0.0473			12.6	10	SL
Arsenic	0.350	0.00788	ng/m³ Air		0.319			9.14	10	
Barium	3.32	0.900	ng/m³ Air		3.25			2.05	10	
Beryllium	0.0233	0.00269	ng/m³ Air		0.0234			0.546	10	
Cadmium	ND	0.0623	ng/m³ Air		ND				10	U
Chromium	3.23	1.86	ng/m³ Air		3.05			5.65	10	
Cobalt	0.443	0.0367	ng/m³ Air		0.424			4.37	10	

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
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 B4C0503 - ICP-MS Extraction										
Duplicate (B4C0503-DUP1) Continued			**Source: 4030429-11**		Prepared & Analyzed: 03/05/24					
Copper	49.0	2.21	ng/m³ Air		45.4			7.63	10	
Lead	0.412	0.180	ng/m³ Air		0.405			1.58	10	
Manganese	9.89	1.59	ng/m³ Air		9.52			3.81	10	
Molybdenum	2.30	0.302	ng/m³ Air		2.19			4.94	10	
Nickel	1.64	0.548	ng/m³ Air		1.55			5.25	10	
Selenium	0.164	0.00754	ng/m³ Air		0.162			1.14	10	
Thallium	8.23E-4	4.95E-4	ng/m³ Air		8.02E-4			2.59	10	QB-01
Vanadium	1.25	0.0445	ng/m³ Air		1.18			5.54	10	
Zinc	ND	64.6	ng/m³ Air		ND				10	U
Duplicate (B4C0503-DUP2)			**Source: 4030429-32**		Prepared & Analyzed: 03/05/24					
Antimony	0.0465	0.0318	ng/m³ Air		0.0425			9.04	10	SL
Arsenic	0.524	0.00773	ng/m³ Air		0.569			8.28	10	
Barium	4.21	0.882	ng/m³ Air		4.20			0.341	10	
Beryllium	0.0128	0.00264	ng/m³ Air		0.0117			8.35	10	
Cadmium	ND	0.0611	ng/m³ Air		ND				10	U
Chromium	2.84	1.82	ng/m³ Air		2.85			0.0852	10	
Cobalt	0.570	0.0360	ng/m³ Air		0.535			6.36	10	
Copper	56.9	2.17	ng/m³ Air		59.3			4.21	10	
Lead	1.28	0.176	ng/m³ Air		1.39			8.54	10	
Manganese	13.4	1.56	ng/m³ Air		12.7			5.46	10	
Molybdenum	2.37	0.296	ng/m³ Air		2.22			6.25	10	
Nickel	1.26	0.538	ng/m³ Air		1.18			6.39	10	
Selenium	0.168	0.00739	ng/m³ Air		0.153			9.27	10	
Thallium	0.00147	4.86E-4	ng/m³ Air		0.00151			2.57	10	QB-01
Vanadium	1.23	0.0436	ng/m³ Air		1.14			7.49	10	
Zinc	ND	63.3	ng/m³ Air		ND				10	U
Duplicate (B4C0503-DUP3)			**Source: 4030429-15**		Prepared: 03/05/24 Analyzed: 03/06/24					
Antimony	0.0974	0.0322	ng/m³ Air		0.0963			1.08	10	SL
Arsenic	0.243	0.00781	ng/m³ Air		0.237			2.40	10	
Barium	4.18	0.892	ng/m³ Air		4.09			2.33	10	
Beryllium	0.0101	0.00267	ng/m³ Air		0.0104			2.58	10	
Cadmium	ND	0.0618	ng/m³ Air		ND				10	U
Chromium	2.53	1.84	ng/m³ Air		2.47			2.42	10	
Cobalt	0.329	0.0364	ng/m³ Air		0.321			2.64	10	
Copper	27.9	2.19	ng/m³ Air		27.2			2.34	10	
Lead	0.648	0.178	ng/m³ Air		0.635			2.03	10	
Manganese	10.1	1.58	ng/m³ Air		9.89			2.50	10	
Molybdenum	1.60	0.299	ng/m³ Air		1.58			1.09	10	

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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: 03/20/24 12:21
SUBMITTED: 03/04/24
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 B4C0503 - ICP-MS Extraction										
Duplicate (B4C0503-DUP3) Continued			**Source: 4030429-15**		Prepared: 03/05/24		Analyzed: 03/06/24			
Nickel	1.25	0.544	ng/m³ Air		1.21			3.26	10	
Selenium	0.158	0.00747	ng/m³ Air		0.161			2.42	10	
Thallium	0.00116	4.91E-4	ng/m³ Air		0.00111			4.02	10	QB-01
Vanadium	1.04	0.0441	ng/m³ Air		1.03			1.55	10	
Zinc	ND	64.0	ng/m³ Air		ND				10	U
Duplicate (B4C0503-DUP4)			**Source: 4030429-26**		Prepared: 03/05/24		Analyzed: 03/06/24			
Antimony	0.0559	0.0336	ng/m³ Air		0.0581			3.97	10	SL
Arsenic	0.171	0.00815	ng/m³ Air		0.174			1.94	10	
Barium	2.69	0.931	ng/m³ Air		2.68			0.376	10	
Beryllium	0.00587	0.00278	ng/m³ Air		0.00611			4.05	10	
Cadmium	ND	0.0645	ng/m³ Air		ND				10	U
Chromium	2.11	1.92	ng/m³ Air		2.10			0.579	10	
Cobalt	0.157	0.0379	ng/m³ Air		0.158			0.271	10	
Copper	29.9	2.29	ng/m³ Air		30.1			0.501	10	
Lead	0.621	0.186	ng/m³ Air		0.621			0.106	10	
Manganese	4.76	1.64	ng/m³ Air		4.77			0.331	10	
Molybdenum	1.10	0.312	ng/m³ Air		1.09			1.07	10	
Nickel	0.631	0.567	ng/m³ Air		0.629			0.270	10	
Selenium	0.133	0.00780	ng/m³ Air		0.135			1.49	10	
Thallium	8.66E-4	5.12E-4	ng/m³ Air		8.25E-4			4.86	10	QB-01
Vanadium	0.393	0.0460	ng/m³ Air		0.396			0.785	10	
Zinc	ND	66.8	ng/m³ Air		ND				10	U
Matrix Spike (B4C0503-MS1)			**Source: 4030429-11**		Prepared & Analyzed: 03/05/24					
Antimony	0.499	0.0325	ng/m³ Air	1.1634	0.0473	38.8	80-120			SL
Arsenic	2.52	0.00788	ng/m³ Air	2.3267	0.319	94.4	80-120			
Barium	25.7	0.900	ng/m³ Air	23.267	3.25	96.7	80-120			
Beryllium	1.16	0.00269	ng/m³ Air	1.1634	0.0234	97.8	80-120			
Cadmium	1.18	0.0623	ng/m³ Air	1.1634	ND	101	80-120			
Chromium	15.1	1.86	ng/m³ Air	11.634	3.05	103	80-120			
Cobalt	1.60	0.0367	ng/m³ Air	1.1634	0.424	101	80-120			
Copper	70.5	2.21	ng/m³ Air	23.267	45.4	108	80-120			
Lead	11.9	0.180	ng/m³ Air	11.634	0.405	98.9	80-120			
Manganese	17.0	1.59	ng/m³ Air	6.9802	9.52	107	80-120			
Molybdenum	3.38	0.302	ng/m³ Air	1.1634	2.19	103	80-120			
Nickel	3.75	0.548	ng/m³ Air	2.3267	1.55	94.5	80-120			
Selenium	2.43	0.00754	ng/m³ Air	2.3267	0.162	97.5	80-120			
Thallium	0.116	4.95E-4	ng/m³ Air	0.11634	8.02E-4	98.7	80-120			QB-01
Vanadium	3.51	0.0445	ng/m³ Air	2.3267	1.18	100	80-120			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
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 B4C0503 - ICP-MS Extraction										
Matrix Spike (B4C0503-MS1) Continued Source: 4030429-11 Prepared & Analyzed: 03/05/24										
Zinc	104	64.6	ng/m³ Air	69.802	ND	149	80-120			
Matrix Spike (B4C0503-MS2) Source: 4030429-32 Prepared & Analyzed: 03/05/24										
Antimony	0.437	0.0318	ng/m³ Air	1.1404	0.0425	34.6	80-120			SL
Arsenic	2.69	0.00773	ng/m³ Air	2.2809	0.569	93.2	80-120			
Barium	26.2	0.882	ng/m³ Air	22.809	4.20	96.6	80-120			
Beryllium	1.18	0.00264	ng/m³ Air	1.1404	0.0117	103	80-120			
Cadmium	1.16	0.0611	ng/m³ Air	1.1404	ND	102	80-120			
Chromium	14.4	1.82	ng/m³ Air	11.404	2.85	101	80-120			
Cobalt	1.65	0.0360	ng/m³ Air	1.1404	0.535	98.1	80-120			
Copper	81.0	2.17	ng/m³ Air	22.809	59.3	94.8	80-120			
Lead	12.6	0.176	ng/m³ Air	11.404	1.39	98.5	80-120			
Manganese	20.1	1.56	ng/m³ Air	6.8426	12.7	109	80-120			
Molybdenum	3.47	0.296	ng/m³ Air	1.1404	2.22	110	80-120			
Nickel	3.44	0.538	ng/m³ Air	2.2809	1.18	99.3	80-120			
Selenium	2.35	0.00739	ng/m³ Air	2.2809	0.153	96.4	80-120			
Thallium	0.110	4.86E-4	ng/m³ Air	0.11404	0.00151	95.2	80-120			QB-01
Vanadium	3.37	0.0436	ng/m³ Air	2.2809	1.14	97.7	80-120			
Zinc	101	63.3	ng/m³ Air	68.426	ND	148	80-120			
Matrix Spike Dup (B4C0503-MSD1) Source: 4030429-11 Prepared & Analyzed: 03/05/24										
Antimony	0.506	0.0325	ng/m³ Air	1.1634	0.0473	39.4	80-120	1.34	20	SL
Arsenic	2.54	0.00788	ng/m³ Air	2.3267	0.319	95.4	80-120	0.906	20	
Barium	26.1	0.900	ng/m³ Air	23.267	3.25	98.1	80-120	1.26	20	
Beryllium	1.17	0.00269	ng/m³ Air	1.1634	0.0234	98.9	80-120	1.03	20	
Cadmium	1.18	0.0623	ng/m³ Air	1.1634	ND	102	80-120	0.341	20	
Chromium	15.0	1.86	ng/m³ Air	11.634	3.05	102	80-120	0.825	20	
Cobalt	1.60	0.0367	ng/m³ Air	1.1634	0.424	101	80-120	0.113	20	
Copper	71.7	2.21	ng/m³ Air	23.267	45.4	113	80-120	1.81	20	
Lead	11.8	0.180	ng/m³ Air	11.634	0.405	98.3	80-120	0.603	20	
Manganese	17.1	1.59	ng/m³ Air	6.9802	9.52	108	80-120	0.348	20	
Molybdenum	3.51	0.302	ng/m³ Air	1.1634	2.19	114	80-120	3.63	20	
Nickel	3.78	0.548	ng/m³ Air	2.3267	1.55	95.9	80-120	0.845	20	
Selenium	2.40	0.00754	ng/m³ Air	2.3267	0.162	96.2	80-120	1.25	20	
Thallium	0.114	4.95E-4	ng/m³ Air	0.11634	8.02E-4	97.4	80-120	1.39	20	QB-01
Vanadium	3.50	0.0445	ng/m³ Air	2.3267	1.18	99.6	80-120	0.269	20	
Zinc	103	64.6	ng/m³ Air	69.802	ND	147	80-120	1.20	20	
Matrix Spike Dup (B4C0503-MSD2) Source: 4030429-32 Prepared & Analyzed: 03/05/24										
Antimony	0.437	0.0318	ng/m³ Air	1.1404	0.0425	34.6	80-120	0.0813	20	SL
Arsenic	2.72	0.00773	ng/m³ Air	2.2809	0.569	94.4	80-120	1.07	20	

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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
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 B4C0503 - ICP-MS Extraction										
Matrix Spike Dup (B4C0503-MSD2) Conti			**Source: 4030429-32**		Prepared & Analyzed: 03/05/24					
Barium	25.6	0.882	ng/m³ Air	22.809	4.20	93.8	80-120	2.43	20	
Beryllium	1.16	0.00264	ng/m³ Air	1.1404	0.0117	101	80-120	2.22	20	
Cadmium	1.25	0.0611	ng/m³ Air	1.1404	ND	109	80-120	7.38	20	
Chromium	14.0	1.82	ng/m³ Air	11.404	2.85	97.7	80-120	2.67	20	
Cobalt	1.63	0.0360	ng/m³ Air	1.1404	0.535	96.3	80-120	1.25	20	
Copper	68.6	2.17	ng/m³ Air	22.809	59.3	40.7	80-120	16.5	20	QM-07
Lead	11.9	0.176	ng/m³ Air	11.404	1.39	92.3	80-120	5.73	20	
Manganese	19.6	1.56	ng/m³ Air	6.8426	12.7	102	80-120	2.42	20	
Molybdenum	3.36	0.296	ng/m³ Air	1.1404	2.22	99.6	80-120	3.38	20	
Nickel	3.24	0.538	ng/m³ Air	2.2809	1.18	90.4	80-120	6.07	20	
Selenium	2.39	0.00739	ng/m³ Air	2.2809	0.153	97.9	80-120	1.49	20	
Thallium	0.112	4.86E-4	ng/m³ Air	0.11404	0.00151	97.2	80-120	1.99	20	QB-01
Vanadium	3.32	0.0436	ng/m³ Air	2.2809	1.14	95.5	80-120	1.51	20	
Zinc	90.2	63.3	ng/m³ Air	68.426	ND	132	80-120	11.3	20	
Post Spike (B4C0503-PS1)			**Source: 4030429-11**		Prepared & Analyzed: 03/05/24					
Antimony	0.278	0.0325	ng/m³ Air	0.23267	0.0473	99.1	75-125			SL
Arsenic	1.44	0.00788	ng/m³ Air	1.1634	0.319	96.5	75-125			
Barium	5.59	0.900	ng/m³ Air	2.3267	3.25	100	75-125			
Beryllium	0.257	0.00269	ng/m³ Air	0.23267	0.0234	100	75-125			
Cadmium	0.127	0.0623	ng/m³ Air	0.11634	ND	109	75-125			
Chromium	4.26	1.86	ng/m³ Air	1.1634	3.05	104	75-125			
Cobalt	0.665	0.0367	ng/m³ Air	0.23267	0.424	104	75-125			
Copper	58.5	2.21	ng/m³ Air	11.634	45.4	113	75-125			
Lead	23.2	0.180	ng/m³ Air	23.267	0.405	98.2	75-125			
Manganese	12.1	1.59	ng/m³ Air	2.3267	9.52	110	75-125			
Molybdenum	3.38	0.302	ng/m³ Air	1.1634	2.19	102	75-125			
Nickel	3.85	0.548	ng/m³ Air	2.3267	1.55	98.7	75-125			
Selenium	1.27	0.00754	ng/m³ Air	1.1634	0.162	95.5	75-125			
Thallium	0.0591	4.95E-4	ng/m³ Air	5.8168E-2	8.02E-4	100	75-125			QB-01
Vanadium	2.30	0.0445	ng/m³ Air	1.1634	1.18	96.8	75-125			
Zinc	ND	64.6	ng/m³ Air	23.267	ND		75-125			U
Post Spike (B4C0503-PS2)			**Source: 4030429-32**		Prepared & Analyzed: 03/05/24					
Antimony	0.271	0.0318	ng/m³ Air	0.22809	0.0425	100	75-125			SL
Arsenic	1.71	0.00773	ng/m³ Air	1.1404	0.569	99.6	75-125			
Barium	6.39	0.882	ng/m³ Air	2.2809	4.20	96.1	75-125			
Beryllium	0.229	0.00264	ng/m³ Air	0.22809	0.0117	95.2	75-125			
Cadmium	0.141	0.0611	ng/m³ Air	0.11404	ND	123	75-125			
Chromium	3.99	1.82	ng/m³ Air	1.1404	2.85	100	75-125			

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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
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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 B4C0503 - ICP-MS Extraction										
Post Spike (B4C0503-PS2) Continued			**Source: 4030429-32**		Prepared & Analyzed: 03/05/24					
Cobalt	0.770	0.0360	ng/m³ Air	0.22809	0.535	103	75-125			
Copper	72.2	2.17	ng/m³ Air	11.404	59.3	113	75-125			
Lead	24.0	0.176	ng/m³ Air	22.809	1.39	99.3	75-125			
Manganese	15.3	1.56	ng/m³ Air	2.2809	12.7	116	75-125			
Molybdenum	3.34	0.296	ng/m³ Air	1.1404	2.22	98.4	75-125			
Nickel	3.43	0.538	ng/m³ Air	2.2809	1.18	98.7	75-125			
Selenium	1.29	0.00739	ng/m³ Air	1.1404	0.153	100	75-125			
Thallium	0.0594	4.86E-4	ng/m³ Air	5.7022E-2	0.00151	102	75-125			QB-01
Vanadium	2.22	0.0436	ng/m³ Air	1.1404	1.14	95.1	75-125			
Zinc	ND	63.3	ng/m³ Air	22.809	ND		75-125			U
Dilution Check (B4C0503-SRL1)			**Source: 4030429-11**		Prepared & Analyzed: 03/05/24					
Antimony	ND	0.162	ng/m³ Air		ND				10	SL, U
Arsenic	0.337	0.0394	ng/m³ Air		0.319			5.55	10	
Barium	ND	4.50	ng/m³ Air		ND				10	U
Beryllium	0.0230	0.0135	ng/m³ Air		0.0234			1.59	10	
Cadmium	ND	0.312	ng/m³ Air		ND				10	U
Chromium	ND	9.30	ng/m³ Air		ND				10	U
Cobalt	0.436	0.183	ng/m³ Air		0.424			2.73	10	
Copper	49.0	11.1	ng/m³ Air		45.4			7.71	10	
Lead	ND	0.900	ng/m³ Air		ND				10	U
Manganese	9.74	7.95	ng/m³ Air		9.52			2.36	10	
Molybdenum	2.29	1.51	ng/m³ Air		2.19			4.75	10	
Nickel	ND	2.74	ng/m³ Air		ND				10	U
Selenium	0.175	0.0377	ng/m³ Air		0.162			7.66	10	
Thallium	ND	0.00248	ng/m³ Air		ND				10	QB-01, U
Vanadium	1.24	0.223	ng/m³ Air		1.18			5.38	10	
Zinc	ND	323	ng/m³ Air		ND				10	U
Dilution Check (B4C0503-SRL2)			**Source: 4030429-32**		Prepared & Analyzed: 03/05/24					
Antimony	ND	0.159	ng/m³ Air		ND				10	SL, U
Arsenic	0.594	0.0386	ng/m³ Air		0.569			4.34	10	
Barium	ND	4.41	ng/m³ Air		ND				10	U
Beryllium	ND	0.0132	ng/m³ Air		ND				10	U
Cadmium	ND	0.306	ng/m³ Air		ND				10	U
Chromium	ND	9.11	ng/m³ Air		ND				10	U
Cobalt	0.539	0.180	ng/m³ Air		0.535			0.813	10	
Copper	62.8	10.8	ng/m³ Air		59.3			5.66	10	
Lead	1.38	0.882	ng/m³ Air		1.39			1.02	10	
Manganese	12.9	7.79	ng/m³ Air		12.7			1.73	10	

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.

[redacted]

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: 03/20/24 12:21
SUBMITTED: 03/04/24
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 B4C0503 - ICP-MS Extraction										
Dilution Check (B4C0503-SRL2) Continue				**Source: 4030429-32**	Prepared & Analyzed: 03/05/24					
Molybdenum	2.25	1.48	ng/m³ Air		2.22			1.17	10	
Nickel	ND	2.69	ng/m³ Air		ND				10	U
Selenium	0.163	0.0369	ng/m³ Air		0.153			6.04	10	
Thallium	0.00264	0.00243	ng/m³ Air		ND			54.8	10	QB-01
Vanadium	1.20	0.218	ng/m³ Air		1.14			5.06	10	
Zinc	ND	317	ng/m³ Air		ND				10	U

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[redacted]

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 03/20/24 12:21
SUBMITTED: 03/04/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-01	Analyte exceeds method blank criteria
FB-01	Analyte exceeds Field Blank criteria.
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.

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.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 3/21/2024 and Shanna Vasser 3/21/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 2/8/2024 and 2/22/24 - 2/28/2024
Report No: 4030429

√	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.
√	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 chromium and copper in MFL-FB01-022324-HM.

Notes:

1. Report was revised on March 20, 2024 to match updated volumes on the revised chain of custody.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report

Lahaina, Maui

February 29 through March 6, 2024
[Report Updated: 8/23/2024]

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 February 29 through March 6, 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 affect air quality in Lahaina. The State of Hawaii Department of Health, Clean Air Branch (HDOH) receives acquired data via an online shared site, and information conveyed in these weekly reports. Air monitoring and sampling as prescribed in the CAMSP will continue until completion of debris removal activities or until HDOH advises otherwise.

Air quality monitoring for particulate matter proceeded at all four community locations over a 24-hour period each day in accordance with the CAMSP. Intent of ambient air monitoring was to assess presence of airborne particulates with particle size diameter of 10 micrometers (µm)—the size recognized as small enough for inhalation into a person's lungs. This particle size diameter is a parameter for health evaluations, identified as "PM_{10}". Monitoring for PM_{10} occurred 24 hours a day, 7 days a week from February 29 through March 6 at each community location. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, which is a 24-hour time-weighted average of 150 µm per cubic meter ($\mu m/m^3$).

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 measured at each monitoring location throughout this reporting period. None of the results exceeded the 150 $\mu m/m^3$ screening level. **Table 1** lists results.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected throughout this reporting period. 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 February 29 through March 6
- WW Pump Station #4 on February 29 through March 6
- Lahaina Intermediate School on February 29 through March 6
- Lahaina Boys & Girls Club on February 29 through March 6

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. 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.

An exceedance of the nickel SSAL was reported for the March 4 sample at Leialii Hawaiian Homelands. The sample result was 0.0544 $\mu g/m^3$ as compared to the nickel SSAL of 0.02 $\mu g/m^3$. This sample was collected over an approximate 24-hour sampling period between March 3 and March 4, 2024. To determine possible sources of this exceedance, Tetra Tech utilized field observations, weather data, and crew dispatch information.

Particulate levels were relatively low on March 3, with the highest reading of 17.6 $\mu g/m^3$ noted at 11:00 am. Wind speeds were also generally low averaging about 1 mph, with an average wind direction originating from the southeast. Wind speeds were somewhat variable, with gusts up to 2.6 mph observed in 5 - 40 minute intervals. Two USACE debris crews were scheduled to work near the sample location on March 3, with one crew located approximately 600 ft south-southeast and the other approximately 1,000 ft south-southwest from the sampling location.

Particulate levels were relatively low on March 4, with the highest reading of 19.3 $\mu g/m^3$ noted at 9:00 am. USACE debris crews were scheduled to work at the same two properties on March 4 (approximately 600 and 1,000 ft away from the sampling location). Wind speeds were generally low with an average of 0.8 mph, and an average wind direction originating from the southeast. Wind speeds were somewhat variable, with gusts up to 2 mph observed in 5 - 40 minute intervals.

Based on the nature of the work, proximity of the debris removal activities to the sample location, and wind direction, there is a potential that debris removal operations were the cause of this exceedance. However, no obvious signs of visible dust, variance in work practices, or pertinent weather patterns were observed. General environmental factors which may have caused or contributed to this nickel exceedance include grinding/cutting any metal construction materials, fertilizers, burning of waste, tobacco smoke, and oil/coal burning power generators.

Except for this nickel exceedance, 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.**

After discussion with HDOH, the sample with exceeded nickel concentration was re-analyzed by the laboratory to verify concentrations. This report has been updated to incorporate the re-analyzed lab

results. The re-analyzed data are presented and discussed in the attached **Addendum to the Weekly Report.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour originating in a south, 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.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires

Addendum to Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui
February 29 through March 6, 2024

The weekly report presenting community air monitoring and sampling results from February 29 through March 6, 2024, reported a nickel concentration of 0.0544 micrograms per cubic meter (µg/m^3) in the sample collected from the Leialii Hawaiian Homelands on March 4, 2024, which exceeded the Site Screening Action Levels (SSAL) of 0.02 µg/m^3, as presented in the CAMSP. No other samples showed exceedances of the SSAL. The sample was collected over an approximate 24-hour sampling period. This Addendum to the weekly report addresses the originally reported exceedance and the re-analyzed concentrations for the sample noted above.

Reported environmental conditions on March 4 included an average windspeed of 0.8 mile per hour (mph), generally originating from a southeast direction.

Particulate levels were relatively low on March 3, with the highest reading of 17.6 µg/m^3 noted at 11:00 am. Wind speeds were also generally low averaging about 1 mph, with an average wind direction originating from the southeast. Wind speeds were somewhat variable, with gusts up to 2.6 mph observed in 5 - 40 minute intervals. Two USACE debris crews were scheduled to work near the sample location on March 3, with one crew located approximately 600 ft south-southeast and the other approximately 1,000 ft south-southwest from the sampling location.

Particulate levels also were relatively low on March 4, with the highest reading of 19.3 µg/m^3 noted at 9:00 am. USACE debris crews were scheduled to work at the same two properties on March 4 (approximately 600 and 1,000 ft away from the sampling location). Wind speeds were generally low with an average of 0.8 mph, and an average wind direction originating from the southeast. Wind speeds were somewhat variable, with gusts up to 2 mph observed in 5 - 40 minute intervals.

Based on the nature of the work, proximity of the debris removal activities to the sample location, and wind direction, there is a potential that debris removal operations were the cause of this exceedance. However, no obvious signs of visible dust, variance in work practices, or pertinent weather patterns were observed. General environmental factors which may have caused or contributed to this nickel exceedance include grinding/cutting any metal construction materials, fertilizers, burning of waste, tobacco smoke, and oil/coal burning power generators.

Following the reporting of the exceedance, and approval from HDOH, the nickel sample was re-analyzed by the laboratory to verify concentrations. A table showing the original results compared with the re-analyzed results can be found below:

Analyte		Nickel	Nickel (re-analysis)
Units		µg/m^3	µg/m^3
Screening Level*		0.02	0.02
3/4/2024	Leialii Hawaiian Homelands (AM-01)	**0.0544**	**0.0678**

Notes:
* Laboratory data were provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data were comparable to SSALs.

The re-analysis showed some variance from the originally reported values and was able to verify the exceedance reported for the sample collected on March 4. A full table with the results for metals including the re-analyzed samples can be found in the Weekly Report in **Table 2**. The laboratory data sheets for re-analyzed metal samples results are included in the Weekly Report as **Appendix 1.**

Attachments

Basemap: ESRI ArcGIS World Street Map

Table 1
HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results for PM_{10}
Maui Wildfire, Lahaina
2/29/2024 - 3/4/2024
[Report Updated: 8/23/2024]

Screening Level		**150 µg/m^3**
2/29/2024	Leialii Hawaiian Homelands (AM-01)	6.7
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	8.1
	Lahaina Boys & Girls Club (AM-04)	5.5
3/1/2024	Leialii Hawaiian Homelands (AM-01)	7.6
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	6.9
	Lahaina Boys & Girls Club (AM-04)	5.5
3/2/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	7.3
	Lahaina Boys & Girls Club (AM-04)	6.6
3/3/2024	Leialii Hawaiian Homelands (AM-01)	6.1
	WW Pump Station #4 (AM-02)	7.8
	Lahaina Intermediate School (AM-03)	6.8
	Lahaina Boys & Girls Club (AM-04)	5.9
3/4/2024	Leialii Hawaiian Homelands (AM-01)	5.9
	WW Pump Station #4 (AM-02)	8.0
	Lahaina Intermediate School (AM-03)	7.4
	Lahaina Boys & Girls Club (AM-04)	7.0
3/5/2024	Leialii Hawaiian Homelands (AM-01)	7.6
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	6.8
3/6/2024	Leialii Hawaiian Homelands (AM-01)	6.7
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Boys & Girls Club (AM-04)	5.9

Notes:

µg/m3 = micrograms per cubic meter

All Stations on February 18 are based off of a 23 hr TWA calculation

24 hour TWA calculation results are shown in two significant figures

Results are based on 24 hour TWA calculation

Results from Lahaina Intermediate School on 3/4 have been revised from previously submitted report.

Table 2
HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results by Date
Maui Wildfire, Lahaina
2/29/2024-3/6/2024
[Report Updated: 8/23/2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Nickel (re-analysis)	Selenium	Thallium
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**
Screening 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	0.02	48	24
2/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000413	0.00119	0.00259	0.00000871	ND	0.00255	0.000292	0.0459	0.000464	0.00820	0.00259	0.000888		0.000102	0.00000119
	WW Pump Station #4 (AM-02)	<0.0024	0.0000895	0.000381	0.00512	0.0000151	ND	0.00285	0.000489	0.0360	0.000977	0.0125	0.00192	0.00185		0.000147	0.00000126
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000427	0.000347	0.00279	0.0000138	ND	0.00214	0.000259	0.0326	0.000470	0.00660	0.00156	0.000781		0.000116	0.00000111
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000481	0.000161	0.00245	0.00000787	ND	0.00190	0.000211	0.0178	0.000669	0.00609	0.000903	0.000767		0.000113	0.000000826
3/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0028	0.0000342	0.000752	0.00244	0.00000695	ND	0.00223	0.000294	0.0548	0.000366	0.00733	0.00267	0.000844		0.000145	0.00000106
	WW Pump Station #4 (AM-02)	<0.0025	0.000181	0.000521	0.00562	0.0000121	0.0000706	0.00285	0.000321	0.0469	0.00128	0.0103	0.00225	0.00132		0.000188	0.00000125
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000537	0.000212	0.00320	0.0000246	ND	0.00250	0.000391	0.0354	0.000506	0.00918	0.00193	0.00114		0.000170	0.00000109
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000444	0.000127	0.00226	0.00000578	ND	0.00184	0.000145	0.0180	0.000713	0.00443	0.000942	0.000658		0.000127	0.0000000721
3/2/2024	Leialii Hawaiian Homelands (AM-01)	<0.0028	0.0000360	0.000551	0.00261	0.00000807	ND	0.00229	0.000291	0.0556	0.000440	0.00840	0.00278	0.000866		0.000134	0.00000127
	WW Pump Station #4 (AM-02)	<0.0025	0.000104	0.000657	0.00443	0.0000114	ND	0.00213	0.000276	0.0371	0.000916	0.00982	0.00195	0.000954		0.000163	0.00000134
	Lahaina Intermediate School (AM-03)	<0.0026	0.0000363	0.000186	0.00261	0.0000170	ND	0.00217	0.000296	0.0298	0.000442	0.00779	0.00184	0.000942		0.000146	0.00000124
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000440	0.000209	0.00311	0.0000105	ND	0.00224	0.000277	0.0233	0.000605	0.00846	0.00112	0.000952		0.000145	0.00000111
3/3/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000109	0.00132	0.00344	0.00000762	ND	0.00249	0.000308	0.0623	0.000853	0.00845	0.00300	0.000897		0.000139	0.00000141
	WW Pump Station #4 (AM-02)	<0.0025	0.000211	0.00101	0.00765	0.0000250	ND	0.00370	0.000735	0.0697	0.00190	0.0228	0.00206	0.00213		0.000240	0.00000205
	Lahaina Intermediate School (AM-03)	<0.0026	0.0000326	0.000150	0.00163	0.00000730	ND	0.00187	0.000130	0.0360	0.000416	0.00365	0.00235	0.000660		0.000124	0.00000130
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000376	0.000153	0.00188	0.00000464	0.000646	0.00186	0.000116	0.0238	0.000383	0.00335	0.00123	0.000664		0.000106	0.000000928
3/4/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000471	0.000567	0.00248	0.00000583	ND	0.133	0.00165	0.0919	0.000908	0.0124	0.00473	**0.0544**	**0.0678**	0.000141	0.0000000736
	WW Pump Station #4 (AM-02)	<0.0026	0.000124	0.000481	0.00413	0.0000104	ND	0.00215	0.000294	0.0369	0.000931	0.00822	0.00195	0.00103		0.000155	0.0000000912
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000500	0.000158	0.00220	0.0000170	ND	0.00207	0.000303	0.0360	0.000347	0.00750	0.00247	0.00101		0.000156	0.0000000664
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000613	0.000240	0.00321	0.0000104	ND	0.00247	0.000270	0.0268	0.000719	0.00829	0.00134	0.000993		0.000152	0.0000000924
3/5/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000718	0.00102	0.00385	0.0000128	ND	0.00642	0.000556	0.0621	0.000624	0.0134	0.00270	0.00260		0.000170	0.00000137
	WW Pump Station #4 (AM-02)	<0.0026	0.000148	0.000986	0.00672	0.0000239	0.000100	0.00422	0.000751	0.0507	0.00197	0.0216	0.00209	0.00247		0.000234	0.00000181
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000545	0.000207	0.00318	0.0000224	ND	0.00300	0.000446	0.0397	0.000410	0.0110	0.00274	0.00125		0.000177	0.00000142
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000500	0.000206	0.00237	0.00000732	ND	0.00209	0.000202	0.0185	0.000549	0.00605	0.00124	0.000705		0.000147	0.0000000993
3/6/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000633	0.000906	0.00584	0.0000243	ND	0.00741	0.00111	0.0411	0.000744	0.0319	0.00152	0.00303		0.000217	0.00000234
	WW Pump Station #4 (AM-02)	<0.0026	0.000159	0.00114	0.0109	0.0000451	0.000169	0.00665	0.00173	0.0396	0.00274	0.0460	0.00132	0.00519		0.000299	0.00000298
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000453	0.000429	0.00816	0.000172	ND	0.00947	0.00213	0.0413	0.000707	0.0421	0.00204	0.00483		0.000376	0.00000276
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000779	0.000512	0.00430	0.0000195	0.000334	0.00336	0.000762	0.0224	0.00141	0.0173	0.000992	0.00163		0.000163	0.00000182
95% Upper Confidence Limit[2]		NA	0.0000900	0.000740	0.00469	0.0000240	0.00213	0.00683	0.000710	0.0471	0.00101	0.0164	0.00232	0.00328		0.000190	0.00000160

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Asbestos sample results for 2/29 at all stations were updated by the lab after correcting a formula error for concentrations

Metals Exceedance

Table 2
HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results by Date
Maui Wildfire, Lahaina
2/29/2024-3/6/2024
[Report Updated: 8/23/2024]

Vanadium	Zinc
µg/m^3	µg/m^3
0.24	1200
0.000790	ND
0.00129	ND
0.000626	ND
0.000553	ND
0.000736	ND
0.000983	ND
0.000931	ND
0.000418	ND
0.000867	ND
0.000925	ND
0.000815	ND
0.000819	ND
0.000795	ND
0.00216	ND
0.000335	ND
0.000290	ND
0.00127	ND
0.000973	ND
0.000867	ND
0.000864	ND
0.00133	ND
0.00211	ND
0.00107	ND
0.000543	ND
0.00287	ND
0.00457	ND
0.00509	ND
0.00138	ND
0.00166	NA

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
February 29 through March 6, 2024
[Report Updated: 8/23/2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
2/29/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	77	60	762.1
2/29/2024	AM-02	WW Pump Station #4	1.0	SSE	76	63	764.1
2/29/2024	AM-03	Lahaina Intermediate School	1.1	SE	76	67	754.7
2/29/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	77	64	763.9
3/1/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	77	58	762.7
3/1/2024	AM-02	WW Pump Station #4	0.9	SE	74	66	764.9
3/1/2024	AM-03	Lahaina Intermediate School	1.1	SE	76	65	755.2
3/1/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	76	65	764.5
3/2/2024	AM-01	Leialii Hawaiian Homelands	0.9	ESE	76	58	762.7
3/2/2024	AM-02	WW Pump Station #4	1.0	SSE	76	61	764.7
3/2/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	63	755.3
3/2/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	75	64	764.5
3/3/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	76	62	762.3
3/3/2024	AM-02	WW Pump Station #4	0.8	S	76	67	764.3
3/3/2024	AM-03	Lahaina Intermediate School	1.0	SE	76	67	754.8
3/3/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSE	76	67	764.0
3/4/2024	AM-01	Leialii Hawaiian Homelands	0.8	SE	79	64	762.4
3/4/2024	AM-02	WW Pump Station #4	1.0	S	78	69	764.4
3/4/2024	AM-03	Lahaina Intermediate School	1.1	SSE	78	73	754.9
3/4/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	78	70	764.1
3/5/2024	AM-01	Leialii Hawaiian Homelands	2.1	ESE	77	52	762.5
3/5/2024	AM-02	WW Pump Station #4	1.5	SE	78	54	764.4
3/5/2024	AM-03	Lahaina Intermediate School	1.5	SE	78	56	754.9
3/5/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSE	78	55	764.1
3/6/2024	AM-01	Leialii Hawaiian Homelands	2.2	SSE	75	57	762.1
3/6/2024	AM-02	WW Pump Station #4	1.6	SE	77	55	764.1
3/6/2024	AM-03	Lahaina Intermediate School	1.7	SSE	76	59	754.5
3/6/2024	AM-04	Lahaina Boys & Girls Club	1.6	SSW	78	54	763.7

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

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042404634
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 / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-022924-AB**

EMSL Sample Number:	042404634-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7040.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

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.

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EMSL Order ID:	**042404634**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404634-0001 **Customer Sample:** MFL-AM01-022924-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	J5	None Detected									
H5	F7	None Detected									
H5	B8	None Detected									
H6	B3	None Detected									
H6	I2	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
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Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-022924-AB**

EMSL Sample Number:	042404634-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7259.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404634-0002 **Customer Sample:** MFL-AM02-022924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J9	None Detected									
I2	G7	None Detected									
I2	D8	None Detected									
I3	B3	None Detected									
I3	H2	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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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-022924-AB**

EMSL Sample Number:	042404634-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6767.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404634-0003 **Customer Sample:** MFL-AM03-022924-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	I10	None Detected									
I5	G8	None Detected									
I5	C7	None Detected									
I6	C4	None Detected									
I6	H3	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:	042404634
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 / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-022924-AB**

EMSL Sample Number:	042404634-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7087.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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:	**042404634**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404634-0004 **Customer Sample:** MFL-AM04-022924-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	B3	None Detected									
J1	F4	None Detected									
J1	I5	None Detected									
J2	I7	None Detected									
J2	D6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042404634
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 / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-022924-AB**

EMSL Sample Number:	042404634-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404634**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404634-0005 **Customer Sample:** MFL-FB01-022924-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	J6	None Detected									
J5	H5	None Detected									
J5	F4	None Detected									
J5	D5	None Detected									
J5	B6	None Detected									
J6	A8	None Detected									
J6	C7	None Detected									
J6	E7	None Detected									
J6	G10	None Detected									
J7	J1	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:	042404634
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 / 103S864023206**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042404634-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404634**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S864023206**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404634-0006 **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					
H2	A5	None Detected									
H2	C6	None Detected									
H2	E7	None Detected									
H2	G8	None Detected									
H2	I6	None Detected									
H4	A7	None Detected									
H4	C7	None Detected									
H4	E8	None Detected									
H4	G7	None Detected									
H4	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042404634

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042404634

200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	Tetra Tech
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway Ste 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina / 1035864023206
Purchase Order:	
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:	Elise Kenyon Sullivan
Sampled By Signature:	
No. of Samples in Shipment	5

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

RECEIVED
2024 MAR -6 A 11:14
CINNAMINSON, NJ

*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-AM01-022924-AB		7,040.726	02/29/24 1101
MFL-AM02-022924-AB		7,259.467	02/29/24 1117
MFL-AM03-022924-AB		6,767.046	02/29/24 1315
MFL-AM04-022924-AB		7,087.220	02/29/24 1336
MFL-FB01-022924-AB		0	02/29/24 1200

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: 03/04/24 1100	Received by: FX	Date/Time 3/6/24 945 AM	
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.

(5) AP

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 4/23/2024 and Shanna Vasser 4/24/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 2/29/2024
Report No: 42404634

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes:

1. Report was revised 20 4/23/2024 to correct the formula error for concentrations.

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:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-030124-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6527.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0028**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Actinolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Amosite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Anthophyllite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Crocidolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Tremolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Other Minerals	-	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Actinolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Amosite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Anthophyllite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Crocidolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Tremolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Other Minerals	-	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404627**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0001 **Customer Sample:** MFL-AM01-030124-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	A4	None Detected									
A5	D5	None Detected									
A5	I6	None Detected									
A6	H4	None Detected									
A6	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030124-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404627**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0002 **Customer Sample:** MFL-AM02-030124-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	A6	None Detected									
B2	D7	None Detected									
B2	I5	None Detected									
B3	C5	None Detected									
B3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030124-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7255.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0003 **Customer Sample:** MFL-AM03-030124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	E7	None Detected									
B5	H8	None Detected									
B6	C9	None Detected									
B6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030124-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0004 **Customer Sample:** MFL-AM04-030124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A5	None Detected									
C2	D4	None Detected									
C2	H5	None Detected									
C3	H6	None Detected									
C3	B7	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:	042404627
Customer ID:	TTDC42
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Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-030124-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0005 **Customer Sample:** MFL-FB01-030124-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	H5	None Detected									
C5	F4	None Detected									
C5	D3	None Detected									
C5	B4	None Detected									
C6	J3	None Detected									
C6	H2	None Detected									
C6	F1	None Detected									
C6	D2	None Detected									
C6	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-030224-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6358.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0028**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Actinolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Amosite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Anthophyllite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Crocidolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Tremolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Other Minerals	-	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Actinolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Amosite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Anthophyllite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Crocidolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Tremolite	ADX	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Other Minerals	-	0	0	< 46.72	< 0.0028	Not Applicable	- 0.0028
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0028**	**Not Applicable**	**- 0.0028**

Comment
Numerous gypsum fibers present.

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:	**042404627**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0006 **Customer Sample:** MFL-AM01-030224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A6	None Detected									
D2	D8	None Detected									
D2	G7	None Detected									
D3	H4	None Detected									
D3	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:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030224-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0007 **Customer Sample:** MFL-AM02-030224-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	B7	None Detected									
D5	D9	None Detected									
D5	J6	None Detected									
D6	J6	None Detected									
D6	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:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030224-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6851.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0008 **Customer Sample:** MFL-AM03-030224-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	J4	None Detected									
E2	G3	None Detected									
E2	B5	None Detected									
E3	C7	None Detected									
E3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030224-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7082.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404627**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0009 **Customer Sample:** MFL-AM04-030224-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	C5	None Detected									
E5	F7	None Detected									
E5	H4	None Detected									
E6	C3	None Detected									
E6	H4	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:	042404627
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Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-030224-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404627**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0010 **Customer Sample:** MFL-FB01-030224-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	J7	None Detected									
F2	H5	None Detected									
F2	F2	None Detected									
F2	D1	None Detected									
F2	B2	None Detected									
F3	A10	None Detected									
F3	C9	None Detected									
F3	E7	None Detected									
F3	G8	None Detected									
F3	I9	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:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-030324-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6546.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	- 0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**- 0.0027**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404627**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0011 **Customer Sample:** MFL-AM01-030324-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	J3	None Detected									
F5	G5	None Detected									
F5	D7	None Detected									
F6	B6	None Detected									
F6	H8	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030324-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7116.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0012 **Customer Sample:** MFL-AM02-030324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A7	None Detected									
G2	D8	None Detected									
G2	J6	None Detected									
G3	H5	None Detected									
G3	B7	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:	

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Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030324-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6934.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0013 **Customer Sample:** MFL-AM03-030324-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	J5	None Detected									
G5	G3	None Detected									
G5	D4	None Detected									
G6	C7	None Detected									
G6	I8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030324-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7146.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0014 **Customer Sample:** MFL-AM04-030324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J3	None Detected									
H2	G5	None Detected									
H2	C6	None Detected									
H3	C6	None Detected									
H3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/08/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-030324-AB**		**Sample Description:**	
EMSL Sample Number:	042404627-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

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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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:	**042404627**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0015 **Customer Sample:** MFL-FB01-030324-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	J3	None Detected									
H5	H2	None Detected									
H5	F1	None Detected									
H5	D3	None Detected									
H5	B4	None Detected									
H6	J4	None Detected									
H6	H3	None Detected									
H6	F4	None Detected									
H6	D3	None Detected									
H6	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:	042404627
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/06/2024 09:45 AM
Analysis Date:	03/07/2024
Report Date:	03/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042404627-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404627**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404627-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	A10	None Detected									
A2	C9	None Detected									
A2	E8	None Detected									
A2	G9	None Detected									
A2	I7	None Detected									
A3	J5	None Detected									
A3	H4	None Detected									
A3	F7	None Detected									
A3	D6	None Detected									
A3	B7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042404627

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042404627

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Suber	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.suber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina / 10359230	Purchase Order:	
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:	Elia Vargas Saldaña	Sampled By Signature:	
No. of Samples in Shipment	15		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

RECEIVED 24 MAR -6 AM 11:14 CINNAMINSON, NJ

*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-AM01-030124-AB3		6,527.567	03/01/24 1104
MFL-AM02-030124-AB3		7,195.687	03/01/24 1124
MFL-AM03-030124-AB3		7,255.860	03/01/24 1315
MFL-AM04-030124-AB3		7,175.947	03/01/24 1336
MFL-FB01-030124-AB3		0	03/01/24 1200
MFL-AM01-030224-AB3		~~6,38~~ 6,358.562 (EKS)	03/02/24 1101
MFL-AM02-030224-AB3		7,221.925	03/02/24 1123
MFL-AM03-030224-AB3		6,851.176	03/02/24 1303

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	Fed Ex		Sample Condition Upon Receipt:		
Relinquished by:		Date/Time: 03/04/24 1100	Received by: FX	Date/Time 3/6/24	945
Relinquished by:		Date/Time:	Received by:	Date/Time	

(13) P

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.

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042404627

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-AM04-030224-AB		7,082.698	03/02/24 1322
MFL-FB01-030224-AB		0	03/02/24 1200
MFL-AM01-030324-AB		6,546.506	03/03/24 1100
MFL-AM02-030324-AB		7,116.800	03/03/24 1120
MFL-AM03-030324-AB		6,934.731	03/03/24 1303
MFL-AM04-030324-AB		7,145.997	03/03/24 1323
MFL-FB01-030324-AB		0	03/03/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 MAR -6 A 11:14

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/04/24 1100	Received by:	Date/Time
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 3/13/2014 and Shanna Vasser 3/14/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/1/2024 - 3/3/2024
Report No: 42404627

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-030424-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6835.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0001 **Customer Sample:** MFL-AM01-030424-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	J5	None Detected									
A5	G7	None Detected									
A5	D8	None Detected									
A6	G9	None Detected									
A6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030424-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7077.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0002 **Customer Sample:** MFL-AM02-030424-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	A5	None Detected									
B2	D7	None Detected									
B2	I6	None Detected									
B3	H4	None Detected									
B3	A5	None Detected									

Abbreviations used:
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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030424-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7281.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0003 **Customer Sample:** MFL-AM03-030424-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	I4	None Detected									
B5	F3	None Detected									
B5	D2	None Detected									
B6	A8	None Detected									
B6	H7	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
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030424-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0004 **Customer Sample:** MFL-AM04-030424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A5	None Detected									
C2	D4	None Detected									
C2	H3	None Detected									
C3	B3	None Detected									
C3	H2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-030424-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0005 **Customer Sample:** MFL-FB01-030424-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	H5	None Detected									
C5	H7	None Detected									
C5	G9	None Detected									
C5	F7	None Detected									
C5	D5	None Detected									
C6	A4	None Detected									
C6	C5	None Detected									
C6	E7	None Detected									
C6	G8	None Detected									
C6	I6	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-AM01-030524-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6781.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**

Comment
Numerous gypsum fibers present.

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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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0006 **Customer Sample:** MFL-AM01-030524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J1	None Detected									
D2	H4	None Detected									
D2	F8	None Detected									
D3	I9	None Detected									
D3	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030524-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6959.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042404989
Client: Tetra Tech
Project ID: Maui Fires - Lahaina / 103S9230

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0007 **Customer Sample:** MFL-AM02-030524-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	J7	None Detected									
D5	G6	None Detected									
D5	C5	None Detected									
D6	C8	None Detected									
D6	H9	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:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030524-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7286.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0008 **Customer Sample:** MFL-AM03-030524-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	F4	None Detected									
E1	D3	None Detected									
E1	B5	None Detected									
E2	B8	None Detected									
E2	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: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030524-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7204.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0009 **Customer Sample:** MFL-AM04-030524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B7	None Detected									
E5	E4	None Detected									
E5	G2	None Detected									
E6	C2	None Detected									
E6	H4	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
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Phone:	(703) 489-2674
Fax:	
Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-030524-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0010 **Customer Sample:** MFL-FB01-030524-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	J6	None Detected									
F2	H5	None Detected									
F2	F4	None Detected									
F2	D2	None Detected									
F2	B4	None Detected									
F3	A5	None Detected									
F3	C7	None Detected									
F3	E8	None Detected									
F3	G9	None Detected									
F3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-030624-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7280.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0011 **Customer Sample:** MFL-AM01-030624-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	J7	None Detected									
F5	G9	None Detected									
F5	D10	None Detected									
F6	I6	None Detected									
F6	A7	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030624-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7038.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0012 **Customer Sample:** MFL-AM02-030624-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	F4	None Detected									
G1	H6	None Detected									
G1	J8	None Detected									
G2	H4	None Detected									
G2	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030624-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7228.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0013 **Customer Sample:** MFL-AM03-030624-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	A9	None Detected									
G5	C7	None Detected									
G5	F4	None Detected									
G6	H7	None Detected									
G6	B4	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:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030624-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0014 **Customer Sample:** MFL-AM04-030624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	A8	None Detected									
H2	D7	None Detected									
H2	H4	None Detected									
H3	C5	None Detected									
H3	H8	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:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB04-030624-AB**		**Sample Description:**	
EMSL Sample Number:	042404989-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0015 **Customer Sample:** MFL-FB04-030624-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	J5	None Detected									
H5	H4	None Detected									
H5	F3	None Detected									
H5	D5	None Detected									
H5	B8	None Detected									
H6	A7	None Detected									
H6	C8	None Detected									
H6	E8	None Detected									
H6	G6	None Detected									
H6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
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EMSL Order:	042404989
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/11/2024 09:00 AM
Analysis Date:	03/12/2024
Report Date:	03/14/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042404989-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

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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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042404989**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042404989-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J2	None Detected									
A2	H3	None Detected									
A2	F4	None Detected									
A2	D3	None Detected									
A2	A5	None Detected									
A3	J5	None Detected									
A3	H4	None Detected									
A3	F7	None Detected									
A3	D6	None Detected									
A3	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042404989

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042404989

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

RECEIVED EMSL CINNAMINSON, NJ 24 MAR 11 AM 9:56

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina / 103S9230	Purchase Order:	
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:	Elaine Lorgion Sildon	Sampled By Signature:	
No. of Samples in Shipment	15		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-030424-AB		6835.478	03/04/24 1058
MFL-AM02-030424-AB		7077.602	03/04/24 1118
MFL-AM03-030424-AB		7281.340	03/04/24 1306
MFL-AM04-030424-AB		7208.671	03/04/24 1325
MFL-FB01-030424-AB		0	03/04/24 1200
MFL-AM01-030524-AB		6781.665	03/05/24 1100
MFL-AM02-030524-AB		6959.333	03/05/24 1118
MFL-AM03-030524-AB		7286.832	03/05/24 1308

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 03/07/24 1100	Received by: FedEx
Date/Time: 3/11/24 9A			
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042404989

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042404989

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-AM04-030524-AB		7204.608	03/05/24 1328
MFL-FB01-030524-AB		0	03/05/24 1200
MFL-AM01-030624-AB		7280.352	03/06/24 1103
MFL-AM02-030624-AB		7038.640	03/06/24 1120
MFL-AM03-030624-AB		7228.450	03/06/24 1310
MFL-AM04-030624-AB		7207.019	~~03~~ 03/06/24 1328 (EKS)
MFL-FB01-030624-AB		0	03/06/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAR 11 AM 9:56

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/07/24 1100	Received by:	Date/Time
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 3/15/2024 and Shanna Vasser 3/18/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/4/2024-3/6/2024
Report No: 42404989

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

March 21, 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 03/11/24 11:48.

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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-022924-HM	4031151-01	Air	02/29/24 23:59	03/11/24 11:48
MFL-AM02-022924-HM	4031151-02	Air	02/29/24 23:59	03/11/24 11:48
MFL-AM03-022924-HM	4031151-03	Air	02/29/24 23:59	03/11/24 11:48
MFL-AM04-022924-HM	4031151-04	Air	02/29/24 23:59	03/11/24 11:48
MFL-FB01-022924-HM	4031151-05	Air	02/29/24 00:00	03/11/24 11:48
MFL-AM01-030124-HM	4031151-06	Air	03/01/24 23:59	03/11/24 11:48
MFL-AM02-030124-HM	4031151-07	Air	03/01/24 23:59	03/11/24 11:48
MFL-AM03-030124-HM	4031151-08	Air	03/01/24 23:59	03/11/24 11:48
MFL-AM04-030124-HM	4031151-09	Air	03/01/24 23:59	03/11/24 11:48
MFL-AM01-030224-HM	4031151-10	Air	03/02/24 23:59	03/11/24 11:48
MFL-AM02-030224-HM	4031151-11	Air	03/02/24 23:59	03/11/24 11:48
MFL-AM03-030224-HM	4031151-12	Air	03/02/24 23:59	03/11/24 11:48
MFL-AM04-030224-HM	4031151-13	Air	03/02/24 23:59	03/11/24 11:48
MFL-FB01-030224-HM	4031151-14	Air	03/02/24 00:00	03/11/24 11:48
MFL-AM01-030324-HM	4031151-15	Air	03/03/24 23:59	03/11/24 11:48
MFL-AM02-030324-HM	4031151-16	Air	03/03/24 23:59	03/11/24 11:48
MFL-AM03-030324-HM/MS/M	4031151-17	Air	03/03/24 23:59	03/11/24 11:48
MFL-AM04-030324-HM	4031151-18	Air	03/03/24 23:59	03/11/24 11:48
MFL-AM01-030424-HM	4031151-19	Air	03/04/24 23:59	03/11/24 11:48
MFL-AM02-030424-HM	4031151-20	Air	03/04/24 23:59	03/11/24 11:48
MFL-AM03-030424-HM	4031151-21	Air	03/04/24 23:59	03/11/24 11:48

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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-030424-HM	4031151-22	Air	03/04/24 23:59	03/11/24 11:48
MFL-FB01-030424-HM	4031151-23	Air	03/04/24 00:00	03/11/24 11:48
MFL-AM01-030524-HM	4031151-24	Air	03/05/24 23:59	03/11/24 11:48
MFL-AM02-030524-HM	4031151-25	Air	03/05/24 23:59	03/11/24 11:48
MFL-AM03-030524-HM	4031151-26	Air	03/05/24 23:59	03/11/24 11:48
MFL-AM04-030524-HM	4031151-27	Air	03/05/24 23:59	03/11/24 11:48
MFL-AM01-030624-HM	4031151-28	Air	03/06/24 23:59	03/11/24 11:48
MFL-AM02-030624-HM	4031151-29	Air	03/06/24 23:59	03/11/24 11:48
MFL-AM03-030624-HM	4031151-30	Air	03/06/24 23:59	03/11/24 11:48
MFL-AM04-030624-HM	4031151-31	Air	03/06/24 23:59	03/11/24 11:48
MFL-FB01-030624-HM	4031151-32	Air	03/06/24 00:00	03/11/24 11:48

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-022924-HM
Matrix: Air
Lab ID: 4031151-01
Sample Volume: 1971.586 m³
Filter ID:
Sampled: 02/29/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 03:35

Comments: Q9554709 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0413**	SL	**0.0319**
Arsenic	**7440-38-2**	**1.19**		**0.00773**
Barium	**7440-39-3**	**2.59**		**0.883**
Beryllium	**7440-41-7**	**0.00871**		**0.00264**
Cadmium	7440-43-9	0.0124	U	0.0611
Chromium	**7440-47-3**	**2.55**		**1.82**
Cobalt	**7440-48-4**	**0.292**		**0.0360**
Copper	**7440-50-8**	**45.9**		**2.17**
Lead	**7439-92-1**	**0.464**		**0.177**
Manganese	**7439-96-5**	**8.20**		**1.56**
Molybdenum	**7439-98-7**	**2.59**		**0.296**
Nickel	**7440-02-0**	**0.888**		**0.538**
Selenium	**7782-49-2**	**0.102**		**0.00739**
Thallium	**7440-28-0**	**0.00119**	B, LB, QB-04	**4.86E-4**
Vanadium	**7440-62-2**	**0.790**		**0.0437**
Zinc	7440-66-6	21.5	U	63.4

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-022924-HM
Matrix: Air
Lab ID: 4031151-02
Sample Volume: 1888.258 m³
Filter ID:
Sampled: 02/29/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 03:49

Comments: Q9554705 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0895**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.381**		**0.00807**
Barium	**7440-39-3**	**5.12**		**0.922**
Beryllium	**7440-41-7**	**0.0151**		**0.00276**
Cadmium	7440-43-9	0.0157	U	0.0638
Chromium	**7440-47-3**	**2.85**		**1.90**
Cobalt	**7440-48-4**	**0.489**		**0.0376**
Copper	**7440-50-8**	**36.0**		**2.27**
Lead	**7439-92-1**	**0.977**		**0.184**
Manganese	**7439-96-5**	**12.5**		**1.63**
Molybdenum	**7439-98-7**	**1.92**		**0.309**
Nickel	**7440-02-0**	**1.85**		**0.562**
Selenium	**7782-49-2**	**0.147**		**0.00772**
Thallium	**7440-28-0**	**0.00126**	B, LB, QB-04	**5.08E-4**
Vanadium	**7440-62-2**	**1.29**		**0.0456**
Zinc	7440-66-6	29.9	U	66.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-022924-HM
Matrix: Air
Lab ID: 4031151-03
Sample Volume: 2009.471 m³
Filter ID:
Sampled: 02/29/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 04:07

Comments: Q9554704 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0427**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.347**		**0.00759**
Barium	**7440-39-3**	**2.79**		**0.866**
Beryllium	**7440-41-7**	**0.0138**		**0.00259**
Cadmium	7440-43-9	0.00959	U	0.0600
Chromium	**7440-47-3**	**2.14**		**1.79**
Cobalt	**7440-48-4**	**0.259**		**0.0353**
Copper	**7440-50-8**	**32.6**		**2.13**
Lead	**7439-92-1**	**0.470**		**0.173**
Manganese	**7439-96-5**	**6.60**		**1.53**
Molybdenum	**7439-98-7**	**1.56**		**0.291**
Nickel	**7440-02-0**	**0.781**		**0.528**
Selenium	**7782-49-2**	**0.116**		**0.00725**
Thallium	**7440-28-0**	**0.00111**	B, LB, QB-04	**4.77E-4**
Vanadium	**7440-62-2**	**0.626**		**0.0428**
Zinc	7440-66-6	22.2	U	62.2

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-022924-HM
Matrix: Air
Lab ID: 4031151-04
Sample Volume: 1970.434 m³
Filter ID:
Sampled: 02/29/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 04:23

Comments: Q9554732 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0481**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.161**		**0.00774**
Barium	**7440-39-3**	**2.45**		**0.884**
Beryllium	**7440-41-7**	**0.00787**		**0.00264**
Cadmium	7440-43-9	0.0113	U	0.0612
Chromium	**7440-47-3**	**1.90**		**1.82**
Cobalt	**7440-48-4**	**0.211**		**0.0360**
Copper	**7440-50-8**	**17.8**		**2.17**
Lead	**7439-92-1**	**0.669**		**0.177**
Manganese	**7439-96-5**	**6.09**		**1.56**
Molybdenum	**7439-98-7**	**0.903**		**0.296**
Nickel	**7440-02-0**	**0.767**		**0.538**
Selenium	**7782-49-2**	**0.113**		**0.00740**
Thallium	**7440-28-0**	**8.26E-4**	B, LB, QB-04	**4.86E-4**
Vanadium	**7440-62-2**	**0.553**		**0.0437**
Zinc	7440-66-6	20.1	U	63.4

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FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-022924-HM
Matrix: Air
Lab ID: 4031151-05
Sample Volume: 1971.586 m³
Filter ID:
Sampled: 02/29/24 00:00
Received: 03/11/24 11:48
Analysis Date: 03/15/24 04:38

Comments: Q9554728 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00704	U, SL	0.0319
Arsenic	7440-38-2	0.00704	U	0.00773
Barium	7440-39-3	0.574	U	0.883
Beryllium	7440-41-7	0.00121	U	0.00264
Cadmium	7440-43-9	0.00143	U	0.0611
Chromium	7440-47-3	1.36	U	1.82
Cobalt	7440-48-4	0.0221	U	0.0360
Copper	7440-50-8	0.669	U	2.17
Lead	7439-92-1	0.0634	U	0.177
Manganese	7439-96-5	0.215	U	1.56
Molybdenum	7439-98-7	0.236	U	0.296
Nickel	7440-02-0	0.348	U	0.538
Selenium	7782-49-2	0.00223	U	0.00739
Thallium	7440-28-0	1.80E-4	U, B, LB, QB-04	4.86E-4
Vanadium	7440-62-2	0.0101	U	0.0437
Zinc	7440-66-6	12.7	U	63.4

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FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030124-HM
Matrix: Air
Lab ID: 4031151-06
Sample Volume: 1971.586 m³
Filter ID:
Sampled: 03/01/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 04:53

Comments: Q9554731 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0342**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.752**		**0.00773**
Barium	**7440-39-3**	**2.44**		**0.883**
Beryllium	**7440-41-7**	**0.00695**		**0.00264**
Cadmium	7440-43-9	0.0101	U	0.0611
Chromium	**7440-47-3**	**2.23**		**1.82**
Cobalt	**7440-48-4**	**0.294**		**0.0360**
Copper	**7440-50-8**	**54.8**		**2.17**
Lead	**7439-92-1**	**0.366**		**0.177**
Manganese	**7439-96-5**	**7.33**		**1.56**
Molybdenum	**7439-98-7**	**2.67**		**0.296**
Nickel	**7440-02-0**	**0.844**		**0.538**
Selenium	**7782-49-2**	**0.145**		**0.00739**
Thallium	**7440-28-0**	**0.00106**	B, LB, QB-04	**4.86E-4**
Vanadium	**7440-62-2**	**0.736**		**0.0437**
Zinc	7440-66-6	16.5	U	63.4

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030124-HM
Matrix: Air
Lab ID: 4031151-07
Sample Volume: 1871.098 m³
Filter ID:
Sampled: 03/01/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 05:23

Comments: Q9554730 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.181**	SL	**0.0336**
Arsenic	**7440-38-2**	**0.521**		**0.00815**
Barium	**7440-39-3**	**5.62**		**0.930**
Beryllium	**7440-41-7**	**0.0121**		**0.00278**
Cadmium	**7440-43-9**	**0.0706**		**0.0644**
Chromium	**7440-47-3**	**2.85**		**1.92**
Cobalt	**7440-48-4**	**0.321**		**0.0379**
Copper	**7440-50-8**	**46.9**		**2.29**
Lead	**7439-92-1**	**1.28**		**0.186**
Manganese	**7439-96-5**	**10.3**		**1.64**
Molybdenum	**7439-98-7**	**2.25**		**0.312**
Nickel	**7440-02-0**	**1.32**		**0.567**
Selenium	**7782-49-2**	**0.188**		**0.00779**
Thallium	**7440-28-0**	**0.00125**	B, LB, QB-04	**5.12E-4**
Vanadium	**7440-62-2**	**0.983**		**0.0460**
Zinc	7440-66-6	43.8	U	66.8

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030124-HM
Matrix: Air
Lab ID: 4031151-08
Sample Volume: 2017.928 m³
Filter ID:
Sampled: 03/01/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 05:40

Comments: Q9554729 - Received in good condition. - Nonhomogenous Sample

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0537**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.212**		**0.00755**
Barium	**7440-39-3**	**3.20**		**0.863**
Beryllium	**7440-41-7**	**0.0246**		**0.00258**
Cadmium	7440-43-9	0.00958	U	0.0597
Chromium	**7440-47-3**	**2.50**		**1.78**
Cobalt	**7440-48-4**	**0.391**		**0.0352**
Copper	**7440-50-8**	**35.4**		**2.12**
Lead	**7439-92-1**	**0.506**		**0.173**
Manganese	**7439-96-5**	**9.18**		**1.52**
Molybdenum	**7439-98-7**	**1.93**		**0.289**
Nickel	**7440-02-0**	**1.14**		**0.526**
Selenium	**7782-49-2**	**0.170**		**0.00722**
Thallium	**7440-28-0**	**0.00109**	B, LB, QB-04	**4.75E-4**
Vanadium	**7440-62-2**	**0.931**		**0.0427**
Zinc	7440-66-6	18.1	U	61.9

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030124-HM
Matrix: Air
Lab ID: 4031151-09
Sample Volume: 1982.074 m³
Filter ID:
Sampled: 03/01/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 05:57

Comments: Q9554725 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0444**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.127**		**0.00769**
Barium	**7440-39-3**	**2.26**		**0.878**
Beryllium	**7440-41-7**	**0.00578**		**0.00263**
Cadmium	7440-43-9	0.0389	U	0.0608
Chromium	**7440-47-3**	**1.84**		**1.81**
Cobalt	**7440-48-4**	**0.145**		**0.0358**
Copper	**7440-50-8**	**18.0**		**2.16**
Lead	**7439-92-1**	**0.713**		**0.176**
Manganese	**7439-96-5**	**4.43**		**1.55**
Molybdenum	**7439-98-7**	**0.942**		**0.295**
Nickel	**7440-02-0**	**0.658**		**0.535**
Selenium	**7782-49-2**	**0.127**		**0.00735**
Thallium	**7440-28-0**	**7.21E-4**	B, LB, QB-04	**4.83E-4**
Vanadium	**7440-62-2**	**0.418**		**0.0434**
Zinc	7440-66-6	15.8	U	63.0

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Tetra Tech, Inc.
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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030224-HM
Matrix: Air
Lab ID: 4031151-10
Sample Volume: 1982.074 m³
Filter ID:
Sampled: 03/02/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 07:30

Comments: Q9554724 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0360**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.551**		**0.00769**
Barium	**7440-39-3**	**2.61**		**0.878**
Beryllium	**7440-41-7**	**0.00807**		**0.00263**
Cadmium	7440-43-9	0.0112	U	0.0608
Chromium	**7440-47-3**	**2.29**		**1.81**
Cobalt	**7440-48-4**	**0.291**		**0.0358**
Copper	**7440-50-8**	**55.6**		**2.16**
Lead	**7439-92-1**	**0.440**		**0.176**
Manganese	**7439-96-5**	**8.40**		**1.55**
Molybdenum	**7439-98-7**	**2.78**		**0.295**
Nickel	**7440-02-0**	**0.866**		**0.535**
Selenium	**7782-49-2**	**0.134**		**0.00735**
Thallium	**7440-28-0**	**0.00127**	B, LB, QB-04	**4.83E-4**
Vanadium	**7440-62-2**	**0.867**		**0.0434**
Zinc	7440-66-6	14.8	U	63.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030224-HM
Matrix: Air
Lab ID: 4031151-11
Sample Volume: 2040.994 m³
Filter ID:
Sampled: 03/02/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 07:46

Comments: Q9554723 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.657**		**0.00747**
Barium	**7440-39-3**	**4.43**		**0.853**
Beryllium	**7440-41-7**	**0.0114**		**0.00255**
Cadmium	7440-43-9	0.0431	U	0.0591
Chromium	**7440-47-3**	**2.13**		**1.76**
Cobalt	**7440-48-4**	**0.276**		**0.0348**
Copper	**7440-50-8**	**37.1**		**2.10**
Lead	**7439-92-1**	**0.916**		**0.171**
Manganese	**7439-96-5**	**9.82**		**1.51**
Molybdenum	**7439-98-7**	**1.95**		**0.286**
Nickel	**7440-02-0**	**0.954**		**0.520**
Selenium	**7782-49-2**	**0.163**		**0.00714**
Thallium	**7440-28-0**	**0.00134**	B, LB, QB-04	**4.70E-4**
Vanadium	**7440-62-2**	**0.925**		**0.0422**
Zinc	7440-66-6	24.2	U	61.2

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030224-HM
Matrix: Air
Lab ID: 4031151-12
Sample Volume: 2157.347 m³
Filter ID:
Sampled: 03/02/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 08:03

Comments: Q9554722 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0363**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.186**		**0.00707**
Barium	**7440-39-3**	**2.61**		**0.807**
Beryllium	**7440-41-7**	**0.0170**		**0.00241**
Cadmium	7440-43-9	0.0109	U	0.0559
Chromium	**7440-47-3**	**2.17**		**1.67**
Cobalt	**7440-48-4**	**0.296**		**0.0329**
Copper	**7440-50-8**	**29.8**		**1.98**
Lead	**7439-92-1**	**0.442**		**0.161**
Manganese	**7439-96-5**	**7.79**		**1.43**
Molybdenum	**7439-98-7**	**1.84**		**0.271**
Nickel	**7440-02-0**	**0.942**		**0.492**
Selenium	**7782-49-2**	**0.146**		**0.00676**
Thallium	**7440-28-0**	**0.00124**	QB-04, B, LB	**4.44E-4**
Vanadium	**7440-62-2**	**0.815**		**0.0399**
Zinc	7440-66-6	15.3	U	57.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030224-HM
Matrix: Air
Lab ID: 4031151-13
Sample Volume: 1824.298 m³
Filter ID:
Sampled: 03/02/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 08:21

Comments: Q9554718 - Received in good condition. - Nonhomogenous Sample

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0440**	SL	**0.0344**
Arsenic	**7440-38-2**	**0.209**		**0.00836**
Barium	**7440-39-3**	**3.11**		**0.954**
Beryllium	**7440-41-7**	**0.0105**		**0.00285**
Cadmium	7440-43-9	0.0102	U	0.0661
Chromium	**7440-47-3**	**2.24**		**1.97**
Cobalt	**7440-48-4**	**0.277**		**0.0389**
Copper	**7440-50-8**	**23.3**		**2.35**
Lead	**7439-92-1**	**0.605**		**0.191**
Manganese	**7439-96-5**	**8.46**		**1.69**
Molybdenum	**7439-98-7**	**1.12**		**0.320**
Nickel	**7440-02-0**	**0.952**		**0.581**
Selenium	**7782-49-2**	**0.145**		**0.00799**
Thallium	**7440-28-0**	**0.00111**	B, LB, QB-04	**5.25E-4**
Vanadium	**7440-62-2**	**0.819**		**0.0472**
Zinc	7440-66-6	20.8	U	68.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-030224-HM
Matrix: Air
Lab ID: 4031151-14
Sample Volume: 1982.074 m³
Filter ID:
Sampled: 03/02/24 00:00
Received: 03/11/24 11:48
Analysis Date: 03/15/24 08:36

Comments: Q9554743 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00779	U, SL	0.0317
Arsenic	**7440-38-2**	**0.00808**	FB-01	**0.00769**
Barium	7440-39-3	0.576	U	0.878
Beryllium	7440-41-7	0.00120	U	0.00263
Cadmium	7440-43-9	0.00170	U	0.0608
Chromium	7440-47-3	1.20	U	1.81
Cobalt	7440-48-4	0.0194	U	0.0358
Copper	7440-50-8	0.601	U	2.16
Lead	7439-92-1	0.0548	U	0.176
Manganese	7439-96-5	0.184	U	1.55
Molybdenum	7439-98-7	0.221	U	0.295
Nickel	7440-02-0	0.247	U	0.535
Selenium	7782-49-2	0.00144	U	0.00735
Thallium	7440-28-0	1.62E-4	U, B, LB, QB-04	4.83E-4
Vanadium	7440-62-2	0.0136	U	0.0434
Zinc	7440-66-6	10.9	U	63.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030324-HM
Matrix: Air
Lab ID: 4031151-15
Sample Volume: 1982.074 m³
Filter ID:
Sampled: 03/03/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 08:50

Comments: Q9554741 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0317**
Arsenic	**7440-38-2**	**1.32**		**0.00769**
Barium	**7440-39-3**	**3.44**		**0.878**
Beryllium	**7440-41-7**	**0.00762**		**0.00263**
Cadmium	7440-43-9	0.0171	U	0.0608
Chromium	**7440-47-3**	**2.49**		**1.81**
Cobalt	**7440-48-4**	**0.308**		**0.0358**
Copper	**7440-50-8**	**62.3**		**2.16**
Lead	**7439-92-1**	**0.853**		**0.176**
Manganese	**7439-96-5**	**8.45**		**1.55**
Molybdenum	**7439-98-7**	**3.00**		**0.295**
Nickel	**7440-02-0**	**0.897**		**0.535**
Selenium	**7782-49-2**	**0.139**		**0.00735**
Thallium	**7440-28-0**	**0.00141**	B, LB, QB-04	**4.83E-4**
Vanadium	**7440-62-2**	**0.795**		**0.0434**
Zinc	7440-66-6	18.4	U	63.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030324-HM
Matrix: Air
Lab ID: 4031151-16
Sample Volume: 1880.374 m³
Filter ID:
Sampled: 03/03/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 09:05

Comments: Q9554739 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.211**	SL	**0.0334**
Arsenic	**7440-38-2**	**1.01**		**0.00811**
Barium	**7440-39-3**	**7.65**		**0.926**
Beryllium	**7440-41-7**	**0.0250**		**0.00277**
Cadmium	7440-43-9	0.0284	U	0.0641
Chromium	**7440-47-3**	**3.70**		**1.91**
Cobalt	**7440-48-4**	**0.735**		**0.0377**
Copper	**7440-50-8**	**69.7**		**2.28**
Lead	**7439-92-1**	**1.90**		**0.185**
Manganese	**7439-96-5**	**22.8**		**1.64**
Molybdenum	**7439-98-7**	**2.06**		**0.311**
Nickel	**7440-02-0**	**2.13**		**0.564**
Selenium	**7782-49-2**	**0.240**		**0.00775**
Thallium	**7440-28-0**	**0.00205**	B, LB, QB-04	**5.10E-4**
Vanadium	**7440-62-2**	**2.16**		**0.0458**
Zinc	7440-66-6	36.8	U	66.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030324-HM/MS/MSI **Lab ID:** 4031151-17 **Sampled:** 03/03/24 23:59
Matrix: Air **Sample Volume:** 2021.311 m³ **Received:** 03/11/24 11:48
Filter ID: **Analysis Date:** 03/14/24 20:59
Comments: Q9554737 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0326**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.150**		**0.00754**
Barium	**7440-39-3**	**1.63**		**0.861**
Beryllium	**7440-41-7**	**0.00730**		**0.00258**
Cadmium	7440-43-9	0.0106	U	0.0596
Chromium	**7440-47-3**	**1.87**		**1.78**
Cobalt	**7440-48-4**	**0.130**		**0.0351**
Copper	**7440-50-8**	**36.0**		**2.12**
Lead	**7439-92-1**	**0.416**		**0.172**
Manganese	**7439-96-5**	**3.65**		**1.52**
Molybdenum	**7439-98-7**	**2.35**		**0.289**
Nickel	**7440-02-0**	**0.660**		**0.525**
Selenium	**7782-49-2**	**0.124**		**0.00721**
Thallium	**7440-28-0**	**0.00130**	B, LB, QB-04	**4.74E-4**
Vanadium	**7440-62-2**	**0.335**		**0.0426**
Zinc	7440-66-6	12.2	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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030324-HM
Matrix: Air
Lab ID: 4031151-18
Sample Volume: 1987.062 m³
Filter ID:
Sampled: 03/03/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 09:21

Comments: Q9554735 - Received in good condition. - Nonhomogenous Sample

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0376**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.153**		**0.00767**
Barium	**7440-39-3**	**1.88**		**0.876**
Beryllium	**7440-41-7**	**0.00464**		**0.00262**
Cadmium	**7440-43-9**	**0.646**		**0.0607**
Chromium	**7440-47-3**	**1.86**		**1.81**
Cobalt	**7440-48-4**	**0.116**		**0.0357**
Copper	**7440-50-8**	**23.8**		**2.15**
Lead	**7439-92-1**	**0.383**		**0.175**
Manganese	**7439-96-5**	**3.35**		**1.55**
Molybdenum	**7439-98-7**	**1.23**		**0.294**
Nickel	**7440-02-0**	**0.664**		**0.534**
Selenium	**7782-49-2**	**0.106**		**0.00734**
Thallium	**7440-28-0**	**9.28E-4**	B, LB, QB-04	**4.82E-4**
Vanadium	**7440-62-2**	**0.290**		**0.0433**
Zinc	7440-66-6	14.0	U	62.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030424-HM
Matrix: Air
Lab ID: 4031151-19
Sample Volume: 1964.168 m³
Filter ID:
Sampled: 03/04/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 09:37

Comments: Q9554734 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0471**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.567**		**0.00776**
Barium	**7440-39-3**	**2.48**		**0.886**
Beryllium	**7440-41-7**	**0.00583**		**0.00265**
Cadmium	7440-43-9	0.0114	U	0.0614
Cobalt	**7440-48-4**	**1.65**		**0.0361**
Copper	**7440-50-8**	**91.9**		**2.18**
Lead	**7439-92-1**	**0.908**		**0.177**
Manganese	**7439-96-5**	**12.4**		**1.57**
Molybdenum	**7439-98-7**	**4.73**		**0.297**
Selenium	**7782-49-2**	**0.141**		**0.00742**
Thallium	**7440-28-0**	**7.36E-4**	B, LB, QB-04	**4.88E-4**
Vanadium	**7440-62-2**	**1.27**		**0.0438**
Zinc	7440-66-6	27.2	U	63.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030424-HM
Matrix: Air
Lab ID: 4031151-19RE1
Sample Volume: 1964.168 m³
Filter ID:
Sampled: 03/04/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/19/24 18:58

Comments: Q9554734 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Chromium	7440-47-3	133	D	3.66
Nickel	7440-02-0	54.4	D	1.08

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030424-HM **Lab ID:** 4031151-20 **Sampled:** 03/04/24 23:59
Matrix: Air **Sample Volume:** 2061.439 m³ **Received:** 03/11/24 11:48
Filter ID: **Analysis Date:** 03/15/24 00:51

Comments: Q9554733 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.124**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.481**		**0.00740**
Barium	**7440-39-3**	**4.13**		**0.845**
Beryllium	**7440-41-7**	**0.0104**		**0.00253**
Cadmium	7440-43-9	0.0132	U	0.0585
Chromium	**7440-47-3**	**2.15**		**1.74**
Cobalt	**7440-48-4**	**0.294**		**0.0344**
Copper	**7440-50-8**	**36.9**		**2.08**
Lead	**7439-92-1**	**0.931**		**0.169**
Manganese	**7439-96-5**	**8.22**		**1.49**
Molybdenum	**7439-98-7**	**1.95**		**0.283**
Nickel	**7440-02-0**	**1.03**		**0.515**
Selenium	**7782-49-2**	**0.155**		**0.00707**
Thallium	**7440-28-0**	**9.12E-4**	B, LB, QB-04	**4.65E-4**
Vanadium	**7440-62-2**	**0.973**		**0.0418**
Zinc	7440-66-6	22.5	U	60.6

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030424-HM
Matrix: Air
Lab ID: 4031151-21
Sample Volume: 2252.38 m³
Filter ID:
Sampled: 03/04/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 09:57

Comments: Q9537219 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0500**	SL	**0.0279**
Arsenic	**7440-38-2**	**0.158**		**0.00677**
Barium	**7440-39-3**	**2.20**		**0.773**
Beryllium	**7440-41-7**	**0.0170**		**0.00231**
Cadmium	7440-43-9	0.0335	U	0.0535
Chromium	**7440-47-3**	**2.07**		**1.60**
Cobalt	**7440-48-4**	**0.303**		**0.0315**
Copper	**7440-50-8**	**36.0**		**1.90**
Lead	**7439-92-1**	**0.347**		**0.155**
Manganese	**7439-96-5**	**7.50**		**1.37**
Molybdenum	**7439-98-7**	**2.47**		**0.259**
Nickel	**7440-02-0**	**1.01**		**0.471**
Selenium	**7782-49-2**	**0.156**		**0.00647**
Thallium	**7440-28-0**	**6.64E-4**	B, LB, QB-04	**4.25E-4**
Vanadium	**7440-62-2**	**0.867**		**0.0382**
Zinc	7440-66-6	12.3	U	55.5

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030424-HM
Matrix: Air
Lab ID: 4031151-22
Sample Volume: 1888.516 m³
Filter ID:
Sampled: 03/04/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 11:26

Comments: Q9537216 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0613**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.240**		**0.00807**
Barium	**7440-39-3**	**3.21**		**0.922**
Beryllium	**7440-41-7**	**0.0104**		**0.00276**
Cadmium	7440-43-9	0.0134	U	0.0638
Chromium	**7440-47-3**	**2.47**		**1.90**
Cobalt	**7440-48-4**	**0.270**		**0.0376**
Copper	**7440-50-8**	**26.8**		**2.27**
Lead	**7439-92-1**	**0.719**		**0.184**
Manganese	**7439-96-5**	**8.29**		**1.63**
Molybdenum	**7439-98-7**	**1.34**		**0.309**
Nickel	**7440-02-0**	**0.993**		**0.562**
Selenium	**7782-49-2**	**0.152**		**0.00772**
Thallium	**7440-28-0**	**9.24E-4**	B, LB, QB-04	**5.07E-4**
Vanadium	**7440-62-2**	**0.864**		**0.0456**
Zinc	7440-66-6	19.1	U, LJ, QX	66.2

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-030424-HM **Lab ID:** 4031151-23 **Sampled:** 03/04/24 00:00
Matrix: Air **Sample Volume:** 1964.168 m³ **Received:** 03/11/24 11:48
Filter ID: **Analysis Date:** 03/15/24 11:44

Comments: Q9537232 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00559	U, SL	0.0320
Arsenic	7440-38-2	0.00426	U	0.00776
Barium	7440-39-3	0.552	U	0.886
Beryllium	7440-41-7	9.62E-4	U	0.00265
Cadmium	7440-43-9	0.00246	U	0.0614
Chromium	7440-47-3	1.56	U	1.83
Cobalt	**7440-48-4**	**0.0361**		**0.0361**
Copper	7440-50-8	0.430	U	2.18
Lead	7439-92-1	0.0553	U	0.177
Manganese	7439-96-5	0.127	U	1.57
Molybdenum	7439-98-7	0.251	U	0.297
Nickel	7440-02-0	0.246	U	0.540
Selenium	7782-49-2	ND	U	0.00742
Thallium	7440-28-0	2.99E-4	U, B, LB, QB-04	4.88E-4
Vanadium	7440-62-2	ND	U	0.0438
Zinc	7440-66-6	22.5	U, LJ, QX	63.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030524-HM **Lab ID:** 4031151-24 **Sampled:** 03/05/24 23:59
Matrix: Air **Sample Volume:** 2005.025 m³ **Received:** 03/11/24 11:48
Filter ID: **Analysis Date:** 03/15/24 11:58

Comments: Q9537235 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0718**	SL	**0.0313**
Arsenic	**7440-38-2**	**1.02**		**0.00760**
Barium	**7440-39-3**	**3.85**		**0.868**
Beryllium	**7440-41-7**	**0.0128**		**0.00260**
Cadmium	7440-43-9	0.0332	U	0.0601
Chromium	**7440-47-3**	**6.42**		**1.79**
Cobalt	**7440-48-4**	**0.556**		**0.0354**
Copper	**7440-50-8**	**62.1**		**2.13**
Lead	**7439-92-1**	**0.624**		**0.174**
Manganese	**7439-96-5**	**13.4**		**1.53**
Molybdenum	**7439-98-7**	**2.70**		**0.291**
Nickel	**7440-02-0**	**2.60**		**0.529**
Selenium	**7782-49-2**	**0.170**		**0.00727**
Thallium	**7440-28-0**	**0.00137**	B, LB, QB-04	**4.78E-4**
Vanadium	**7440-62-2**	**1.33**		**0.0429**
Zinc	7440-66-6	36.2	U, LJ, QX	62.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030524-HM
Matrix: Air
Lab ID: 4031151-25
Sample Volume: 1898.258 m³
Filter ID:
Sampled: 03/05/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 12:15

Comments: Q9537233 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.148**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.986**		**0.00803**
Barium	**7440-39-3**	**6.72**		**0.917**
Beryllium	**7440-41-7**	**0.0239**		**0.00274**
Cadmium	**7440-43-9**	**0.100**		**0.0635**
Chromium	**7440-47-3**	**4.22**		**1.89**
Cobalt	**7440-48-4**	**0.751**		**0.0374**
Copper	**7440-50-8**	**50.7**		**2.25**
Lead	**7439-92-1**	**1.97**		**0.183**
Manganese	**7439-96-5**	**21.6**		**1.62**
Molybdenum	**7439-98-7**	**2.09**		**0.308**
Nickel	**7440-02-0**	**2.47**		**0.559**
Selenium	**7782-49-2**	**0.234**		**0.00768**
Thallium	**7440-28-0**	**0.00181**	B, LB, QB-04	**5.05E-4**
Vanadium	**7440-62-2**	**2.11**		**0.0453**
Zinc	7440-66-6	45.4	U, LJ, QX	65.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030524-HM
Matrix: Air
Lab ID: 4031151-26
Sample Volume: 2015.088 m³
Filter ID:
Sampled: 03/05/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 12:32

Comments: Q9537231 - Received in good condition. - Nonhomogenous Sample

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0545**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.207**		**0.00757**
Barium	**7440-39-3**	**3.18**		**0.864**
Beryllium	**7440-41-7**	**0.0224**		**0.00258**
Cadmium	7440-43-9	0.0134	U	0.0598
Chromium	**7440-47-3**	**3.00**		**1.78**
Cobalt	**7440-48-4**	**0.446**		**0.0352**
Copper	**7440-50-8**	**39.7**		**2.12**
Lead	**7439-92-1**	**0.410**		**0.173**
Manganese	**7439-96-5**	**11.0**		**1.53**
Molybdenum	**7439-98-7**	**2.74**		**0.290**
Nickel	**7440-02-0**	**1.25**		**0.526**
Selenium	**7782-49-2**	**0.177**		**0.00723**
Thallium	**7440-28-0**	**0.00142**	B, LB, QB-04	**4.76E-4**
Vanadium	**7440-62-2**	**1.07**		**0.0427**
Zinc	7440-66-6	30.9	U, LJ, QX	62.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030524-HM
Matrix: Air
Lab ID: 4031151-27
Sample Volume: 2022.635 m³
Filter ID:
Sampled: 03/05/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 12:48

Comments: Q9537229 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0500**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.206**		**0.00754**
Barium	**7440-39-3**	**2.37**		**0.861**
Beryllium	**7440-41-7**	**0.00732**		**0.00257**
Cadmium	7440-43-9	0.0127	U	0.0596
Chromium	**7440-47-3**	**2.09**		**1.78**
Cobalt	**7440-48-4**	**0.202**		**0.0351**
Copper	**7440-50-8**	**18.5**		**2.12**
Lead	**7439-92-1**	**0.549**		**0.172**
Manganese	**7439-96-5**	**6.05**		**1.52**
Molybdenum	**7439-98-7**	**1.24**		**0.289**
Nickel	**7440-02-0**	**0.705**		**0.524**
Selenium	**7782-49-2**	**0.147**		**0.00721**
Thallium	**7440-28-0**	**9.93E-4**	B, LB, QB-04	**4.74E-4**
Vanadium	**7440-62-2**	**0.543**		**0.0426**
Zinc	7440-66-6	21.3	U, LJ, QX	61.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030624-HM
Matrix: Air
Lab ID: 4031151-28
Sample Volume: 2005.025 m³
Filter ID:
Sampled: 03/06/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 13:20

Comments: Q9537228 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0633**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.906**		**0.00760**
Barium	**7440-39-3**	**5.84**		**0.868**
Beryllium	**7440-41-7**	**0.0243**		**0.00260**
Cadmium	7440-43-9	0.0305	U	0.0601
Chromium	**7440-47-3**	**7.41**		**1.79**
Cobalt	**7440-48-4**	**1.11**		**0.0354**
Copper	**7440-50-8**	**41.1**		**2.13**
Lead	**7439-92-1**	**0.744**		**0.174**
Manganese	**7439-96-5**	**31.9**		**1.53**
Molybdenum	**7439-98-7**	**1.52**		**0.291**
Nickel	**7440-02-0**	**3.03**		**0.529**
Selenium	**7782-49-2**	**0.217**		**0.00727**
Thallium	**7440-28-0**	**0.00234**	B, LB, QB-04	**4.78E-4**
Vanadium	**7440-62-2**	**2.87**		**0.0429**
Zinc	7440-66-6	26.9	U, LJ, QX	62.3

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030624-HM
Matrix: Air
Lab ID: 4031151-29
Sample Volume: 1916.959 m³
Filter ID:
Sampled: 03/06/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 13:37

Comments: Q9537227 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0328**
Arsenic	**7440-38-2**	**1.14**		**0.00795**
Barium	**7440-39-3**	**10.9**		**0.908**
Beryllium	**7440-41-7**	**0.0451**		**0.00272**
Cadmium	**7440-43-9**	**0.169**		**0.0629**
Chromium	**7440-47-3**	**6.65**		**1.88**
Cobalt	**7440-48-4**	**1.73**		**0.0370**
Copper	**7440-50-8**	**39.6**		**2.23**
Lead	**7439-92-1**	**2.74**		**0.182**
Manganese	**7439-96-5**	**46.0**		**1.60**
Molybdenum	**7439-98-7**	**1.32**		**0.305**
Nickel	**7440-02-0**	**5.19**		**0.553**
Selenium	**7782-49-2**	**0.299**		**0.00760**
Thallium	**7440-28-0**	**0.00298**	B, LB, QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**4.57**		**0.0449**
Zinc	7440-66-6	44.8	U, LJ, QX	65.2

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030624-HM
Matrix: Air
Lab ID: 4031151-30
Sample Volume: 2012.853 m³
Filter ID:
Sampled: 03/06/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 13:57

Comments: Q9537225 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0453**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.429**		**0.00757**
Barium	**7440-39-3**	**8.16**		**0.865**
Beryllium	**7440-41-7**	**0.172**		**0.00259**
Cadmium	7440-43-9	0.0206	U	0.0599
Chromium	**7440-47-3**	**9.47**		**1.79**
Cobalt	**7440-48-4**	**2.13**		**0.0352**
Copper	**7440-50-8**	**41.3**		**2.13**
Lead	**7439-92-1**	**0.707**		**0.173**
Manganese	**7439-96-5**	**42.1**		**1.53**
Molybdenum	**7439-98-7**	**2.04**		**0.290**
Nickel	**7440-02-0**	**4.83**		**0.527**
Selenium	**7782-49-2**	**0.376**		**0.00724**
Thallium	**7440-28-0**	**0.00276**	QB-04, B, LB	**4.76E-4**
Vanadium	**7440-62-2**	**5.09**		**0.0428**
Zinc	7440-66-6	23.0	U, LJ, QX	62.1

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030624-HM
Matrix: Air
Lab ID: 4031151-31
Sample Volume: 1984.061 m³
Filter ID:
Sampled: 03/06/24 23:59
Received: 03/11/24 11:48
Analysis Date: 03/15/24 15:35

Comments: Q9537224 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0779**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.512**		**0.00768**
Barium	**7440-39-3**	**4.30**		**0.877**
Beryllium	**7440-41-7**	**0.0195**		**0.00262**
Cadmium	**7440-43-9**	**0.334**		**0.0608**
Chromium	**7440-47-3**	**3.36**		**1.81**
Cobalt	**7440-48-4**	**0.762**		**0.0358**
Copper	**7440-50-8**	**22.4**		**2.16**
Lead	**7439-92-1**	**1.41**		**0.175**
Manganese	**7439-96-5**	**17.3**		**1.55**
Molybdenum	**7439-98-7**	**0.992**		**0.294**
Nickel	**7440-02-0**	**1.63**		**0.535**
Selenium	**7782-49-2**	**0.163**		**0.00735**
Thallium	**7440-28-0**	**0.00182**	B, LB, QB-04	**4.83E-4**
Vanadium	**7440-62-2**	**1.38**		**0.0434**
Zinc	7440-66-6	27.9	U, LJ, QX	63.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-030624-HM
Matrix: Air
Lab ID: 4031151-32
Sample Volume: 2005.025 m³
Filter ID:
Sampled: 03/06/24 00:00
Received: 03/11/24 11:48
Analysis Date: 03/15/24 15:55

Comments: Q9537245 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00760	U, SL	0.0313
Arsenic	7440-38-2	0.00630	U	0.00760
Barium	7440-39-3	0.581	U	0.868
Beryllium	7440-41-7	0.00111	U	0.00260
Cadmium	7440-43-9	0.00259	U	0.0601
Chromium	7440-47-3	1.57	U	1.79
Cobalt	7440-48-4	0.0260	U	0.0354
Copper	7440-50-8	0.627	U	2.13
Lead	7439-92-1	0.0643	U	0.174
Manganese	7439-96-5	0.255	U	1.53
Molybdenum	7439-98-7	0.271	U	0.291
Nickel	7440-02-0	0.274	U	0.529
Selenium	7782-49-2	ND	U	0.00727
Thallium	7440-28-0	2.18E-4	U, B, LB, QB-04	4.78E-4
Vanadium	7440-62-2	0.00996	U	0.0429
Zinc	7440-66-6	10.3	U, LJ, QX	62.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
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 2403035 - B4C1210										
Calibration Blank (2403035-CCB1)				Prepared & Analyzed: 03/14/24						
Antimony	0.719		ng/l							
Arsenic	7.98		ng/l							
Barium	-1.59		ng/l							U
Beryllium	0.162		ng/l							
Cadmium	0.0951		ng/l							
Chromium	4.64		ng/l							
Cobalt	0.544		ng/l							
Copper	50.4		ng/l							
Lead	3.93		ng/l							
Manganese	8.37		ng/l							
Molybdenum	22.0		ng/l							
Nickel	0.847		ng/l							
Selenium	-6.71		ng/l							U
Thallium	2.16		ng/l							LB, QB-04
Vanadium	-48.2		ng/l							U
Zinc	76.2		ng/l							
Calibration Blank (2403035-CCB2)				Prepared & Analyzed: 03/14/24						
Antimony	0.0937		ng/l							
Arsenic	5.14		ng/l							
Barium	-1.73		ng/l							U
Beryllium	0.0714		ng/l							
Cadmium	-0.0254		ng/l							U
Chromium	2.79		ng/l							
Cobalt	0.0977		ng/l							
Copper	11.0		ng/l							
Lead	1.42		ng/l							
Manganese	5.66		ng/l							
Molybdenum	4.28		ng/l							
Nickel	1.54		ng/l							
Selenium	-6.95		ng/l							U
Thallium	1.24		ng/l							LB
Vanadium	-52.4		ng/l							U
Zinc	37.6		ng/l							
Calibration Blank (2403035-CCB3)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	-0.0320		ng/l							U
Arsenic	6.72		ng/l							
Barium	-2.63		ng/l							U
Beryllium	0.248		ng/l							

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
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 2403035 - B4C1210										
Calibration Blank (2403035-CCB3) Contin				Prepared: 03/14/24 Analyzed: 03/15/24						
Cadmium	-0.0824		ng/l							U
Chromium	3.88		ng/l							
Cobalt	0.274		ng/l							
Copper	15.2		ng/l							
Lead	1.22		ng/l							
Manganese	5.41		ng/l							
Molybdenum	3.19		ng/l							
Nickel	1.65		ng/l							
Selenium	5.64		ng/l							
Thallium	1.41		ng/l							LB, QB-04
Vanadium	-54.6		ng/l							U
Zinc	50.3		ng/l							
Calibration Blank (2403035-CCB4)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	0.260		ng/l							
Arsenic	9.05		ng/l							
Barium	-2.25		ng/l							U
Beryllium	0.184		ng/l							
Cadmium	0.0427		ng/l							
Chromium	4.16		ng/l							
Cobalt	0.247		ng/l							
Copper	14.2		ng/l							
Lead	1.68		ng/l							
Manganese	6.22		ng/l							
Molybdenum	4.16		ng/l							
Nickel	0.221		ng/l							
Selenium	1.42		ng/l							
Thallium	1.80		ng/l							LB, QB-04
Vanadium	-59.3		ng/l							U
Zinc	264		ng/l							
Calibration Blank (2403035-CCB5)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	0.184		ng/l							
Arsenic	12.9		ng/l							
Barium	-2.76		ng/l							U
Beryllium	0.122		ng/l							
Cadmium	0.183		ng/l							
Chromium	3.71		ng/l							
Cobalt	0.252		ng/l							
Copper	17.2		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403035 - B4C1210										
Calibration Blank (2403035-CCB5) Contin				Prepared: 03/14/24 Analyzed: 03/15/24						
Lead	2.00		ng/l							
Manganese	4.88		ng/l							
Molybdenum	5.66		ng/l							
Nickel	1.88		ng/l							
Selenium	1.87		ng/l							
Thallium	1.88		ng/l							LB, QB-04
Vanadium	-62.8		ng/l							U
Zinc	44.8		ng/l							
Calibration Blank (2403035-CCB6)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	0.433		ng/l							
Arsenic	9.96		ng/l							
Barium	-1.90		ng/l							U
Beryllium	0.163		ng/l							
Cadmium	-0.0456		ng/l							U
Chromium	4.48		ng/l							
Cobalt	0.485		ng/l							
Copper	20.6		ng/l							
Lead	2.71		ng/l							
Manganese	5.78		ng/l							
Molybdenum	6.09		ng/l							
Nickel	2.14		ng/l							
Selenium	-8.47		ng/l							U
Thallium	1.69		ng/l							LB, QB-04
Vanadium	-67.6		ng/l							U
Zinc	53.8		ng/l							
Calibration Blank (2403035-CCB7)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	0.355		ng/l							
Arsenic	10.9		ng/l							
Barium	-2.54		ng/l							U
Beryllium	0.0106		ng/l							
Cadmium	-0.0225		ng/l							U
Chromium	2.87		ng/l							
Cobalt	0.246		ng/l							
Copper	16.5		ng/l							
Lead	2.48		ng/l							
Manganese	4.35		ng/l							
Molybdenum	5.18		ng/l							
Nickel	2.77		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403035 - B4C1210										
Calibration Blank (2403035-CCB7) Contin				Prepared: 03/14/24 Analyzed: 03/15/24						
Selenium	-4.94		ng/l							U
Thallium	1.70		ng/l							LB, QB-04
Vanadium	-67.6		ng/l							U
Zinc	42.2		ng/l							
Calibration Check (2403035-CCV1)				Prepared & Analyzed: 03/14/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	198000		ng/l	200000		99.1	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	19500		ng/l	20000		97.7	90-110			
Chromium	229000		ng/l	240000		95.5	90-110			
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.5	90-110			
Lead	195000		ng/l	200000		97.3	90-110			
Manganese	489000		ng/l	500000		97.7	90-110			
Molybdenum	48100		ng/l	50000		96.3	90-110			
Nickel	119000		ng/l	120000		99.2	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			LB
Vanadium	18900		ng/l	20000		94.3	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2403035-CCV2)				Prepared & Analyzed: 03/14/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4960		ng/l	5000.0		99.3	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	237000		ng/l	240000		98.8	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			LB
Vanadium	19600		ng/l	20000		98.1	90-110			
Zinc	531000		ng/l	500000		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 2403035 - B4C1210										
Calibration Check (2403035-CCV3)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	199000		ng/l	200000		99.5	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	236000		ng/l	240000		98.4	90-110			
Cobalt	49800		ng/l	50000		99.6	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	496000		ng/l	500000		99.3	90-110			
Molybdenum	49500		ng/l	50000		98.9	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	483		ng/l	500.00		96.7	90-110			LB
Vanadium	19400		ng/l	20000		96.9	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Calibration Check (2403035-CCV4)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	21100		ng/l	20000		105	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5440		ng/l	5000.0		109	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	50700		ng/l	50000		101	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	489		ng/l	500.00		97.8	90-110			LB
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	547000		ng/l	500000		109	90-110			
Calibration Check (2403035-CCV5)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403035 - B4C1210										
Calibration Check (2403035-CCV5) Contin				Prepared: 03/14/24 Analyzed: 03/15/24						
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	235000		ng/l	240000		98.1	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			LB
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	534000		ng/l	500000		107	90-110			
Calibration Check (2403035-CCV6)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	21500		ng/l	20000		108	90-110			
Arsenic	21200		ng/l	20000		106	90-110			
Barium	207000		ng/l	200000		104	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	21200		ng/l	20000		106	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	210000		ng/l	200000		105	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	52300		ng/l	50000		105	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20900		ng/l	20000		104	90-110			
Thallium	502		ng/l	500.00		100	90-110			LB
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	554000		ng/l	500000		111	90-110			LJ, QX
Calibration Check (2403035-CCV7)				Prepared: 03/14/24 Analyzed: 03/15/24						
Antimony	21300		ng/l	20000		107	90-110			
Arsenic	21000		ng/l	20000		105	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4930		ng/l	5000.0		98.5	90-110			
Cadmium	21300		ng/l	20000		107	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.12E6		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 2403035 - B4C1210										
Calibration Check (2403035-CCV7) Contin				Prepared: 03/14/24 Analyzed: 03/15/24						
Lead	209000		ng/l	200000		105	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	53600		ng/l	50000		107	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Thallium	503		ng/l	500.00		101	90-110			LB
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	552000		ng/l	500000		110	90-110			
High Cal Check (2403035-HCV1)				Prepared & Analyzed: 03/14/24						
Antimony	39900		ng/l	40000		99.7	95-105			
Arsenic	39500		ng/l	40000		98.8	95-105			
Barium	396000		ng/l	400000		99.1	95-105			
Beryllium	9510		ng/l	10000		95.1	95-105			
Cadmium	39500		ng/l	40000		98.7	95-105			
Chromium	472000		ng/l	480000		98.2	95-105			
Cobalt	98400		ng/l	100000		98.4	95-105			
Copper	3.93E6		ng/l	4.0000E6		98.4	95-105			
Lead	395000		ng/l	400000		98.9	95-105			
Manganese	983000		ng/l	1.0000E6		98.3	95-105			
Molybdenum	98300		ng/l	100000		98.3	95-105			
Nickel	236000		ng/l	240000		98.4	95-105			
Selenium	39400		ng/l	40000		98.5	95-105			
Thallium	994		ng/l	1000.0		99.4	95-105			LB
Vanadium	39300		ng/l	40000		98.3	95-105			
Zinc	960000		ng/l	1.0000E6		96.0	95-105			
Initial Cal Blank (2403035-ICB1)				Prepared & Analyzed: 03/14/24						
Antimony	1.01		ng/l							
Arsenic	1.62		ng/l							
Barium	0.233		ng/l							
Beryllium	0.325		ng/l							
Cadmium	0.242		ng/l							
Chromium	4.72		ng/l							
Cobalt	0.747		ng/l							
Copper	57.6		ng/l							
Lead	5.26		ng/l							
Manganese	11.9		ng/l							
Molybdenum	9.64		ng/l							
Nickel	9.85		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403035 - B4C1210										
Initial Cal Blank (2403035-ICB1) Continue				Prepared & Analyzed: 03/14/24						
Selenium	-11.7		ng/l							U
Thallium	1.49		ng/l							LB
Vanadium	-50.6		ng/l							U
Zinc	21.8		ng/l							
Initial Cal Check (2403035-ICV1)				Prepared & Analyzed: 03/14/24						
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4840		ng/l	5000.0		96.7	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	238000		ng/l	240000		99.0	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.5	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	518		ng/l	500.00		104	90-110			LB
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Interference Check A (2403035-IFA1)				Prepared & Analyzed: 03/14/24						
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	296000		ng/l	300000		98.8	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			LB, U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
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 2403035 - B4C1210										
Interference Check B (2403035-IFB1)				Prepared & Analyzed: 03/14/24						
Antimony	20300		ng/l	20000		102	80-120			
Arsenic	20200		ng/l	20000		101	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4970		ng/l	5000.0		99.3	80-120			
Cadmium	19200		ng/l	20000		96.1	80-120			
Chromium	220000		ng/l	240000		91.7	80-120			
Cobalt	48600		ng/l	50000		97.3	80-120			
Copper	1.87E6		ng/l	2.0000E6		93.3	80-120			
Lead	201000		ng/l	200000		100	80-120			
Manganese	494000		ng/l	500000		98.8	80-120			
Molybdenum	346000		ng/l	350000		98.8	80-120			
Nickel	114000		ng/l	120000		95.0	80-120			
Selenium	19100		ng/l	20000		95.3	80-120			
Thallium	504		ng/l	500.00		101	80-120			LB
Vanadium	17600		ng/l	20000		88.1	80-120			
Zinc	473000		ng/l	500000		94.6	80-120			
Batch 2403053 - B4C1210										
Calibration Blank (2403053-CCB1)				Prepared & Analyzed: 03/19/24						
Antimony	0.410		ng/l							LJ, QX
Arsenic	2.88		ng/l							
Barium	-6.54E-4		ng/l							U
Beryllium	0.109		ng/l							LJ, QX
Cadmium	0.317		ng/l							
Chromium	-0.401		ng/l							U
Cobalt	0.641		ng/l							
Copper	35.0		ng/l							
Lead	7.23		ng/l							
Manganese	9.12		ng/l							
Molybdenum	7.90		ng/l							
Nickel	-7.37		ng/l							U
Selenium	5.94		ng/l							LJ, QX
Thallium	1.68		ng/l							QB-04
Vanadium	-27.2		ng/l							U
Zinc	-114		ng/l							U
Calibration Blank (2403053-CCB2)				Prepared & Analyzed: 03/19/24						
Antimony	0.440		ng/l							LJ, QX
Arsenic	2.95		ng/l							
Barium	1.55		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 2403053 - B4C1210										
Calibration Blank (2403053-CCB2) Contin				Prepared & Analyzed: 03/19/24						
Beryllium	-0.0715		ng/l							LJ, QX, U
Cadmium	0.216		ng/l							
Chromium	1.03		ng/l							
Cobalt	0.507		ng/l							
Copper	-8.01		ng/l							U
Lead	3.65		ng/l							
Manganese	6.39		ng/l							
Molybdenum	4.10		ng/l							
Nickel	-7.17		ng/l							U
Selenium	2.67		ng/l							LJ, QX
Thallium	1.23		ng/l							
Vanadium	-21.0		ng/l							U
Zinc	-124		ng/l							U
Calibration Check (2403053-CCV1)				Prepared & Analyzed: 03/19/24						
Antimony	20300		ng/l	20000		102	90-110			LJ, QX
Arsenic	20400		ng/l	20000		102	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			LJ, QX
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	50000		ng/l	50000		99.9	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	492000		ng/l	500000		98.5	90-110			
Molybdenum	49700		ng/l	50000		99.4	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Calibration Check (2403053-CCV2)				Prepared & Analyzed: 03/19/24						
Antimony	20500		ng/l	20000		103	90-110			LJ, QX
Arsenic	20400		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	4510		ng/l	5000.0		90.1	90-110			LJ, QX
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	257000		ng/l	240000		107	90-110			
Cobalt	50500		ng/l	50000		101	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403053 - B4C1210										
Calibration Check (2403053-CCV2) Contin				Prepared & Analyzed: 03/19/24						
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20800		ng/l	20000		104	90-110			LJ, QX
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	512000		ng/l	500000		102	90-110			
High Cal Check (2403053-HCV1)				Prepared & Analyzed: 03/19/24						
Antimony	42300		ng/l	40000		106	95-105			LJ, QX
Arsenic	41800		ng/l	40000		104	95-105			
Barium	416000		ng/l	400000		104	95-105			
Beryllium	8080		ng/l	10000		80.8	95-105			LJ, QX
Cadmium	41800		ng/l	40000		104	95-105			
Chromium	490000		ng/l	480000		102	95-105			
Cobalt	103000		ng/l	100000		103	95-105			
Copper	4.10E6		ng/l	4.0000E6		103	95-105			
Lead	419000		ng/l	400000		105	95-105			
Manganese	1.05E6		ng/l	1.0000E6		105	95-105			
Molybdenum	105000		ng/l	100000		105	95-105			
Nickel	246000		ng/l	240000		102	95-105			
Selenium	42200		ng/l	40000		105	95-105			LJ, QX
Thallium	1030		ng/l	1000.0		103	95-105			
Vanadium	41900		ng/l	40000		105	95-105			
Zinc	1.04E6		ng/l	1.0000E6		104	95-105			
Initial Cal Blank (2403053-ICB1)				Prepared & Analyzed: 03/19/24						
Antimony	0.795		ng/l							LJ, QX
Arsenic	-0.0306		ng/l							U
Barium	0.810		ng/l							
Beryllium	-0.00848		ng/l							LJ, QX, U
Cadmium	0.0940		ng/l							
Chromium	0.954		ng/l							
Cobalt	0.520		ng/l							
Copper	38.6		ng/l							
Lead	5.67		ng/l							
Manganese	6.96		ng/l							
Molybdenum	2.78		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403053 - B4C1210										
Initial Cal Blank (2403053-ICB1) Continue				Prepared & Analyzed: 03/19/24						
Nickel	-5.30		ng/l							U
Selenium	5.57		ng/l							LJ, QX
Thallium	0.906		ng/l							
Vanadium	-27.8		ng/l							U
Zinc	-109		ng/l							U
Initial Cal Check (2403053-ICV1)				Prepared & Analyzed: 03/19/24						
Antimony	20000		ng/l	20000		100	90-110			LJ, QX
Arsenic	20200		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	4150		ng/l	5000.0		83.0	90-110			LJ, QX
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	49900		ng/l	50000		99.7	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Interference Check A (2403053-IFA1)				Prepared & Analyzed: 03/19/24						
Antimony	0.00		ng/l				80-120			LJ, QX, U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			LJ, QX, 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	300000		ng/l	300000		100	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403053 - B4C1210										
Interference Check A (2403053-IFA1) Cor					Prepared & Analyzed: 03/19/24					
Zinc	0.00		ng/l				80-120			U
Interference Check B (2403053-IFB1)					Prepared & Analyzed: 03/19/24					
Antimony	20900		ng/l	20000		105	80-120			LJ, QX
Arsenic	20800		ng/l	20000		104	80-120			
Barium	210000		ng/l	200000		105	80-120			
Beryllium	4410		ng/l	5000.0		88.1	80-120			LJ, QX
Cadmium	19700		ng/l	20000		98.7	80-120			
Chromium	242000		ng/l	240000		101	80-120			
Cobalt	49400		ng/l	50000		98.7	80-120			
Copper	1.90E6		ng/l	2.0000E6		95.1	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	516000		ng/l	500000		103	80-120			
Molybdenum	352000		ng/l	350000		101	80-120			
Nickel	116000		ng/l	120000		96.5	80-120			
Selenium	20000		ng/l	20000		99.9	80-120			LJ, QX
Thallium	517		ng/l	500.00		103	80-120			
Vanadium	18600		ng/l	20000		92.8	80-120			
Zinc	469000		ng/l	500000		93.7	80-120			
Batch B4C1210 - ICP-MS Extraction										
Blank (B4C1210-BLK1)					Prepared: 03/12/24 Analyzed: 03/14/24					
Antimony	ND	0.0386	ng/m³ Air							U, SL
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, B, LB, QB-04
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4C1210-BS1)					Prepared: 03/12/24 Analyzed: 03/14/24					

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4C1210 - ICP-MS Extraction										
LCS (B4C1210-BS1) Continued				Prepared: 03/12/24 Analyzed: 03/14/24						
Antimony	0.873	0.0386	ng/m³ Air	1.3829		63.1	80-120			SL
Arsenic	2.62	0.00937	ng/m³ Air	2.7658		94.6	80-120			
Barium	27.1	1.07	ng/m³ Air	27.658		98.0	80-120			
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.8	80-120			
Cadmium	1.34	0.0741	ng/m³ Air	1.3829		96.7	80-120			
Chromium	14.5	2.21	ng/m³ Air	13.829		105	80-120			
Cobalt	1.30	0.0436	ng/m³ Air	1.3829		94.3	80-120			
Copper	28.6	2.63	ng/m³ Air	27.658		103	80-120			
Lead	13.0	0.214	ng/m³ Air	13.829		94.2	80-120			
Manganese	8.25	1.89	ng/m³ Air	8.2975		99.4	80-120			
Molybdenum	1.37	0.359	ng/m³ Air	1.3829		99.3	80-120			
Nickel	2.80	0.652	ng/m³ Air	2.7658		101	80-120			
Selenium	2.64	0.00896	ng/m³ Air	2.7658		95.4	80-120			
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		95.9	80-120			B, LB, QB-04
Vanadium	2.60	0.0529	ng/m³ Air	2.7658		94.0	80-120			
Zinc	115	76.8	ng/m³ Air	82.975		139	80-120			
LCS (B4C1210-BS2)				Prepared: 03/12/24 Analyzed: 03/15/24						
Antimony	0.954	0.0386	ng/m³ Air	1.3829		69.0	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.3	80-120			
Barium	27.7	1.07	ng/m³ Air	27.658		100	80-120			
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.4	80-120			
Cadmium	1.37	0.0741	ng/m³ Air	1.3829		99.4	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		107	80-120			
Cobalt	1.34	0.0436	ng/m³ Air	1.3829		96.5	80-120			
Copper	29.6	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.9	80-120			
Manganese	8.44	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.41	0.359	ng/m³ Air	1.3829		102	80-120			
Nickel	2.92	0.652	ng/m³ Air	2.7658		105	80-120			
Selenium	2.69	0.00896	ng/m³ Air	2.7658		97.3	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.4	80-120			B, LB, QB-04
Vanadium	2.67	0.0529	ng/m³ Air	2.7658		96.5	80-120			
Zinc	117	76.8	ng/m³ Air	82.975		141	80-120			
Duplicate (B4C1210-DUP1)		**Source: 4031151-17**		Prepared: 03/12/24 Analyzed: 03/14/24						
Antimony	0.0345	0.0311	ng/m³ Air		0.0326			5.85	10	SL
Arsenic	0.147	0.00754	ng/m³ Air		0.150			1.71	10	
Barium	1.72	0.861	ng/m³ Air		1.63			5.43	10	
Beryllium	0.00736	0.00258	ng/m³ Air		0.00730			0.727	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4C1210 - ICP-MS Extraction										
Duplicate (B4C1210-DUP1) Continued			**Source: 4031151-17**		Prepared: 03/12/24 Analyzed: 03/14/24					
Cadmium	ND	0.0596	ng/m³ Air		ND				10	U
Chromium	1.84	1.78	ng/m³ Air		1.87			1.37	10	
Cobalt	0.139	0.0351	ng/m³ Air		0.130			6.32	10	
Copper	38.4	2.12	ng/m³ Air		36.0			6.47	10	
Lead	0.434	0.172	ng/m³ Air		0.416			4.21	10	
Manganese	3.82	1.52	ng/m³ Air		3.65			4.63	10	
Molybdenum	2.46	0.289	ng/m³ Air		2.35			4.84	10	
Nickel	0.685	0.525	ng/m³ Air		0.660			3.84	10	
Selenium	0.133	0.00721	ng/m³ Air		0.124			6.53	10	
Thallium	0.00129	4.74E-4	ng/m³ Air		0.00130			1.41	10	B, LB, QB-04
Vanadium	0.342	0.0426	ng/m³ Air		0.335			2.18	10	
Zinc	ND	61.8	ng/m³ Air		ND				10	U
Duplicate (B4C1210-DUP2)			**Source: 4031151-20**		Prepared: 03/12/24 Analyzed: 03/15/24					
Antimony	0.131	0.0305	ng/m³ Air		0.124			5.49	10	SL
Arsenic	0.500	0.00740	ng/m³ Air		0.481			3.90	10	
Barium	4.30	0.845	ng/m³ Air		4.13			3.95	10	
Beryllium	0.00986	0.00253	ng/m³ Air		0.0104			5.70	10	
Cadmium	ND	0.0585	ng/m³ Air		ND				10	U
Chromium	2.19	1.74	ng/m³ Air		2.15			1.66	10	
Cobalt	0.323	0.0344	ng/m³ Air		0.294			9.40	10	
Copper	39.2	2.08	ng/m³ Air		36.9			6.06	10	
Lead	0.971	0.169	ng/m³ Air		0.931			4.21	10	
Manganese	8.77	1.49	ng/m³ Air		8.22			6.54	10	
Molybdenum	2.00	0.283	ng/m³ Air		1.95			2.58	10	
Nickel	1.09	0.515	ng/m³ Air		1.03			5.92	10	
Selenium	0.166	0.00707	ng/m³ Air		0.155			6.58	10	
Thallium	8.67E-4	4.65E-4	ng/m³ Air		9.12E-4			5.01	10	B, LB, QB-04
Vanadium	1.02	0.0418	ng/m³ Air		0.973			4.26	10	
Zinc	ND	60.6	ng/m³ Air		ND				10	U
Duplicate (B4C1210-DUP3)			**Source: 4031151-06**		Prepared: 03/12/24 Analyzed: 03/15/24					
Antimony	0.0346	0.0319	ng/m³ Air		0.0342			1.20	10	SL
Arsenic	0.755	0.00773	ng/m³ Air		0.752			0.385	10	
Barium	2.48	0.883	ng/m³ Air		2.44			1.57	10	
Beryllium	0.00711	0.00264	ng/m³ Air		0.00695			2.34	10	
Cadmium	ND	0.0611	ng/m³ Air		ND				10	U
Chromium	2.25	1.82	ng/m³ Air		2.23			0.871	10	
Cobalt	0.298	0.0360	ng/m³ Air		0.294			1.39	10	
Copper	55.1	2.17	ng/m³ Air		54.8			0.445	10	

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FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
SUBMITTED: 03/11/24
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 B4C1210 - ICP-MS Extraction										
Duplicate (B4C1210-DUP3) Continued		**Source: 4031151-06**		Prepared: 03/12/24 Analyzed: 03/15/24						
Lead	0.371	0.177	ng/m³ Air		0.366			1.39	10	
Manganese	7.46	1.56	ng/m³ Air		7.33			1.77	10	
Molybdenum	2.72	0.296	ng/m³ Air		2.67			2.06	10	
Nickel	0.855	0.538	ng/m³ Air		0.844			1.31	10	
Selenium	0.137	0.00739	ng/m³ Air		0.145			5.93	10	
Thallium	0.00112	4.86E-4	ng/m³ Air		0.00106			5.31	10	B, LB, QB-04
Vanadium	0.752	0.0437	ng/m³ Air		0.736			2.15	10	
Zinc	ND	63.4	ng/m³ Air		ND				10	U
Duplicate (B4C1210-DUP4)		**Source: 4031151-27**		Prepared: 03/12/24 Analyzed: 03/15/24						
Antimony	0.0526	0.0310	ng/m³ Air		0.0500			5.19	10	SL
Arsenic	0.207	0.00754	ng/m³ Air		0.206			0.670	10	
Barium	2.46	0.861	ng/m³ Air		2.37			3.56	10	
Beryllium	0.00690	0.00257	ng/m³ Air		0.00732			5.90	10	
Cadmium	ND	0.0596	ng/m³ Air		ND				10	U
Chromium	2.18	1.78	ng/m³ Air		2.09			4.47	10	
Cobalt	0.207	0.0351	ng/m³ Air		0.202			2.52	10	
Copper	19.1	2.12	ng/m³ Air		18.5			2.83	10	
Lead	0.563	0.172	ng/m³ Air		0.549			2.63	10	
Manganese	6.23	1.52	ng/m³ Air		6.05			3.03	10	
Molybdenum	1.28	0.289	ng/m³ Air		1.24			3.37	10	
Nickel	0.725	0.524	ng/m³ Air		0.705			2.83	10	
Selenium	0.145	0.00721	ng/m³ Air		0.147			1.01	10	
Thallium	0.00102	4.74E-4	ng/m³ Air		9.93E-4			2.57	10	B, LB, QB-04
Vanadium	0.560	0.0426	ng/m³ Air		0.543			3.16	10	
Zinc	ND	61.8	ng/m³ Air		ND				10	U, LJ, QX
Matrix Spike (B4C1210-MS1)		**Source: 4031151-17**		Prepared: 03/12/24 Analyzed: 03/14/24						
Antimony	0.447	0.0311	ng/m³ Air	1.1131	0.0326	37.3	80-120			SL
Arsenic	2.27	0.00754	ng/m³ Air	2.2263	0.150	95.1	80-120			
Barium	23.2	0.861	ng/m³ Air	22.263	1.63	96.9	80-120			
Beryllium	1.13	0.00258	ng/m³ Air	1.1131	0.00730	101	80-120			
Cadmium	1.09	0.0596	ng/m³ Air	1.1131	ND	98.1	80-120			
Chromium	13.4	1.78	ng/m³ Air	11.131	1.87	104	80-120			
Cobalt	1.20	0.0351	ng/m³ Air	1.1131	0.130	96.2	80-120			
Copper	59.3	2.12	ng/m³ Air	22.263	36.0	105	80-120			
Lead	11.2	0.172	ng/m³ Air	11.131	0.416	97.3	80-120			
Manganese	10.4	1.52	ng/m³ Air	6.6788	3.65	101	80-120			
Molybdenum	3.47	0.289	ng/m³ Air	1.1131	2.35	101	80-120			
Nickel	3.19	0.525	ng/m³ Air	2.2263	0.660	114	80-120			

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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 B4C1210 - ICP-MS Extraction										
Matrix Spike (B4C1210-MS1) Continued Source: 4031151-17 Prepared: 03/12/24 Analyzed: 03/14/24										
Selenium	2.23	0.00721	ng/m³ Air	2.2263	0.124	94.5	80-120			
Thallium	0.109	4.74E-4	ng/m³ Air	0.11131	0.00130	97.0	80-120			B, LB, QB-04
Vanadium	2.40	0.0426	ng/m³ Air	2.2263	0.335	93.0	80-120			
Zinc	81.3	61.8	ng/m³ Air	66.788	ND	122	80-120			
Matrix Spike (B4C1210-MS2) Source: 4031151-20 Prepared: 03/12/24 Analyzed: 03/15/24										
Antimony	0.576	0.0305	ng/m³ Air	1.0915	0.124	41.4	80-120			SL
Arsenic	2.58	0.00740	ng/m³ Air	2.1829	0.481	96.2	80-120			
Barium	25.8	0.845	ng/m³ Air	21.829	4.13	99.2	80-120			
Beryllium	1.10	0.00253	ng/m³ Air	1.0915	0.0104	99.8	80-120			
Cadmium	1.09	0.0585	ng/m³ Air	1.0915	ND	99.5	80-120			
Chromium	12.9	1.74	ng/m³ Air	10.915	2.15	98.5	80-120			
Cobalt	1.37	0.0344	ng/m³ Air	1.0915	0.294	98.3	80-120			
Copper	59.5	2.08	ng/m³ Air	21.829	36.9	104	80-120			
Lead	11.8	0.169	ng/m³ Air	10.915	0.931	99.3	80-120			
Manganese	15.1	1.49	ng/m³ Air	6.5488	8.22	105	80-120			
Molybdenum	3.03	0.283	ng/m³ Air	1.0915	1.95	99.0	80-120			
Nickel	3.22	0.515	ng/m³ Air	2.1829	1.03	100	80-120			
Selenium	2.26	0.00707	ng/m³ Air	2.1829	0.155	96.5	80-120			
Thallium	0.109	4.65E-4	ng/m³ Air	0.10915	9.12E-4	98.8	80-120			B, LB, QB-04
Vanadium	3.02	0.0418	ng/m³ Air	2.1829	0.973	94.0	80-120			
Zinc	92.7	60.6	ng/m³ Air	65.488	ND	142	80-120			
Matrix Spike Dup (B4C1210-MSD1) Source: 4031151-17 Prepared: 03/12/24 Analyzed: 03/14/24										
Antimony	0.433	0.0311	ng/m³ Air	1.1131	0.0326	36.0	80-120	3.24	20	SL
Arsenic	2.22	0.00754	ng/m³ Air	2.2263	0.150	93.0	80-120	2.08	20	
Barium	22.8	0.861	ng/m³ Air	22.263	1.63	95.0	80-120	1.80	20	
Beryllium	1.15	0.00258	ng/m³ Air	1.1131	0.00730	102	80-120	1.46	20	
Cadmium	1.08	0.0596	ng/m³ Air	1.1131	ND	97.1	80-120	0.995	20	
Chromium	12.5	1.78	ng/m³ Air	11.131	1.87	95.8	80-120	7.04	20	
Cobalt	1.18	0.0351	ng/m³ Air	1.1131	0.130	94.2	80-120	1.85	20	
Copper	56.8	2.12	ng/m³ Air	22.263	36.0	93.5	80-120	4.39	20	
Lead	11.1	0.172	ng/m³ Air	11.131	0.416	96.2	80-120	1.06	20	
Manganese	10.1	1.52	ng/m³ Air	6.6788	3.65	96.1	80-120	3.12	20	
Molybdenum	3.32	0.289	ng/m³ Air	1.1131	2.35	87.1	80-120	4.58	20	
Nickel	2.73	0.525	ng/m³ Air	2.2263	0.660	92.9	80-120	15.7	20	
Selenium	2.21	0.00721	ng/m³ Air	2.2263	0.124	93.9	80-120	0.664	20	
Thallium	0.106	4.74E-4	ng/m³ Air	0.11131	0.00130	94.4	80-120	2.65	20	B, LB, QB-04
Vanadium	2.36	0.0426	ng/m³ Air	2.2263	0.335	91.1	80-120	1.74	20	
Zinc	77.8	61.8	ng/m³ Air	66.788	ND	117	80-120	4.29	20	

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FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
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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 B4C1210 - ICP-MS Extraction										
Matrix Spike Dup (B4C1210-MSD2)		**Source: 4031151-20**		Prepared: 03/12/24 Analyzed: 03/15/24						
Antimony	0.541	0.0305	ng/m³ Air	1.0915	0.124	38.2	80-120	6.34	20	SL
Arsenic	2.58	0.00740	ng/m³ Air	2.1829	0.481	96.0	80-120	0.163	20	
Barium	25.4	0.845	ng/m³ Air	21.829	4.13	97.6	80-120	1.37	20	
Beryllium	1.11	0.00253	ng/m³ Air	1.0915	0.0104	101	80-120	1.01	20	
Cadmium	1.08	0.0585	ng/m³ Air	1.0915	ND	99.1	80-120	0.384	20	
Chromium	12.9	1.74	ng/m³ Air	10.915	2.15	98.8	80-120	0.252	20	
Cobalt	1.36	0.0344	ng/m³ Air	1.0915	0.294	97.6	80-120	0.499	20	
Copper	60.0	2.08	ng/m³ Air	21.829	36.9	106	80-120	0.776	20	
Lead	11.7	0.169	ng/m³ Air	10.915	0.931	99.0	80-120	0.288	20	
Manganese	15.2	1.49	ng/m³ Air	6.5488	8.22	106	80-120	0.478	20	
Molybdenum	2.96	0.283	ng/m³ Air	1.0915	1.95	92.6	80-120	2.35	20	
Nickel	3.21	0.515	ng/m³ Air	2.1829	1.03	99.7	80-120	0.319	20	
Selenium	2.28	0.00707	ng/m³ Air	2.1829	0.155	97.4	80-120	0.890	20	
Thallium	0.109	4.65E-4	ng/m³ Air	0.10915	9.12E-4	99.0	80-120	0.246	20	B, LB, QB-04
Vanadium	3.04	0.0418	ng/m³ Air	2.1829	0.973	94.5	80-120	0.369	20	
Zinc	90.8	60.6	ng/m³ Air	65.488	ND	139	80-120	2.12	20	
Post Spike (B4C1210-PS1)		**Source: 4031151-17**		Prepared: 03/12/24 Analyzed: 03/14/24						
Antimony	0.252	0.0311	ng/m³ Air	0.22263	0.0326	98.4	75-125			SL
Arsenic	1.23	0.00754	ng/m³ Air	1.1131	0.150	97.4	75-125			
Barium	3.73	0.861	ng/m³ Air	2.2263	1.63	94.6	75-125			
Beryllium	0.233	0.00258	ng/m³ Air	0.22263	0.00730	102	75-125			
Cadmium	0.122	0.0596	ng/m³ Air	0.11131	ND	110	75-125			
Chromium	2.96	1.78	ng/m³ Air	1.1131	1.87	98.1	75-125			
Cobalt	0.348	0.0351	ng/m³ Air	0.22263	0.130	97.6	75-125			
Copper	48.0	2.12	ng/m³ Air	11.131	36.0	108	75-125			
Lead	22.3	0.172	ng/m³ Air	22.263	0.416	98.1	75-125			
Manganese	5.85	1.52	ng/m³ Air	2.2263	3.65	98.9	75-125			
Molybdenum	3.39	0.289	ng/m³ Air	1.1131	2.35	94.1	75-125			
Nickel	2.83	0.525	ng/m³ Air	2.2263	0.660	97.4	75-125			
Selenium	1.20	0.00721	ng/m³ Air	1.1131	0.124	96.7	75-125			
Thallium	0.0582	4.74E-4	ng/m³ Air	5.5657E-2	0.00130	102	75-125			B, LB, QB-04
Vanadium	1.37	0.0426	ng/m³ Air	1.1131	0.335	92.8	75-125			
Zinc	ND	61.8	ng/m³ Air	22.263	ND		75-125			U
Post Spike (B4C1210-PS2)		**Source: 4031151-20**		Prepared: 03/12/24 Analyzed: 03/15/24						
Antimony	0.346	0.0305	ng/m³ Air	0.21829	0.124	102	75-125			SL
Arsenic	1.56	0.00740	ng/m³ Air	1.0915	0.481	98.8	75-125			
Barium	6.21	0.845	ng/m³ Air	2.1829	4.13	95.2	75-125			
Beryllium	0.234	0.00253	ng/m³ Air	0.21829	0.0104	102	75-125			

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FILE #: 4205.00.003.001
REPORTED: 03/21/24 15:20
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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 B4C1210 - ICP-MS Extraction										
Post Spike (B4C1210-PS2) Continued		**Source: 4031151-20**		Prepared: 03/12/24 Analyzed: 03/15/24						
Cadmium	0.124	0.0585	ng/m³ Air	0.10915	ND	114	75-125			
Chromium	3.21	1.74	ng/m³ Air	1.0915	2.15	97.4	75-125			
Cobalt	0.514	0.0344	ng/m³ Air	0.21829	0.294	101	75-125			
Copper	48.9	2.08	ng/m³ Air	10.915	36.9	110	75-125			
Lead	22.6	0.169	ng/m³ Air	21.829	0.931	99.3	75-125			
Manganese	10.5	1.49	ng/m³ Air	2.1829	8.22	104	75-125			
Molybdenum	3.01	0.283	ng/m³ Air	1.0915	1.95	96.9	75-125			
Nickel	3.21	0.515	ng/m³ Air	2.1829	1.03	99.8	75-125			
Selenium	1.24	0.00707	ng/m³ Air	1.0915	0.155	99.8	75-125			
Thallium	0.0569	4.65E-4	ng/m³ Air	5.4574E-2	9.12E-4	103	75-125			B, LB, QB-04
Vanadium	1.97	0.0418	ng/m³ Air	1.0915	0.973	91.4	75-125			
Zinc	ND	60.6	ng/m³ Air	21.829	ND		75-125			U
Dilution Check (B4C1210-SRL1)		**Source: 4031151-17**		Prepared: 03/12/24 Analyzed: 03/14/24						
Antimony	ND	0.155	ng/m³ Air		ND				10	U, SL
Arsenic	0.161	0.0377	ng/m³ Air		0.150			7.05	10	
Barium	ND	4.31	ng/m³ Air		ND				10	U
Beryllium	ND	0.0129	ng/m³ Air		ND				10	U
Cadmium	ND	0.298	ng/m³ Air		ND				10	U
Chromium	ND	8.89	ng/m³ Air		ND				10	U
Cobalt	ND	0.175	ng/m³ Air		ND				10	U
Copper	36.4	10.6	ng/m³ Air		36.0			1.16	10	
Lead	ND	0.861	ng/m³ Air		ND				10	U
Manganese	ND	7.61	ng/m³ Air		ND				10	U
Molybdenum	2.30	1.44	ng/m³ Air		2.35			1.81	10	
Nickel	ND	2.62	ng/m³ Air		ND				10	U
Selenium	0.122	0.0361	ng/m³ Air		0.124			1.86	10	
Thallium	0.00252	0.00237	ng/m³ Air		ND			63.4	10	B, LB, QB-04
Vanadium	0.324	0.213	ng/m³ Air		0.335			3.29	10	
Zinc	ND	309	ng/m³ Air		ND				10	U
Dilution Check (B4C1210-SRL2)		**Source: 4031151-20**		Prepared: 03/12/24 Analyzed: 03/15/24						
Antimony	ND	0.152	ng/m³ Air		ND				10	U, SL
Arsenic	0.496	0.0370	ng/m³ Air		0.481			3.18	10	
Barium	4.25	4.22	ng/m³ Air		ND			2.82	10	
Beryllium	ND	0.0126	ng/m³ Air		ND				10	U
Cadmium	ND	0.292	ng/m³ Air		ND				10	U
Chromium	ND	8.72	ng/m³ Air		ND				10	U
Cobalt	0.304	0.172	ng/m³ Air		0.294			3.36	10	
Copper	38.2	10.4	ng/m³ Air		36.9			3.56	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 B4C1210 - ICP-MS Extraction										
Dilution Check (B4C1210-SRL2) Continue				**Source: 4031151-20**		Prepared: 03/12/24		Analyzed: 03/15/24		
Lead	0.915	0.845	ng/m³ Air		0.931			1.64	10	
Manganese	8.57	7.46	ng/m³ Air		8.22			4.24	10	
Molybdenum	2.04	1.42	ng/m³ Air		1.95			4.50	10	
Nickel	ND	2.57	ng/m³ Air		ND				10	U
Selenium	0.164	0.0354	ng/m³ Air		0.155			5.54	10	
Thallium	ND	0.00232	ng/m³ Air		ND				10	U, B, LB, QB-04
Vanadium	0.953	0.209	ng/m³ Air		0.973			2.00	10	
Zinc	ND	303	ng/m³ Air		ND				10	U, LJ, QX
Dilution Check (B4C1210-SRL3)				**Source: 4031151-19R**		Prepared: 03/12/24		Analyzed: 03/19/24		
Antimony	ND	0.160	ng/m³ Air		ND				10	U, LJ, QX
Arsenic	0.559	0.0388	ng/m³ Air		0.563			0.726	10	
Barium	ND	4.43	ng/m³ Air		ND				10	U
Beryllium	ND	0.0133	ng/m³ Air		ND				10	U, LJ, QX
Cadmium	ND	0.307	ng/m³ Air		ND				10	U
Chromium	131	9.15	ng/m³ Air		133			1.60	10	
Cobalt	1.62	0.181	ng/m³ Air		1.63			0.395	10	
Copper	95.4	10.9	ng/m³ Air		95.6			0.286	10	
Lead	0.907	0.886	ng/m³ Air		0.915			0.825	10	
Manganese	12.4	7.83	ng/m³ Air		12.5			0.499	10	
Molybdenum	4.71	1.49	ng/m³ Air		4.72			0.190	10	
Nickel	53.8	2.70	ng/m³ Air		54.4			1.20	10	
Selenium	0.160	0.0371	ng/m³ Air		0.143			11.8	10	LJ, QX
Thallium	ND	0.00244	ng/m³ Air		ND				10	U, QB-04
Vanadium	1.24	0.219	ng/m³ Air		1.29			4.30	10	
Zinc	ND	318	ng/m³ Air		ND				10	U

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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: 03/21/24 15:20
SUBMITTED: 03/11/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
LB	Lab blank value above acceptable limit.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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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 3/26/2024 and Shanna Vasser 3/26/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 2/29/2024 – 3/6/2024
Report No: 4301151

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-030224-HM and cobalt in MFL-FB01-030424-HM.

Notes:

2. The laboratory reported that MFL-AM03-030124-HM, MFL-AM04-030224-HM, MFL-AM04-030324-HM, MFL-AM03-030524-HM were nonhomogeneous.

7. MFL-AM01-030424-HM was analyzed at a two-fold dilution for chromium and nickel.

   Report was revised on March 21, 2024 to add the dilution check results. A five-fold dilution check was performed on MFL-AM03-030324-HM/MS/MSD, MFL-AM01-030424-HM, and MFL-AM02-030424-HM two-fold dilution for all analytes.

   Report was revised on March 25, 2024 to match the updated volumes on the revised CoC.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

August 13, 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 03/11/24 11:48 through 08/05/24 10:30.

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: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-030424-HM	4031151-19	Air	03/04/24 23:59	03/11/24 11:48

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[redacted]

[redacted] Research Group

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[redacted]

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SITE CODE: Lahaina fires

Description: MFL-AM01-030424-HM
Matrix: Air
Lab ID: 4031151-19RE2
Sample Volume: 1964.168 m³
Filter ID:
Sampled: 03/04/24 23:59
Received: 03/11/24 11:48
Analysis Date: 08/07/24 11:57

Comments: Q9554734 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Nickel	**7440-02-0**	**67.8**	D	**1.08**

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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 2408018 - B4H0605										
Calibration Blank (2408018-CCB1)				Prepared & Analyzed: 08/06/24						
Antimony	0.771		ng/l							
Arsenic	4.25		ng/l							
Barium	0.994		ng/l							
Beryllium	-0.738		ng/l							U
Cadmium	0.136		ng/l							
Chromium	1.46		ng/l							
Cobalt	-0.0108		ng/l							U
Copper	163		ng/l							
Lead	2.17		ng/l							
Manganese	2.24		ng/l							
Molybdenum	13.8		ng/l							
Nickel	1.00		ng/l							
Selenium	4.86		ng/l							
Thallium	0.774		ng/l							
Vanadium	-82.3		ng/l							U
Zinc	-173		ng/l							U
Calibration Blank (2408018-CCB2)				Prepared & Analyzed: 08/06/24						
Antimony	0.678		ng/l							
Arsenic	2.32		ng/l							
Barium	3.43		ng/l							
Beryllium	-0.479		ng/l							U
Cadmium	0.339		ng/l							
Chromium	3.01		ng/l							
Cobalt	0.656		ng/l							
Copper	104		ng/l							
Lead	3.06		ng/l							
Manganese	6.45		ng/l							
Molybdenum	-5.73		ng/l							U
Nickel	3.70		ng/l							
Selenium	15.2		ng/l							
Thallium	0.788		ng/l							
Vanadium	-81.5		ng/l							U
Zinc	-206		ng/l							U
Calibration Blank (2408018-CCB3)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.632		ng/l							
Arsenic	4.14		ng/l							
Barium	4.78		ng/l							
Beryllium	-0.779		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 2408018 - B4H0605										
Calibration Blank (2408018-CCB3) Contin				Prepared: 08/06/24 Analyzed: 08/07/24						
Cadmium	0.0255		ng/l							
Chromium	3.86		ng/l							
Cobalt	0.429		ng/l							
Copper	86.3		ng/l							
Lead	3.12		ng/l							
Manganese	6.08		ng/l							
Molybdenum	-6.84		ng/l							U
Nickel	2.48		ng/l							
Selenium	6.77		ng/l							
Thallium	0.954		ng/l							
Vanadium	-87.9		ng/l							U
Zinc	-268		ng/l							U
Calibration Blank (2408018-CCB4)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.404		ng/l							
Arsenic	8.40		ng/l							
Barium	3.33		ng/l							
Beryllium	-1.25		ng/l							U
Cadmium	0.127		ng/l							
Chromium	2.95		ng/l							
Cobalt	0.468		ng/l							
Copper	57.4		ng/l							
Lead	2.31		ng/l							
Manganese	3.77		ng/l							
Molybdenum	-6.35		ng/l							U
Nickel	4.60		ng/l							
Selenium	19.2		ng/l							
Thallium	0.835		ng/l							
Vanadium	-88.6		ng/l							U
Zinc	-265		ng/l							U
Calibration Blank (2408018-CCB5)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.264		ng/l							
Arsenic	6.22		ng/l							
Barium	2.28		ng/l							
Beryllium	-1.23		ng/l							U
Cadmium	0.388		ng/l							
Chromium	4.18		ng/l							
Cobalt	0.381		ng/l							
Copper	73.1		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Blank (2408018-CCB5) Contin				Prepared: 08/06/24 Analyzed: 08/07/24						
Lead	2.52		ng/l							
Manganese	6.60		ng/l							
Molybdenum	-5.73		ng/l							U
Nickel	6.85		ng/l							
Selenium	4.45		ng/l							
Thallium	1.03		ng/l							
Vanadium	-90.0		ng/l							U
Zinc	-267		ng/l							U
Calibration Blank (2408018-CCB6)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.325		ng/l							
Arsenic	8.16		ng/l							
Barium	1.83		ng/l							
Beryllium	-1.44		ng/l							U
Cadmium	0.230		ng/l							
Chromium	4.47		ng/l							
Cobalt	0.528		ng/l							
Copper	57.0		ng/l							
Lead	1.91		ng/l							
Manganese	5.87		ng/l							
Molybdenum	-7.25		ng/l							U
Nickel	5.81		ng/l							
Selenium	-5.45		ng/l							U
Thallium	0.980		ng/l							
Vanadium	-90.1		ng/l							U
Zinc	-273		ng/l							U
Calibration Blank (2408018-CCB7)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	0.515		ng/l							
Arsenic	10.6		ng/l							
Barium	2.89		ng/l							
Beryllium	-1.50		ng/l							U
Cadmium	0.270		ng/l							
Chromium	4.26		ng/l							
Cobalt	0.499		ng/l							
Copper	74.2		ng/l							
Lead	1.61		ng/l							
Manganese	4.14		ng/l							
Molybdenum	-5.28		ng/l							U
Nickel	5.48		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Blank (2408018-CCB7) Contin				Prepared: 08/06/24 Analyzed: 08/07/24						
Selenium	-0.786		ng/l							U
Thallium	1.03		ng/l							
Vanadium	-98.8		ng/l							U
Zinc	-276		ng/l							U
Calibration Check (2408018-CCV1)				Prepared & Analyzed: 08/06/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.5	90-110			
Manganese	498000		ng/l	500000		99.7	90-110			
Molybdenum	50000		ng/l	50000		99.9	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	499		ng/l	500.00		99.9	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2408018-CCV2)				Prepared & Analyzed: 08/06/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	510000		ng/l	500000		102	90-110			

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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 2408018 - B4H0605										
Calibration Check (2408018-CCV3)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		101	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	492		ng/l	500.00		98.3	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2408018-CCV4)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	52400		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	520000		ng/l	500000		104	90-110			
Molybdenum	52500		ng/l	50000		105	90-110			
Nickel	127000		ng/l	120000		105	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	502		ng/l	500.00		100	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2408018-CCV5)				Prepared: 08/06/24 Analyzed: 08/07/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	5200		ng/l	5000.0		104	90-110			

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SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Calibration Check (2408018-CCV5) Contin					Prepared: 08/06/24 Analyzed: 08/07/24					
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	476		ng/l	500.00		95.1	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2408018-CCV6)					Prepared: 08/06/24 Analyzed: 08/07/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20900		ng/l	20000		104	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5270		ng/l	5000.0		105	90-110			
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	52500		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	205000		ng/l	200000		103	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	53200		ng/l	50000		106	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	489		ng/l	500.00		97.9	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2408018-CCV7)					Prepared: 08/06/24 Analyzed: 08/07/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5220		ng/l	5000.0		104	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			

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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: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
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 2408018 - B4H0605										
Calibration Check (2408018-CCV7) Contin				Prepared: 08/06/24 Analyzed: 08/07/24						
Lead	206000		ng/l	200000		103	90-110			
Manganese	525000		ng/l	500000		105	90-110			
Molybdenum	54000		ng/l	50000		108	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	524000		ng/l	500000		105	90-110			
High Cal Check (2408018-HCV1)				Prepared & Analyzed: 08/06/24						
Antimony	39900		ng/l	40000		99.8	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	401000		ng/l	400000		100	95-105			
Beryllium	9960		ng/l	10000		99.6	95-105			
Cadmium	40000		ng/l	40000		99.9	95-105			
Chromium	483000		ng/l	480000		101	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.00E6		ng/l	4.0000E6		100	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	1.01E6		ng/l	1.0000E6		101	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Selenium	40000		ng/l	40000		99.9	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40300		ng/l	40000		101	95-105			
Zinc	998000		ng/l	1.0000E6		99.8	95-105			
Initial Cal Blank (2408018-ICB1)				Prepared & Analyzed: 08/06/24						
Antimony	4.43		ng/l							
Arsenic	-0.793		ng/l							U
Barium	6.15		ng/l							
Beryllium	-0.0591		ng/l							U
Cadmium	0.420		ng/l							
Chromium	8.62		ng/l							
Cobalt	1.43		ng/l							
Copper	282		ng/l							
Lead	23.7		ng/l							
Manganese	19.8		ng/l							
Molybdenum	26.7		ng/l							
Nickel	3.70		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2408018 - B4H0605										
Initial Cal Blank (2408018-ICB1) Continu				Prepared & Analyzed: 08/06/24						
Selenium	5.90		ng/l							
Thallium	0.775		ng/l							
Vanadium	-88.7		ng/l							U
Zinc	-201		ng/l							U
Initial Cal Check (2408018-ICV1)				Prepared & Analyzed: 08/06/24						
Antimony	19500		ng/l	20000		97.6	90-110			
Arsenic	19500		ng/l	20000		97.6	90-110			
Barium	194000		ng/l	200000		96.9	90-110			
Beryllium	4860		ng/l	5000.0		97.2	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	48600		ng/l	50000		97.2	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.6	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49600		ng/l	50000		99.2	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Vanadium	19600		ng/l	20000		98.1	90-110			
Zinc	506000		ng/l	500000		101	90-110			
Interference Check A (2408018-IFA1)				Prepared & Analyzed: 08/06/24						
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	318000		ng/l	300000		106	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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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 2408018 - B4H0605										
Interference Check B (2408018-IFB1)				Prepared & Analyzed: 08/06/24						
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20500		ng/l	20000		103	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4920		ng/l	5000.0		98.4	80-120			
Cadmium	19800		ng/l	20000		98.8	80-120			
Chromium	232000		ng/l	240000		96.8	80-120			
Cobalt	50000		ng/l	50000		100	80-120			
Copper	1.93E6		ng/l	2.0000E6		96.5	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	499000		ng/l	500000		99.8	80-120			
Molybdenum	370000		ng/l	350000		106	80-120			
Nickel	117000		ng/l	120000		97.6	80-120			
Selenium	19000		ng/l	20000		95.1	80-120			
Thallium	520		ng/l	500.00		104	80-120			
Vanadium	18700		ng/l	20000		93.4	80-120			
Zinc	470000		ng/l	500000		93.9	80-120			
Batch B4H0605 - ICP-MS Extraction										
Blank (B4H0605-BLK1)				Prepared & Analyzed: 08/06/24						
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
Blank (B4H0605-BLK2)				Prepared & Analyzed: 08/06/24						
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

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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 B4H0605 - ICP-MS Extraction										
Blank (B4H0605-BLK2) Continued					Prepared & Analyzed: 08/06/24					
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 (B4H0605-BS1)					Prepared & Analyzed: 08/06/24					
Antimony	0.530	0.0386	ng/m³ Air	1.3829		38.4	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.4	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		96.7	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.6	80-120			
Chromium	15.7	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.7	80-120			
Copper	29.0	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		100	80-120			
Manganese	8.37	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.63	0.359	ng/m³ Air	1.3829		118	80-120			
Nickel	3.11	0.652	ng/m³ Air	2.7658		112	80-120			
Selenium	2.70	0.00896	ng/m³ Air	2.7658		97.6	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.7	80-120			
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		99.2	80-120			
Zinc	87.5	76.8	ng/m³ Air	82.975		105	80-120			
LCS (B4H0605-BS2)					Prepared & Analyzed: 08/06/24					
Antimony	0.526	0.0386	ng/m³ Air	1.3829		38.1	80-120			SL
Arsenic	2.76	0.00937	ng/m³ Air	2.7658		99.9	80-120			
Barium	29.2	1.07	ng/m³ Air	27.658		105	80-120			
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		96.2	80-120			
Cadmium	1.41	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	16.2	2.21	ng/m³ Air	13.829		117	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			

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REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
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 B4H0605 - ICP-MS Extraction										
LCS (B4H0605-BS2) Continued					Prepared & Analyzed: 08/06/24					
Copper	29.8	2.63	ng/m³ Air	27.658		108	80-120			
Lead	14.1	0.214	ng/m³ Air	13.829		102	80-120			
Manganese	8.64	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.66	0.359	ng/m³ Air	1.3829		120	80-120			
Nickel	3.23	0.652	ng/m³ Air	2.7658		117	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.4	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.2	80-120			
Vanadium	2.83	0.0529	ng/m³ Air	2.7658		102	80-120			
Zinc	89.7	76.8	ng/m³ Air	82.975		108	80-120			
Duplicate (B4H0605-DUP1)				**Source: 4080550-02**	Prepared & Analyzed: 08/06/24					
Antimony	0.169	0.0295	ng/m³ Air		0.172			1.43	10	SL
Arsenic	0.370	0.00717	ng/m³ Air		0.357			3.55	10	
Barium	4.61	0.819	ng/m³ Air		4.56			1.05	10	
Beryllium	0.0166	0.00245	ng/m³ Air		0.0158			4.58	10	
Cadmium	ND	0.0567	ng/m³ Air		ND				10	U
Chromium	2.68	1.69	ng/m³ Air		2.53			5.56	10	
Cobalt	0.485	0.0334	ng/m³ Air		0.476			1.93	10	
Copper	35.3	2.01	ng/m³ Air		34.5			2.29	10	
Lead	1.20	0.164	ng/m³ Air		1.12			6.47	10	
Manganese	15.1	1.45	ng/m³ Air		14.9			1.61	10	
Molybdenum	1.89	0.275	ng/m³ Air		1.94			2.49	10	
Nickel	1.43	0.499	ng/m³ Air		1.36			4.89	10	
Selenium	0.350	0.00685	ng/m³ Air		0.340			2.96	10	
Thallium	0.00240	4.51E-4	ng/m³ Air		0.00253			5.36	10	
Vanadium	1.75	0.0405	ng/m³ Air		1.74			0.407	10	
Zinc	ND	58.7	ng/m³ Air		ND				10	U
Duplicate (B4H0605-DUP2)				**Source: 4080550-22**	Prepared & Analyzed: 08/06/24					
Antimony	0.0923	0.0329	ng/m³ Air		0.0796			14.8	10	SL
Arsenic	0.443	0.00799	ng/m³ Air		0.432			2.59	10	
Barium	3.27	0.913	ng/m³ Air		3.36			2.77	10	
Beryllium	0.00973	0.00273	ng/m³ Air		0.0103			6.12	10	
Cadmium	ND	0.0632	ng/m³ Air		ND				10	U
Chromium	2.51	1.88	ng/m³ Air		2.44			3.19	10	
Cobalt	0.357	0.0372	ng/m³ Air		0.350			2.02	10	
Copper	39.6	2.24	ng/m³ Air		37.7			4.88	10	
Lead	0.859	0.183	ng/m³ Air		0.946			9.65	10	
Manganese	11.5	1.61	ng/m³ Air		11.2			2.56	10	
Molybdenum	2.22	0.306	ng/m³ Air		2.11			5.41	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 B4H0605 - ICP-MS Extraction										
Duplicate (B4H0605-DUP2) Continued			**Source: 4080550-22**		Prepared & Analyzed: 08/06/24					
Nickel	1.03	0.556	ng/m³ Air		1.06			2.76	10	
Selenium	0.147	0.00764	ng/m³ Air		0.143			2.70	10	
Thallium	6.66E-4	5.02E-4	ng/m³ Air		7.10E-4			6.37	10	
Vanadium	1.01	0.0451	ng/m³ Air		1.01			0.868	10	
Zinc	ND	65.5	ng/m³ Air		ND				10	U
Duplicate (B4H0605-DUP3)			**Source: 4080550-14**		Prepared: 08/06/24 Analyzed: 08/07/24					
Antimony	0.0577	0.0325	ng/m³ Air		0.0586			1.61	10	SL
Arsenic	0.388	0.00788	ng/m³ Air		0.380			2.09	10	
Barium	3.25	0.900	ng/m³ Air		3.23			0.567	10	
Beryllium	0.0104	0.00269	ng/m³ Air		0.00996			4.40	10	
Cadmium	ND	0.0623	ng/m³ Air		ND				10	U
Chromium	2.47	1.86	ng/m³ Air		2.47			0.194	10	
Cobalt	0.336	0.0367	ng/m³ Air		0.336			0.0921	10	
Copper	194	2.21	ng/m³ Air		194			0.155	10	
Lead	0.264	0.180	ng/m³ Air		0.266			0.704	10	
Manganese	10.0	1.59	ng/m³ Air		10.0			0.385	10	
Molybdenum	8.97	0.302	ng/m³ Air		9.01			0.510	10	
Nickel	1.12	0.549	ng/m³ Air		1.12			0.248	10	
Selenium	0.141	0.00754	ng/m³ Air		0.142			0.412	10	
Thallium	6.57E-4	4.96E-4	ng/m³ Air		6.67E-4			1.65	10	
Vanadium	1.25	0.0445	ng/m³ Air		1.25			0.00673	10	
Zinc	ND	64.6	ng/m³ Air		ND				10	U
Duplicate (B4H0605-DUP4)			**Source: 4080550-26**		Prepared: 08/06/24 Analyzed: 08/07/24					
Antimony	0.0698	0.0315	ng/m³ Air		0.0694			0.601	10	SL
Arsenic	0.454	0.00766	ng/m³ Air		0.448			1.25	10	
Barium	3.77	0.874	ng/m³ Air		3.69			2.07	10	
Beryllium	0.0171	0.00261	ng/m³ Air		0.0168			1.94	10	
Cadmium	ND	0.0605	ng/m³ Air		ND				10	U
Chromium	3.08	1.81	ng/m³ Air		3.05			0.838	10	
Cobalt	0.482	0.0356	ng/m³ Air		0.482			0.0429	10	
Copper	39.0	2.15	ng/m³ Air		38.8			0.599	10	
Lead	0.765	0.175	ng/m³ Air		0.759			0.755	10	
Manganese	16.0	1.54	ng/m³ Air		16.0			0.123	10	
Molybdenum	1.89	0.293	ng/m³ Air		1.88			0.445	10	
Nickel	1.27	0.533	ng/m³ Air		1.26			0.588	10	
Selenium	0.151	0.00732	ng/m³ Air		0.146			3.13	10	
Thallium	8.27E-4	4.81E-4	ng/m³ Air		8.14E-4			1.59	10	
Vanadium	1.26	0.0432	ng/m³ Air		1.26			0.186	10	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
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 B4H0605 - ICP-MS Extraction										
Duplicate (B4H0605-DUP4) Continued		**Source: 4080550-26**		Prepared: 08/06/24 Analyzed: 08/07/24						
Zinc	ND	62.7	ng/m³ Air		ND				10	U
Matrix Spike (B4H0605-MS1)		**Source: 4080550-02**		Prepared & Analyzed: 08/06/24						
Antimony	0.698	0.0295	ng/m³ Air	1.0579	0.172	49.8	80-120			SL
Arsenic	2.40	0.00717	ng/m³ Air	2.1158	0.357	96.5	80-120			
Barium	25.8	0.819	ng/m³ Air	21.158	4.56	100	80-120			
Beryllium	1.05	0.00245	ng/m³ Air	1.0579	0.0158	98.0	80-120			
Cadmium	1.04	0.0567	ng/m³ Air	1.0579	ND	98.1	80-120			
Chromium	12.8	1.69	ng/m³ Air	10.579	2.53	97.2	80-120			
Cobalt	1.47	0.0334	ng/m³ Air	1.0579	0.476	94.4	80-120			
Copper	56.7	2.01	ng/m³ Air	21.158	34.5	105	80-120			
Lead	11.8	0.164	ng/m³ Air	10.579	1.12	101	80-120			
Manganese	21.1	1.45	ng/m³ Air	6.3473	14.9	98.1	80-120			
Molybdenum	2.97	0.275	ng/m³ Air	1.0579	1.94	97.4	80-120			
Nickel	3.42	0.499	ng/m³ Air	2.1158	1.36	97.1	80-120			
Selenium	2.34	0.00685	ng/m³ Air	2.1158	0.340	94.7	80-120			
Thallium	0.104	4.51E-4	ng/m³ Air	0.10579	0.00253	96.1	80-120			
Vanadium	3.73	0.0405	ng/m³ Air	2.1158	1.74	94.2	80-120			
Zinc	76.6	58.7	ng/m³ Air	63.473	ND	121	80-120			
Matrix Spike (B4H0605-MS2)		**Source: 4080550-22**		Prepared & Analyzed: 08/06/24						
Antimony	0.760	0.0329	ng/m³ Air	1.1795	0.0796	57.7	80-120			SL
Arsenic	2.72	0.00799	ng/m³ Air	2.3589	0.432	97.1	80-120			
Barium	26.8	0.913	ng/m³ Air	23.589	3.36	99.6	80-120			
Beryllium	1.16	0.00273	ng/m³ Air	1.1795	0.0103	97.4	80-120			
Cadmium	1.18	0.0632	ng/m³ Air	1.1795	ND	100	80-120			
Chromium	14.4	1.88	ng/m³ Air	11.795	2.44	101	80-120			
Cobalt	1.47	0.0372	ng/m³ Air	1.1795	0.350	94.9	80-120			
Copper	61.9	2.24	ng/m³ Air	23.589	37.7	103	80-120			
Lead	12.9	0.183	ng/m³ Air	11.795	0.946	101	80-120			
Manganese	18.1	1.61	ng/m³ Air	7.0768	11.2	97.1	80-120			
Molybdenum	3.25	0.306	ng/m³ Air	1.1795	2.11	97.3	80-120			
Nickel	3.37	0.556	ng/m³ Air	2.3589	1.06	98.0	80-120			
Selenium	2.42	0.00764	ng/m³ Air	2.3589	0.143	96.3	80-120			
Thallium	0.116	5.02E-4	ng/m³ Air	0.11795	7.10E-4	98.0	80-120			
Vanadium	3.31	0.0451	ng/m³ Air	2.3589	1.01	97.6	80-120			
Zinc	83.6	65.5	ng/m³ Air	70.768	ND	118	80-120			
Matrix Spike Dup (B4H0605-MSD1)		**Source: 4080550-02**		Prepared & Analyzed: 08/06/24						
Antimony	0.702	0.0295	ng/m³ Air	1.0579	0.172	50.1	80-120	0.512	20	SL
Arsenic	2.40	0.00717	ng/m³ Air	2.1158	0.357	96.3	80-120	0.194	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4H0605 - ICP-MS Extraction										
Matrix Spike Dup (B4H0605-MSD1) Conti			**Source: 4080550-02**		Prepared & Analyzed: 08/06/24					
Barium	25.5	0.819	ng/m³ Air	21.158	4.56	99.0	80-120	0.992	20	
Beryllium	1.06	0.00245	ng/m³ Air	1.0579	0.0158	98.4	80-120	0.349	20	
Cadmium	1.04	0.0567	ng/m³ Air	1.0579	ND	98.2	80-120	0.0365	20	
Chromium	12.9	1.69	ng/m³ Air	10.579	2.53	97.9	80-120	0.545	20	
Cobalt	1.47	0.0334	ng/m³ Air	1.0579	0.476	93.6	80-120	0.603	20	
Copper	56.2	2.01	ng/m³ Air	21.158	34.5	103	80-120	0.900	20	
Lead	11.8	0.164	ng/m³ Air	10.579	1.12	100	80-120	0.215	20	
Manganese	20.2	1.45	ng/m³ Air	6.3473	14.9	83.2	80-120	4.57	20	
Molybdenum	2.91	0.275	ng/m³ Air	1.0579	1.94	91.5	80-120	2.11	20	
Nickel	3.42	0.499	ng/m³ Air	2.1158	1.36	97.3	80-120	0.0939	20	
Selenium	2.34	0.00685	ng/m³ Air	2.1158	0.340	94.6	80-120	0.157	20	
Thallium	0.105	4.51E-4	ng/m³ Air	0.10579	0.00253	96.7	80-120	0.610	20	
Vanadium	3.68	0.0405	ng/m³ Air	2.1158	1.74	91.7	80-120	1.42	20	
Zinc	75.9	58.7	ng/m³ Air	63.473	ND	120	80-120	0.952	20	
Matrix Spike Dup (B4H0605-MSD2)			**Source: 4080550-22**		Prepared & Analyzed: 08/06/24					
Antimony	0.681	0.0329	ng/m³ Air	1.1795	0.0796	51.0	80-120	11.0	20	SL
Arsenic	2.71	0.00799	ng/m³ Air	2.3589	0.432	96.6	80-120	0.506	20	
Barium	26.7	0.913	ng/m³ Air	23.589	3.36	98.8	80-120	0.711	20	
Beryllium	1.15	0.00273	ng/m³ Air	1.1795	0.0103	97.0	80-120	0.398	20	
Cadmium	1.17	0.0632	ng/m³ Air	1.1795	ND	99.1	80-120	0.866	20	
Chromium	14.3	1.88	ng/m³ Air	11.795	2.44	101	80-120	0.281	20	
Cobalt	1.50	0.0372	ng/m³ Air	1.1795	0.350	97.4	80-120	2.00	20	
Copper	62.9	2.24	ng/m³ Air	23.589	37.7	107	80-120	1.57	20	
Lead	13.0	0.183	ng/m³ Air	11.795	0.946	102	80-120	0.965	20	
Manganese	18.5	1.61	ng/m³ Air	7.0768	11.2	102	80-120	2.09	20	
Molybdenum	3.23	0.306	ng/m³ Air	1.1795	2.11	95.5	80-120	0.678	20	
Nickel	3.47	0.556	ng/m³ Air	2.3589	1.06	102	80-120	2.78	20	
Selenium	2.39	0.00764	ng/m³ Air	2.3589	0.143	95.2	80-120	1.14	20	
Thallium	0.115	5.02E-4	ng/m³ Air	0.11795	7.10E-4	96.7	80-120	1.29	20	
Vanadium	3.31	0.0451	ng/m³ Air	2.3589	1.01	97.9	80-120	0.179	20	
Zinc	82.1	65.5	ng/m³ Air	70.768	ND	116	80-120	1.82	20	
Post Spike (B4H0605-PS1)			**Source: 4080550-02**		Prepared & Analyzed: 08/06/24					
Antimony	0.386	0.0295	ng/m³ Air	0.21158	0.172	101	75-125			SL
Arsenic	1.39	0.00717	ng/m³ Air	1.0579	0.357	97.2	75-125			
Barium	6.74	0.819	ng/m³ Air	2.1158	4.56	103	75-125			
Beryllium	0.224	0.00245	ng/m³ Air	0.21158	0.0158	98.6	75-125			
Cadmium	0.123	0.0567	ng/m³ Air	0.10579	ND	117	75-125			
Chromium	3.64	1.69	ng/m³ Air	1.0579	2.53	105	75-125			

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FILE #: 4205.00.003.001
REPORTED: 08/13/24 09:56
SUBMITTED: 03/11/24 to 08/05/24
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 B4H0605 - ICP-MS Extraction										
Post Spike (B4H0605-PS1) Continued			**Source: 4080550-02**		Prepared & Analyzed: 08/06/24					
Cobalt	0.700	0.0334	ng/m³ Air	0.21158	0.476	106	75-125			
Copper	46.8	2.01	ng/m³ Air	10.579	34.5	117	75-125			
Lead	22.9	0.164	ng/m³ Air	21.158	1.12	103	75-125			
Manganese	17.4	1.45	ng/m³ Air	2.1158	14.9	117	75-125			
Molybdenum	3.03	0.275	ng/m³ Air	1.0579	1.94	103	75-125			
Nickel	3.56	0.499	ng/m³ Air	2.1158	1.36	104	75-125			
Selenium	1.38	0.00685	ng/m³ Air	1.0579	0.340	98.6	75-125			
Thallium	0.0550	4.51E-4	ng/m³ Air	5.2894E-2	0.00253	99.2	75-125			
Vanadium	2.79	0.0405	ng/m³ Air	1.0579	1.74	99.1	75-125			
Zinc	ND	58.7	ng/m³ Air	21.158	ND		75-125			U
Post Spike (B4H0605-PS2)			**Source: 4080550-22**		Prepared & Analyzed: 08/06/24					
Antimony	0.307	0.0329	ng/m³ Air	0.23589	0.0796	96.4	75-125			SL
Arsenic	1.55	0.00799	ng/m³ Air	1.1795	0.432	94.4	75-125			
Barium	5.66	0.913	ng/m³ Air	2.3589	3.36	97.5	75-125			
Beryllium	0.240	0.00273	ng/m³ Air	0.23589	0.0103	97.2	75-125			
Cadmium	0.128	0.0632	ng/m³ Air	0.11795	ND	109	75-125			
Chromium	3.58	1.88	ng/m³ Air	1.1795	2.44	97.2	75-125			
Cobalt	0.575	0.0372	ng/m³ Air	0.23589	0.350	95.2	75-125			
Copper	50.1	2.24	ng/m³ Air	11.795	37.7	105	75-125			
Lead	24.6	0.183	ng/m³ Air	23.589	0.946	100	75-125			
Manganese	13.5	1.61	ng/m³ Air	2.3589	11.2	95.2	75-125			
Molybdenum	3.25	0.306	ng/m³ Air	1.1795	2.11	97.4	75-125			
Nickel	3.42	0.556	ng/m³ Air	2.3589	1.06	100	75-125			
Selenium	1.29	0.00764	ng/m³ Air	1.1795	0.143	97.0	75-125			
Thallium	0.0583	5.02E-4	ng/m³ Air	5.8974E-2	7.10E-4	97.6	75-125			
Vanadium	2.14	0.0451	ng/m³ Air	1.1795	1.01	96.2	75-125			
Zinc	ND	65.5	ng/m³ Air	23.589	ND		75-125			U
Dilution Check (B4H0605-SRL1)			**Source: 4080550-02**		Prepared & Analyzed: 08/06/24					
Antimony	0.170	0.148	ng/m³ Air		0.172			0.904	10	SL
Arsenic	0.366	0.0358	ng/m³ Air		0.357			2.28	10	
Barium	4.62	4.09	ng/m³ Air		4.56			1.22	10	
Beryllium	0.0168	0.0122	ng/m³ Air		0.0158			5.87	10	
Cadmium	ND	0.283	ng/m³ Air		ND				10	U
Chromium	ND	8.45	ng/m³ Air		ND				10	U
Cobalt	0.486	0.167	ng/m³ Air		0.476			2.04	10	
Copper	36.0	10.1	ng/m³ Air		34.5			4.35	10	
Lead	1.10	0.819	ng/m³ Air		1.12			1.83	10	
Manganese	15.6	7.23	ng/m³ Air		14.9			4.40	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 B4H0605 - ICP-MS Extraction										
Dilution Check (B4H0605-SRL1) ContinueSource: 4080550-02 Prepared & Analyzed: 08/06/24										
Molybdenum	1.97	1.37	ng/m³ Air		1.94			1.22	10	
Nickel	ND	2.49	ng/m³ Air		ND				10	U
Selenium	0.342	0.0343	ng/m³ Air		0.340			0.506	10	
Thallium	0.00391	0.00225	ng/m³ Air		0.00253			43.0	10	
Vanadium	1.71	0.202	ng/m³ Air		1.74			1.84	10	
Zinc	ND	294	ng/m³ Air		ND				10	U
Dilution Check (B4H0605-SRL2) Source: 4080550-22 Prepared & Analyzed: 08/06/24										
Antimony	ND	0.165	ng/m³ Air		ND				10	SL, U
Arsenic	0.446	0.0400	ng/m³ Air		0.432			3.18	10	
Barium	ND	4.56	ng/m³ Air		ND				10	U
Beryllium	ND	0.0136	ng/m³ Air		ND				10	U
Cadmium	ND	0.316	ng/m³ Air		ND				10	U
Chromium	ND	9.42	ng/m³ Air		ND				10	U
Cobalt	0.357	0.186	ng/m³ Air		0.350			1.83	10	
Copper	38.1	11.2	ng/m³ Air		37.7			1.05	10	
Lead	0.943	0.913	ng/m³ Air		0.946			0.377	10	
Manganese	11.3	8.06	ng/m³ Air		11.2			0.804	10	
Molybdenum	2.11	1.53	ng/m³ Air		2.11			0.273	10	
Nickel	ND	2.78	ng/m³ Air		ND				10	U
Selenium	0.141	0.0382	ng/m³ Air		0.143			1.45	10	
Thallium	ND	0.00251	ng/m³ Air		ND				10	U
Vanadium	0.982	0.226	ng/m³ Air		1.01			2.35	10	
Zinc	ND	328	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
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 3/26/2024 and Shanna Vasser 3/26/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 2/29/2024 – 3/6/2024
Report No: 4301151

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-030224-HM and cobalt in MFL-FB01-030424-HM.

Notes:

2. The laboratory reported that MFL-AM03-030124-HM, MFL-AM04-030224-HM, MFL-AM04-030324-HM, MFL-AM03-030524-HM were nonhomogeneous.

7. MFL-AM01-030424-HM was analyzed at a two-fold dilution for chromium and nickel.

   Report was revised on March 21, 2024 to add the dilution check results. A five-fold dilution check was performed on MFL-AM03-030324-HM/MS/MSD, MFL-AM01-030424-HM, and MFL-AM02-030424-HM two-fold dilution for all analytes.

   Report was revised on March 25, 2024 to match the updated volumes on the revised CoC.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

March 7 through March 13, 2024
[Report Updated: March 31, 2025]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from March 7 through March 13, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from March 7 through March 13 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 $\mu g/m^3$ screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter

(s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on March 8 through 12
- WW Pump Station #4 on March 7, and 9 through 13
- Lahaina Intermediate School on March 11 through 13
- Lahaina Boys & Girls Club on March 7 through 8, 10 through 11, and 13

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler

- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
March 7 through March 13, 2024
[Report Updated: March 31, 2025]

Screening Level		**150 µg/m^3**
3/7/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	9.2
	Lahaina Intermediate School (AM-03)	8.7
	Lahaina Boys & Girls Club (AM-04)	7.4
3/8/2024	Leialii Hawaiian Homelands (AM-01)	5.7
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	5.5
	Lahaina Boys & Girls Club (AM-04)	5.2
3/9/2024	Leialii Hawaiian Homelands (AM-01)	8.7
	WW Pump Station #4 (AM-02)	7.3
	Lahaina Intermediate School (AM-03)	7.3
	Lahaina Boys & Girls Club (AM-04)	6.2
3/10/2024	Leialii Hawaiian Homelands (AM-01)	6.2
	WW Pump Station #4 (AM-02)	6.9
	Lahaina Intermediate School (AM-03)	6.3
	Lahaina Boys & Girls Club (AM-04)	5.0
3/11/2024	Leialii Hawaiian Homelands (AM-01)	6.0
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	5.8
3/12/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	7.2
3/13/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	16
	Lahaina Intermediate School (AM-03)	17
	Lahaina Boys & Girls Club (AM-04)	11

Notes:
µg/m^3 = micrograms per cubic meter
Time weighted Average calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation
Results from WW Pump Station #4 on 3/9 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
March 7 through March 13, 2024
[Report Updated: March 31, 2025]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
3/7/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000464	0.000448	0.00256	0.00000696	ND	0.00326	0.000292	0.0399	0.000348	0.00784	0.00150	0.00155	0.000107	0.000000901	0.000694	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000102	0.00100	0.00728	0.0000272	0.0000607	0.00532	0.00115	0.0477	0.00183	0.0285	0.00176	0.00445	0.000214	0.00000142	0.00279	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000357	0.000224	0.00312	0.0000351	ND	0.00370	0.000588	0.0454	0.000702	0.0121	0.00229	0.00154	0.000174	0.000000999	0.00122	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000792	0.000345	0.00432	0.0000134	ND	0.00325	0.000390	0.0288	0.00109	0.0118	0.00151	0.00126	0.000152	0.00000101	0.000955	ND
3/8/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000721	0.000640	0.00287	0.00000838	ND	0.00391	0.000301	0.0389	0.000459	0.00824	0.00148	0.00165	0.000135	0.00000107	0.000673	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.0000921	0.000865	0.00641	0.0000221	ND	0.00460	0.00100	0.0402	0.00132	0.0238	0.00137	0.00410	0.000205	0.00000146	0.00218	ND
	Lahaina Intermediate School (AM-03)	<0.0026	0.0000450	0.000133	0.00241	0.0000150	ND	0.00234	0.000275	0.0394	0.000292	0.00670	0.00229	0.000881	0.000142	0.000000833	0.000627	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000535	0.000271	0.00270	0.00000692	ND	0.00242	0.000209	0.0378	0.000531	0.00575	0.00213	0.000776	0.000133	0.000000839	0.000474	ND
3/9/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000414	0.000267	0.00324	0.00000947	ND	0.00301	0.000329	0.0377	0.000505	0.00992	0.00185	0.00118	0.000150	0.00000103	0.000832	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000102	0.000828	0.00606	0.0000166	ND	0.00392	0.000672	0.0629	0.00109	0.0168	0.00180	0.00270	0.000201	0.00000130	0.00162	ND
	Lahaina Intermediate School (AM-03)	<0.0026	0.0000587	0.000144	0.00217	0.0000118	ND	ND	0.000210	0.0443	0.000303	0.00567	0.00234	0.000663	0.000144	0.000000888	0.000511	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0026	0.0000993	0.000384	0.00341	0.00000961	ND	0.00195	0.000294	0.0532	0.000800	0.00896	0.00252	0.00108	0.000159	0.00000103	0.000808	ND
3/10/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000800	0.000810	0.00425	0.0000126	ND	0.00331	0.000451	0.0592	0.000647	0.0141	0.00251	0.00154	0.000182	0.00000148	0.00115	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000141	0.000280	0.00294	0.00000811	ND	ND	0.000243	0.0413	0.000732	0.00730	0.00135	0.000903	0.000169	0.000000909	0.000693	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000369	0.000110	0.00159	0.00000517	ND	ND	0.000118	0.0401	0.000345	0.00321	0.00212	ND	0.000124	0.000000735	0.000305	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000789	0.000157	0.00245	0.00000551	ND	ND	0.000161	0.0392	0.000589	0.00528	0.00213	0.000592	0.000138	0.000000714	0.000490	ND
3/11/2024	Leialii Hawaiian Homelands (AM-01)	<0.0030	0.0000944	0.00391	0.00414	0.00000669	ND	0.00317	0.000252	0.0693	0.000968	0.00780	0.00263	0.00100	0.000162	0.00000121	0.000713	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000135	0.000379	0.00427	0.0000107	ND	0.00178	0.000300	0.0495	0.00119	0.00963	0.00154	0.00102	0.000182	0.00000118	0.000962	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000697	0.000140	0.00203	0.0000128	ND	ND	0.000208	0.0457	0.000299	0.00555	0.00230	0.000729	0.000146	0.00000107	0.000553	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000785	0.000205	0.00245	0.00000578	ND	ND	0.000165	0.0525	0.000617	0.00554	0.00262	0.000593	0.000135	0.000000888	0.000512	ND
3/12/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000110	0.00130	0.00472	0.00000833	ND	0.00254	0.000335	0.0757	0.000602	0.00968	0.00271	0.00149	0.000176	0.000000957	0.00103	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000167	0.000495	0.00502	0.0000125	ND	0.00175	0.000337	0.0497	0.00108	0.0105	0.00144	0.00122	0.000211	0.000000854	0.00113	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000872	0.000301	0.00435	0.0000258	ND	0.00216	0.000437	0.0428	0.000574	0.0112	0.00213	0.00128	0.000201	0.000000931	0.00114	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000952	0.000328	0.00354	0.00000820	ND	ND	0.000235	0.0497	0.000673	0.00795	0.00247	0.00119	0.000163	0.000000774	0.00078	ND
3/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000842	0.000335	0.00264	0.00000409	ND	ND	0.000131	0.0744	0.000310	0.00445	0.00268	0.000972	0.000260	0.000000720	0.000456	ND
	WW Pump Station #4 (AM-02)	<0.0026	0.000140	0.000262	0.00478	0.0000120	ND	0.00201	0.000415	0.0478	0.000605	0.0112	0.00134	0.00154	0.000272	0.000000900	0.00119	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000483	0.000117	0.00264	0.0000113	ND	ND	0.000227	0.0236	0.000209	0.00608	0.00120	0.000722	0.000146	0.000000578	0.000651	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000142	0.000384	0.00486	0.0000144	ND	0.00242	0.000437	0.0292	0.00143	0.0134	0.00129	0.00142	0.000288	0.00000116	0.00124	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000710	0.00421	0.0000150	NA	0.00345	0.000440	0.0512	0.000890	0.0119	0.00217	0.00280	0.000190	0.00000110	0.00113	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/m^3 = 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 shown in Table 2 has been converted to micrograms per cubic meter so data was comparable to SSALs

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
March 7 through March 13, 20243
[Report Updated: March 31, 2025]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
3/7/2024	AM-01	Leialii Hawaiian Homelands	1.9	SSE	77	55	762.8
3/7/2024	AM-02	WW Pump Station #4	1.9	SSE	75	61	764.2
3/7/2024	AM-03	Lahaina Intermediate School	1.0	ESE	76	56	764.1
3/7/2024	AM-04	Lahaina Boys & Girls Club	0.9	SE	76	56	762.7
3/8/2024	AM-01	Leialii Hawaiian Homelands	0.8	ESE	75	64	761.4
3/8/2024	AM-02	WW Pump Station #4	0.9	SSE	78	66	760.3
3/8/2024	AM-03	Lahaina Intermediate School	1.1	S	77	71	760.2
3/8/2024	AM-04	Lahaina Boys & Girls Club	1.4	SE	77	57	764.8
3/9/2024	AM-01	Leialii Hawaiian Homelands	1.5	ESE	77	60	766.1
3/9/2024	AM-02	WW Pump Station #4	1.0	SE	76	60	766.1
3/9/2024	AM-03	Lahaina Intermediate School	0.8	SSE	76	60	764.7
3/9/2024	AM-04	Lahaina Boys & Girls Club	0.8	SSE	75	66	763.5
3/10/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	77	70	762.4
3/10/2024	AM-02	WW Pump Station #4	0.7	S	77	75	762.3
3/10/2024	AM-03	Lahaina Intermediate School	1.3	SSE	76	61	755.3
3/10/2024	AM-04	Lahaina Boys & Girls Club	1.3	SE	77	63	756.6
3/11/2024	AM-01	Leialii Hawaiian Homelands	0.9	ESE	75	62	756.6
3/11/2024	AM-02	WW Pump Station #4	0.9	SE	75	62	755.2
3/11/2024	AM-03	Lahaina Intermediate School	0.7	SE	75	70	754.0
3/11/2024	AM-04	Lahaina Boys & Girls Club	1.1	SE	75	71	753.0
3/12/2024	AM-01	Leialii Hawaiian Homelands	1.2	SSE	74	74	752.9
3/12/2024	AM-02	WW Pump Station #4	1.2	S	77	59	764.4
3/12/2024	AM-03	Lahaina Intermediate School	1.1	SSE	77	61	765.7
3/12/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	76	61	765.7
3/13/2024	AM-01	Leialii Hawaiian Homelands	0.9	S	76	61	764.3
3/13/2024	AM-02	WW Pump Station #4	0.8	SSE	76	67	763.0
3/13/2024	AM-03	Lahaina Intermediate School	1.1	S	76	69	761.9
3/13/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	75	72	762.1

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-030724-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7050.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0001 **Customer Sample:** MFL-AM01-030724-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	A8	None Detected									
B2	D10	None Detected									
B2	F8	None Detected									
B3	H4	None Detected									
B3	D3	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030724-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7287.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0002 **Customer Sample:** MFL-AM02-030724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J3	None Detected									
B5	G1	None Detected									
B5	D5	None Detected									
B6	C9	None Detected									
B6	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030724-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7090.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

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EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0003 **Customer Sample:** MFL-AM03-030724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A7	None Detected									
C2	D9	None Detected									
C2	G10	None Detected									
C3	A9	None Detected									
C3	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030724-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7193.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0004 **Customer Sample:** MFL-AM04-030724-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	A5	None Detected									
C5	D8	None Detected									
C5	G9	None Detected									
C6	H2	None Detected									
C6	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-030724-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0005 **Customer Sample:** MFL-FB01-030724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J2	None Detected									
D2	H5	None Detected									
D2	F8	None Detected									
D2	D9	None Detected									
D2	B10	None Detected									
D3	J10	None Detected									
D3	H6	None Detected									
D3	F4	None Detected									
D3	D3	None Detected									
D3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Phone:	(703) 489-2674
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Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-030824-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7323.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0006 **Customer Sample:** MFL-AM01-030824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J5	None Detected									
D5	G4	None Detected									
D5	D2	None Detected									
D6	I2	None Detected									
D6	C1	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030824-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0007		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0007 **Customer Sample:** MFL-AM02-030824-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	J2	None Detected									
E2	G3	None Detected									
E2	D2	None Detected									
E3	C10	None Detected									
E3	I8	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030824-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7012.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0008 **Customer Sample:** MFL-AM03-030824-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					
E6	I2	None Detected									
E6	F1	None Detected									
E6	D4	None Detected									
E7	C7	None Detected									
E7	H9	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:	

Attn: **Chelsea Saber**
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Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030824-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7111.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0009 **Customer Sample:** MFL-AM04-030824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	A8	None Detected									
F2	C9	None Detected									
F2	H7	None Detected									
F3	C8	None Detected									
F3	H9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-030824-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0010 **Customer Sample:** MFL-FB01-030824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J4	None Detected									
F5	H3	None Detected									
F5	F2	None Detected									
F5	D1	None Detected									
F5	B3	None Detected									
F8	J3	None Detected									
F8	H2	None Detected									
F8	F1	None Detected									
F8	D1	None Detected									
F8	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-030924-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7246.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0011 **Customer Sample:** MFL-AM01-030924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J3	None Detected									
G2	G2	None Detected									
G2	C1	None Detected									
G3	G1	None Detected									
G3	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-030924-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0012 **Customer Sample:** MFL-AM02-030924-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	J4	None Detected									
G5	F2	None Detected									
G5	C1	None Detected									
G6	G1	None Detected									
G6	B2	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-030924-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7027.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment

Approved Signatory

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EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0013 **Customer Sample:** MFL-AM03-030924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	A5	None Detected									
H2	D6	None Detected									
H2	I8	None Detected									
H3	B6	None Detected									
H3	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-030924-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7029.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment

Approved Signatory

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EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0014 **Customer Sample:** MFL-AM04-030924-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	J6	None Detected									
H5	H5	None Detected									
H5	A5	None Detected									
H6	B4	None Detected									
H6	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
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Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-030924-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0015 **Customer Sample:** MFL-FB01-030924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J7	None Detected									
I2	H4	None Detected									
I2	F4	None Detected									
I2	D3	None Detected									
I2	B5	None Detected									
I4	J7	None Detected									
I4	J5	None Detected									
I4	J3	None Detected									
I4	J1	None Detected									
I4	H1	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031024-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7287.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0016 **Customer Sample:** MFL-AM01-031024-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	A8	None Detected									
I5	D9	None Detected									
I5	G7	None Detected									
I6	C7	None Detected									
I6	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031024-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7303.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0017 **Customer Sample:** MFL-AM02-031024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	J3	None Detected									
J2	G6	None Detected									
J2	B7	None Detected									
J3	B4	None Detected									
J3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/19/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031024-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0018 **Customer Sample:** MFL-AM03-031024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	H4	None Detected									
J2	F3	None Detected									
J2	C4	None Detected									
J3	H4	None Detected									
J3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-031024-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0019		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0019 **Customer Sample:** MFL-AM04-031024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K2	A8	None Detected									
K2	C6	None Detected									
K2	H4	None Detected									
K3	A4	None Detected									
K3	G3	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:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/19/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031024-AB**		**Sample Description:**	
EMSL Sample Number:	042405485-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405485**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0020 **Customer Sample:** MFL-FB01-031024-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	A5	None Detected									
J5	C7	None Detected									
J5	E8	None Detected									
J5	G9	None Detected									
J5	I10	None Detected									
J6	A10	None Detected									
J6	C6	None Detected									
J6	E8	None Detected									
J6	G6	None Detected									
J6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042405485
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/15/2024 09:30 AM
Analysis Date:	03/18/2024
Report Date:	03/19/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042405485-0021		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042405485
Client: Tetra Tech
Project ID: Maui Fires - Lahaina / 103S9230

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405485-0021 **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	J3	None Detected									
A1	H2	None Detected									
A1	F4	None Detected									
A1	D5	None Detected									
A1	B6	None Detected									
A2	A6	None Detected									
A2	C9	None Detected									
A2	E7	None Detected									
A2	G10	None Detected									
A2	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042405485

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405485

200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	TETRA TECH	Company Name:	
Contact Name:	CHELSEA SABER	Billing Contact:	
Street Address:	1560 BROADWAY STE 1400	Street Address:	
City, State, Zip:	DENVER CO 80202	City, State, Zip:	Country:
Country:	USA		
Phone:	703-489-2674	Phone:	
Email(s) for Report:	CHELSEA.SABER@TETRATECH.COM	Email(s) for Invoice:	

Project Information

Project Name/No:	MAUI FIRES-LAHAINA / 10359230	Purchase Order:	
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:	MITCH PETERS	Sampled By Signature:	Mitch Peters
No. of Samples in Shipment			

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED MAR 11 2024 10:45 CINNAMINSON, NJ

☐ 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-AM01-030724-AB		7050.394	03/07/24 1058
MFL-AM02-030724-AB		7287.556	03/07/24 1119
MFL-AM03-030724-AB		7090.416	03/07/24 1314
MFL-AM04-030724-AB		7193.232	03/07/24 1330
MFL-FB01-030724-AB		0	03/07/24 1200
MFL-AM01-030824-AB		7323.379	03/08/24 1059
MFL-AM02-030824-AB		7212.960	03/08/24 1122
MFL-AM03-030824-AB		7011.985	03/08/24 1316

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	FED EX		Sample Condition Upon Receipt:		
Relinquished by:	Mitch Peters	Date/Time: 03/11/24 1100	Received by:	DA	Date/Time 3/15/24 9:30
Relinquished by:		Date/Time:	Received by:		Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042405485

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405485

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-AM04-030824-AB		7111.440	03/08/24 1340
MFL-FB01-030824-AB		0	03/08/24 1200
MFL-AM01-030924-AB		7246.657	03/09/24 1100
MFL-AM02-030924-AB		7207.829	03/09/24 1119
MFL-AM03-030924-AB		7027.739	03/09/24 1300
MFL-AM04-030924-AB		7029.726	03/09/24 1324
MFL-FB01-030924-AB		0	03/09/24 1200
MFL-AM01-031024-AB		7287.413	03/10/24 1100
MFL-AM02-031024-AB		7303.104	03/10/24 1122
MFL-AM03-031024-AB		7225.92	03/10/24 1305
MFL-AM04-031024-AB		7169.328	03/10/24 1328
MFL-FB01-031024-AB		0	03/10/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 MAR 15 A 10:45

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/11/24 1100	Received by:	Date/Time
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 3/22/2024 and Shanna Vasser 3/26/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/7/2024 - 3/10/2024
Report No: 42405485

√	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:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/19/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031124-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7611.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	4
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):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 58.86**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 58.86**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Actinolite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Amosite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Anthophyllite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Crocidolite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Tremolite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 58.86**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Other Minerals	-	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Total All Structures	**-**	**0**	**0**	**< 58.86**	**< 0.0030**	**Not Applicable**	**- 0.0030**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 58.86**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 58.86**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Actinolite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Amosite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Anthophyllite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Crocidolite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Tremolite	ADX	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 58.86**	**< 0.0030**	**Not Applicable**	**- 0.0030**
Other Minerals	-	0	0	< 58.86	< 0.0030	Not Applicable	- 0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 58.86**	**< 0.0030**	**Not Applicable**	**- 0.0030**

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0001 **Customer Sample:** MFL-AM01-031124-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	A3	None Detected									
A5	D5	None Detected									
A6	I6	None Detected									
A6	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:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/19/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031124-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7216.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0002 **Customer Sample:** MFL-AM02-031124-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	A8	None Detected									
B2	D7	None Detected									
B2	I9	None Detected									
B3	C9	None Detected									
B3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031124-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042405592
Client: Tetra Tech
Project ID: Maui Fires - Lahaina / 103S9230

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0003 **Customer Sample:** MFL-AM03-031124-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	J5	None Detected									
B5	G4	None Detected									
B5	B6	None Detected									
B6	I8	None Detected									
B6	C10	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:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-031124-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7244.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0004 **Customer Sample:** MFL-AM04-031124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	B4	None Detected									
C2	E7	None Detected									
C2	I10	None Detected									
C3	D9	None Detected									
C3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
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Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031124-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0005 **Customer Sample:** MFL-FB01-031124-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	J5	None Detected									
C5	H4	None Detected									
C5	F3	None Detected									
C5	D5	None Detected									
C5	B1	None Detected									
C6	F10	None Detected									
C6	E7	None Detected									
C6	D2	None Detected									
C6	C5	None Detected									
C6	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:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031224-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7531.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0006 **Customer Sample:** MFL-AM01-031224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J5	None Detected									
D2	H4	None Detected									
D2	F3	None Detected									
D3	E7	None Detected									
D3	H8	None Detected									

Abbreviations used:
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EMSL Order:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031224-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7379.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0007 **Customer Sample:** MFL-AM02-031224-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	A8	None Detected									
D5	D9	None Detected									
D5	G7	None Detected									
D6	E7	None Detected									
D6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031224-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7349.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0008 **Customer Sample:** MFL-AM03-031224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E2	B7	None Detected									
E2	D9	None Detected									
E2	G7	None Detected									
E3	I3	None Detected									
E3	C5	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-AM04-031224-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7232.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0009 **Customer Sample:** MFL-AM04-031224-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	B5	None Detected									
E5	E7	None Detected									
E5	H9	None Detected									
E6	C9	None Detected									
E6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031224-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0010 **Customer Sample:** MFL-FB01-031224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J5	None Detected									
F2	H4	None Detected									
F2	F3	None Detected									
F2	D2	None Detected									
F2	B1	None Detected									
F3	A6	None Detected									
F3	C9	None Detected									
F3	F8	None Detected									
F3	H10	None Detected									
F3	J10	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:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031324-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6648.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0011 **Customer Sample:** MFL-AM01-031324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I3	None Detected									
F5	F1	None Detected									
F5	B4	None Detected									
F6	C5	None Detected									
F6	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031324-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7094.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0012 **Customer Sample:** MFL-AM02-031324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A9	None Detected									
G2	D7	None Detected									
G2	H4	None Detected									
G3	G6	None Detected									
G3	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:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031324-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7146.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0013 **Customer Sample:** MFL-AM03-031324-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	J6	None Detected									
G5	H5	None Detected									
G5	C3	None Detected									
G6	G2	None Detected									
G6	A4	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:	042405592
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Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-031324-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7243.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0014 **Customer Sample:** MFL-AM04-031324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	I3	None Detected									
H2	E2	None Detected									
H2	A5	None Detected									
H3	C7	None Detected									
H3	H6	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:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/21/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031324-AB**		**Sample Description:**	
EMSL Sample Number:	042405592-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0015 **Customer Sample:** MFL-FB01-031324-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	A6	None Detected									
H5	C7	None Detected									
H5	E8	None Detected									
H5	G10	None Detected									
H5	I10	None Detected									
H6	A5	None Detected									
H6	C6	None Detected									
H6	E8	None Detected									
H6	G4	None Detected									
H6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405592
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/18/2024 09:00 AM
Analysis Date:	03/19/2024
Report Date:	03/21/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042405592-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405592**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405592-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	A1	None Detected									
A2	B3	None Detected									
A2	D3	None Detected									
A2	F4	None Detected									
A2	H5	None Detected									
A3	A4	None Detected									
A3	B1	None Detected									
A3	C3	None Detected									
A3	D1	None Detected									
A3	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042405592

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405592

200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	TETRA TECH	Company Name:	
Contact Name:	CHELSEA SABER	Billing Contact:	
Street Address:	1560 BROADWAY STE 1400	Street Address:	
City, State, Zip:	DENVER CO 80202	City, State, Zip:	Country:
Country:	USA		
Phone:	703-489-2674	Phone:	
Email(s) for Report:	CHELSEA.SABER@TETRATECH.COM	Email(s) for Invoice:	

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAR 18 AM 08

Project Information

Project Name/No: MAUI FIRES-LAHAINA /10359230

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: MITCH PETERS

Sampled By Signature: M Peters.

No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-031124-AB		7611.765	03/11/24 1101
MFL-AM02-031124-AB		7216.848	03/11/24 1125
MFL-AM03-031124-AB		7238.880	03/11/24 1309
MFL-AM04-031124-AB		7244.064	03/11/24 1331
MFL-FB01-031124-AB		0	03/11/24 1200
MFL-AM01-031224-AB		7531.776	03/12/24 1107
MFL-AM02-031224-AB		7379.460	03/12/24 1126
MFL-AM03-031224-AB		7349.906	03/12/24 1316

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by: MPB	Date/Time: 03/14/24 1100	Received by: FedEx	Date/Time 3/18/24 9AM
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042405592

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405592

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-AM04-031224-AB		7232.845	03/12/24 1339
MFL-FB01-031224-AB		0	03/12/24 1200
MFL-AM01-031324-AB		6648.604	03/13/24 1109
MFL-AM02-031324-AB		7094.448	03/13/24 1131
MFL-AM03-031324-AB		7146.773	03/13/24 1308
MFL-AM04-031324-AB		7243.665	03/13/24 1341
MFL-FB01-031324-AB		0	03/13/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAR 18 AM 10:03

Method of Shipment: FED Ex		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/14/24 1100	Received by:	Date/Time
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 3/25/2024 and Shanna Vasser 3/26/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/11/2024 - 3/13/2024
Report No: 42405592

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes: None

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

March 26, 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 03/18/24 14:42.

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: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-030724-HM	4031840-01	Air	03/07/24 23:59	03/18/24 14:42
MFL-AM02-030724-HM	4031840-02	Air	03/07/24 23:59	03/18/24 14:42
MFL-AM03-030724-HM	4031840-03	Air	03/07/24 23:59	03/18/24 14:42
MFL-AM04-030724-HM	4031840-04	Air	03/07/24 23:59	03/18/24 14:42
MFL-AM01-030824-HM/MS/I	4031840-05	Air	03/08/24 23:59	03/18/24 14:42
MFL-AM02-030824-HM	4031840-06	Air	03/08/24 23:59	03/18/24 14:42
MFL-AM03-030824-HM	4031840-07	Air	03/08/24 23:59	03/18/24 14:42
MFL-AM04-030824-HM	4031840-08	Air	03/08/24 23:59	03/18/24 14:42
MFL-FB01-030824-HM	4031840-09	Air	03/08/24 00:00	03/18/24 14:42
MFL-AM01-030924-HM	4031840-10	Air	03/09/24 23:59	03/18/24 14:42
MFL-AM02-030924-HM	4031840-11	Air	03/09/24 23:59	03/18/24 14:42
MFL-AM03-030924-HM	4031840-12	Air	03/09/24 23:59	03/18/24 14:42
MFL-AM04-030924-HM	4031840-13	Air	03/09/24 23:59	03/18/24 14:42
MFL-AM01-031024-HM	4031840-14	Air	03/10/24 23:59	03/18/24 14:42
MFL-AM02-031024-HM	4031840-15	Air	03/10/24 23:59	03/18/24 14:42
MFL-AM03-031024-HM	4031840-16	Air	03/10/24 23:59	03/18/24 14:42
MFL-AM04-031024-HM	4031840-17	Air	03/10/24 23:59	03/18/24 14:42
MFL-FB01-031024-HM	4031840-18	Air	03/10/24 00:00	03/18/24 14:42
MFL-AM01-031124-HM	4031840-19	Air	03/11/24 23:59	03/18/24 14:42
MFL-AM02-031124-HM	4031840-20	Air	03/11/24 23:59	03/18/24 14:42
MFL-AM03-031124-HM	4031840-21	Air	03/11/24 23:59	03/18/24 14:42

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-031124-HM	4031840-22	Air	03/11/24 23:59	03/18/24 14:42
MFL-AM01-031224-HM	4031840-23	Air	03/12/24 23:59	03/18/24 14:42
MFL-AM02-031224-HM	4031840-24	Air	03/12/24 23:59	03/18/24 14:42
MFL-AM03-031224-HM/MS/I	4031840-25	Air	03/12/24 23:59	03/18/24 14:42
MFL-AM04-031224-HM	4031840-26	Air	03/12/24 23:59	03/18/24 14:42
MFL-FB01-031224-HM	4031840-27	Air	03/12/24 00:00	03/18/24 14:42
MFL-AM01-031324-HM	4031840-28	Air	03/13/24 23:59	03/18/24 14:42
MFL-AM02-031324-HM	4031840-29	Air	03/13/24 23:59	03/18/24 14:42
MFL-AM03-031324-HM	4031840-30	Air	03/13/24 23:59	03/18/24 14:42
MFL-AM04-031324-HM	4031840-31	Air	03/13/24 23:59	03/18/24 14:42

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030724-HM
Matrix: Air
Lab ID: 4031840-01
Sample Volume: 2002.509 m³
Filter ID:
Sampled: 03/07/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 00:46

Comments: Q9537222 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0464**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.448**		**0.00761**
Barium	**7440-39-3**	**2.56**	QB-01	**0.869**
Beryllium	**7440-41-7**	**0.00696**		**0.00260**
Cadmium	7440-43-9	0.0133	U	0.0602
Chromium	**7440-47-3**	**3.26**		**1.80**
Cobalt	**7440-48-4**	**0.292**		**0.0354**
Copper	**7440-50-8**	**39.9**		**2.14**
Lead	**7439-92-1**	**0.348**		**0.174**
Manganese	**7439-96-5**	**7.84**		**1.54**
Molybdenum	**7439-98-7**	**1.50**		**0.292**
Nickel	**7440-02-0**	**1.55**		**0.530**
Selenium	**7782-49-2**	**0.107**		**0.00728**
Thallium	**7440-28-0**	**9.01E-4**		**4.79E-4**
Vanadium	**7440-62-2**	**0.694**		**0.0430**
Zinc	7440-66-6	19.2	U	62.4

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030724-HM
Matrix: Air
Lab ID: 4031840-02
Sample Volume: 2067.07 m³
Filter ID:
Sampled: 03/07/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 01:01

Comments: Q9537248 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0304**
Arsenic	**7440-38-2**	**1.00**		**0.00738**
Barium	**7440-39-3**	**7.28**	QB-01	**0.842**
Beryllium	**7440-41-7**	**0.0272**		**0.00252**
Cadmium	**7440-43-9**	**0.0607**		**0.0583**
Chromium	**7440-47-3**	**5.32**		**1.74**
Cobalt	**7440-48-4**	**1.15**		**0.0343**
Copper	**7440-50-8**	**47.7**		**2.07**
Lead	**7439-92-1**	**1.83**		**0.168**
Manganese	**7439-96-5**	**28.5**		**1.49**
Molybdenum	**7439-98-7**	**1.76**		**0.283**
Nickel	**7440-02-0**	**4.45**		**0.513**
Selenium	**7782-49-2**	**0.214**		**0.00705**
Thallium	**7440-28-0**	**0.00142**		**4.64E-4**
Vanadium	**7440-62-2**	**2.79**		**0.0416**
Zinc	7440-66-6	35.0	U	60.4

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030724-HM
Matrix: Air
Lab ID: 4031840-03
Sample Volume: 2188.323 m³
Filter ID:
Sampled: 03/07/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 01:17

Comments: Q9537247 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0357**	SL	**0.0287**
Arsenic	**7440-38-2**	**0.224**		**0.00697**
Barium	**7440-39-3**	**3.12**	QB-01	**0.796**
Beryllium	**7440-41-7**	**0.0351**		**0.00238**
Cadmium	7440-43-9	0.0101	U	0.0551
Chromium	**7440-47-3**	**3.70**		**1.64**
Cobalt	**7440-48-4**	**0.588**		**0.0324**
Copper	**7440-50-8**	**45.4**		**1.96**
Lead	**7439-92-1**	**0.702**		**0.159**
Manganese	**7439-96-5**	**12.1**		**1.41**
Molybdenum	**7439-98-7**	**2.29**		**0.267**
Nickel	**7440-02-0**	**1.54**		**0.485**
Selenium	**7782-49-2**	**0.174**		**0.00666**
Thallium	**7440-28-0**	**9.99E-4**		**4.38E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0393**
Zinc	7440-66-6	22.2	U	57.1

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030724-HM
Matrix: Air
Lab ID: 4031840-04
Sample Volume: 1876.182 m³
Filter ID:
Sampled: 03/07/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 01:31

Comments: Q9537246 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0792**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.345**		**0.00813**
Barium	**7440-39-3**	**4.32**	QB-01	**0.928**
Beryllium	**7440-41-7**	**0.0134**		**0.00277**
Cadmium	7440-43-9	0.0372	U	0.0643
Chromium	**7440-47-3**	**3.25**		**1.92**
Cobalt	**7440-48-4**	**0.390**		**0.0378**
Copper	**7440-50-8**	**28.8**		**2.28**
Lead	**7439-92-1**	**1.09**		**0.186**
Manganese	**7439-96-5**	**11.8**		**1.64**
Molybdenum	**7439-98-7**	**1.51**		**0.311**
Nickel	**7440-02-0**	**1.26**		**0.565**
Selenium	**7782-49-2**	**0.152**		**0.00777**
Thallium	**7440-28-0**	**0.00101**		**5.11E-4**
Vanadium	**7440-62-2**	**0.955**		**0.0459**
Zinc	7440-66-6	25.1	U	66.6

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030824-HM/MS/MS **Lab ID:** 4031840-05 **Sampled:** 03/08/24 23:59
Matrix: Air **Sample Volume:** 2011.162 m³ **Received:** 03/18/24 14:42
Filter ID: **Analysis Date:** 03/22/24 18:55

Comments: Q9537243 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0721**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.640**		**0.00758**
Barium	**7440-39-3**	**2.87**	QB-01	**0.866**
Beryllium	**7440-41-7**	**0.00838**		**0.00259**
Cadmium	7440-43-9	0.0158	U	0.0599
Chromium	**7440-47-3**	**3.91**		**1.79**
Cobalt	**7440-48-4**	**0.301**	D-F	**0.0353**
Copper	**7440-50-8**	**38.9**	QM-07	**2.13**
Lead	**7439-92-1**	**0.459**		**0.173**
Manganese	**7439-96-5**	**8.24**		**1.53**
Molybdenum	**7439-98-7**	**1.48**		**0.290**
Nickel	**7440-02-0**	**1.65**		**0.527**
Selenium	**7782-49-2**	**0.135**		**0.00725**
Thallium	**7440-28-0**	**0.00107**		**4.76E-4**
Vanadium	**7440-62-2**	**0.673**		**0.0428**
Zinc	7440-66-6	17.4	U	62.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030824-HM
Matrix: Air
Lab ID: 4031840-06
Sample Volume: 2085.401 m³
Filter ID:
Sampled: 03/08/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 01:48

Comments: Q9537242 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0921**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.865**		**0.00731**
Barium	**7440-39-3**	**6.41**	QB-01	**0.835**
Beryllium	**7440-41-7**	**0.0221**		**0.00250**
Cadmium	7440-43-9	0.0576	U	0.0578
Chromium	**7440-47-3**	**4.60**		**1.72**
Cobalt	**7440-48-4**	**1.00**		**0.0340**
Copper	**7440-50-8**	**40.2**		**2.05**
Lead	**7439-92-1**	**1.32**		**0.167**
Manganese	**7439-96-5**	**23.8**		**1.47**
Molybdenum	**7439-98-7**	**1.37**		**0.280**
Nickel	**7440-02-0**	**4.10**		**0.509**
Selenium	**7782-49-2**	**0.205**		**0.00699**
Thallium	**7440-28-0**	**0.00146**		**4.60E-4**
Vanadium	**7440-62-2**	**2.18**		**0.0413**
Zinc	7440-66-6	27.8	U	59.9

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030824-HM
Matrix: Air
Lab ID: 4031840-07
Sample Volume: 2197.153 m³
Filter ID:
Sampled: 03/08/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 02:04

Comments: Q9537240 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0450**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.133**		**0.00694**
Barium	**7440-39-3**	**2.41**	QB-01	**0.792**
Beryllium	**7440-41-7**	**0.0150**		**0.00237**
Cadmium	7440-43-9	0.00829	U	0.0549
Chromium	**7440-47-3**	**2.34**		**1.64**
Cobalt	**7440-48-4**	**0.275**		**0.0323**
Copper	**7440-50-8**	**39.4**		**1.95**
Lead	**7439-92-1**	**0.292**		**0.158**
Manganese	**7439-96-5**	**6.70**		**1.40**
Molybdenum	**7439-98-7**	**2.29**		**0.266**
Nickel	**7440-02-0**	**0.881**		**0.483**
Selenium	**7782-49-2**	**0.142**		**0.00663**
Thallium	**7440-28-0**	**8.33E-4**		**4.36E-4**
Vanadium	**7440-62-2**	**0.627**		**0.0392**
Zinc	7440-66-6	14.1	U	56.9

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030824-HM
Matrix: Air
Lab ID: 4031840-08
Sample Volume: 1866.036 m³
Filter ID:
Sampled: 03/08/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 02:18

Comments: Q9537239 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0535**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.271**		**0.00817**
Barium	**7440-39-3**	**2.70**	QB-01	**0.933**
Beryllium	**7440-41-7**	**0.00692**		**0.00279**
Cadmium	7440-43-9	0.0104	U	0.0646
Chromium	**7440-47-3**	**2.42**		**1.93**
Cobalt	**7440-48-4**	**0.209**		**0.0380**
Copper	**7440-50-8**	**37.8**		**2.29**
Lead	**7439-92-1**	**0.531**		**0.187**
Manganese	**7439-96-5**	**5.75**		**1.65**
Molybdenum	**7439-98-7**	**2.13**		**0.313**
Nickel	**7440-02-0**	**0.776**		**0.568**
Selenium	**7782-49-2**	**0.133**		**0.00781**
Thallium	**7440-28-0**	**8.39E-4**		**5.14E-4**
Vanadium	**7440-62-2**	**0.474**		**0.0461**
Zinc	7440-66-6	16.6	U	67.0

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-030824-HM
Matrix: Air
Lab ID: 4031840-09
Sample Volume: 2011.162 m³
Filter ID:
Sampled: 03/08/24 00:00
Received: 03/18/24 14:42
Analysis Date: 03/23/24 02:33

Comments: Q9516965 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0159	SL, U	0.0312
Arsenic	7440-38-2	0.00686	U	0.00758
Barium	7440-39-3	0.586	QB-01, U	0.866
Beryllium	7440-41-7	6.02E-4	U	0.00259
Cadmium	7440-43-9	8.65E-4	U	0.0599
Chromium	7440-47-3	0.782	U	1.79
Cobalt	7440-48-4	0.0193	U	0.0353
Copper	7440-50-8	0.713	U	2.13
Lead	7439-92-1	0.0458	U	0.173
Manganese	7439-96-5	0.224	U	1.53
Molybdenum	7439-98-7	0.115	U	0.290
Nickel	7440-02-0	0.199	U	0.527
Selenium	7782-49-2	0.00597	U	0.00725
Thallium	7440-28-0	1.80E-4	U	4.76E-4
Vanadium	7440-62-2	0.0243	U	0.0428
Zinc	7440-66-6	10.6	U	62.1

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-030924-HM
Matrix: Air
Lab ID: 4031840-10
Sample Volume: 2017.928 m³
Filter ID:
Sampled: 03/09/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 02:47

Comments: Q9537238 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0414**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.267**		**0.00755**
Barium	**7440-39-3**	**3.24**	QB-01	**0.863**
Beryllium	**7440-41-7**	**0.00947**		**0.00258**
Cadmium	7440-43-9	0.0128	U	0.0597
Chromium	**7440-47-3**	**3.01**		**1.78**
Cobalt	**7440-48-4**	**0.329**		**0.0352**
Copper	**7440-50-8**	**37.7**		**2.12**
Lead	**7439-92-1**	**0.505**		**0.173**
Manganese	**7439-96-5**	**9.92**		**1.52**
Molybdenum	**7439-98-7**	**1.85**		**0.289**
Nickel	**7440-02-0**	**1.18**		**0.526**
Selenium	**7782-49-2**	**0.150**		**0.00722**
Thallium	**7440-28-0**	**0.00103**		**4.75E-4**
Vanadium	**7440-62-2**	**0.832**		**0.0427**
Zinc	7440-66-6	18.1	U	61.9

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-030924-HM
Matrix: Air
Lab ID: 4031840-11
Sample Volume: 2090.991 m³
Filter ID:
Sampled: 03/09/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 03:42

Comments: Q9537236 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.828**		**0.00729**
Barium	**7440-39-3**	**6.06**	QB-01	**0.833**
Beryllium	**7440-41-7**	**0.0166**		**0.00249**
Cadmium	7440-43-9	0.0243	U	0.0577
Chromium	**7440-47-3**	**3.92**		**1.72**
Cobalt	**7440-48-4**	**0.672**		**0.0339**
Copper	**7440-50-8**	**62.9**		**2.05**
Lead	**7439-92-1**	**1.09**		**0.167**
Manganese	**7439-96-5**	**16.8**		**1.47**
Molybdenum	**7439-98-7**	**1.80**		**0.279**
Nickel	**7440-02-0**	**2.70**		**0.507**
Selenium	**7782-49-2**	**0.201**		**0.00697**
Thallium	**7440-28-0**	**0.00130**		**4.58E-4**
Vanadium	**7440-62-2**	**1.62**		**0.0412**
Zinc	7440-66-6	24.4	U	59.8

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-030924-HM
Matrix: Air
Lab ID: 4031840-12
Sample Volume: 2240.6 m³
Filter ID:
Sampled: 03/09/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 04:14

Comments: Q9516955 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0587**	SL	**0.0280**
Arsenic	**7440-38-2**	**0.144**		**0.00680**
Barium	**7440-39-3**	**2.17**	QB-01	**0.777**
Beryllium	**7440-41-7**	**0.0118**		**0.00232**
Cadmium	7440-43-9	0.00714	U	0.0538
Chromium	7440-47-3	1.43	U	1.60
Cobalt	**7440-48-4**	**0.210**		**0.0317**
Copper	**7440-50-8**	**44.3**		**1.91**
Lead	**7439-92-1**	**0.303**		**0.155**
Manganese	**7439-96-5**	**5.67**		**1.37**
Molybdenum	**7439-98-7**	**2.34**		**0.261**
Nickel	**7440-02-0**	**0.663**		**0.473**
Selenium	**7782-49-2**	**0.144**		**0.00651**
Thallium	**7440-28-0**	**8.88E-4**		**4.28E-4**
Vanadium	**7440-62-2**	**0.511**		**0.0384**
Zinc	7440-66-6	12.7	U	55.8

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-030924-HM
Matrix: Air
Lab ID: 4031840-13
Sample Volume: 1895.668 m³
Filter ID:
Sampled: 03/09/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 04:29

Comments: Q9516964 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0993**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.384**		**0.00804**
Barium	**7440-39-3**	**3.41**	QB-01	**0.918**
Beryllium	**7440-41-7**	**0.00961**		**0.00275**
Cadmium	7440-43-9	0.0109	U	0.0636
Chromium	**7440-47-3**	**1.95**		**1.90**
Cobalt	**7440-48-4**	**0.294**		**0.0374**
Copper	**7440-50-8**	**53.2**		**2.26**
Lead	**7439-92-1**	**0.800**		**0.184**
Manganese	**7439-96-5**	**8.96**		**1.62**
Molybdenum	**7439-98-7**	**2.52**		**0.308**
Nickel	**7440-02-0**	**1.08**		**0.560**
Selenium	**7782-49-2**	**0.159**		**0.00769**
Thallium	**7440-28-0**	**0.00103**		**5.06E-4**
Vanadium	**7440-62-2**	**0.808**		**0.0454**
Zinc	7440-66-6	19.5	U	65.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031024-HM
Matrix: Air
Lab ID: 4031840-14
Sample Volume: 2052.979 m³
Filter ID:
Sampled: 03/10/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 04:44

Comments: Q9516963 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0800**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.810**		**0.00743**
Barium	**7440-39-3**	**4.25**	QB-01	**0.848**
Beryllium	**7440-41-7**	**0.0126**		**0.00254**
Cadmium	7440-43-9	0.0255	U	0.0587
Chromium	**7440-47-3**	**3.31**		**1.75**
Cobalt	**7440-48-4**	**0.451**		**0.0346**
Copper	**7440-50-8**	**59.2**		**2.08**
Lead	**7439-92-1**	**0.647**		**0.170**
Manganese	**7439-96-5**	**14.1**		**1.50**
Molybdenum	**7439-98-7**	**2.51**		**0.285**
Nickel	**7440-02-0**	**1.54**		**0.517**
Selenium	**7782-49-2**	**0.182**		**0.00710**
Thallium	**7440-28-0**	**0.00148**		**4.67E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0419**
Zinc	7440-66-6	15.1	U	60.9

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031024-HM
Matrix: Air
Lab ID: 4031840-15
Sample Volume: 2194.407 m³
Filter ID:
Sampled: 03/10/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 04:59

Comments: Q9516962 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.141**	SL	**0.0286**
Arsenic	**7440-38-2**	**0.280**		**0.00695**
Barium	**7440-39-3**	**2.94**	QB-01	**0.793**
Beryllium	**7440-41-7**	**0.00811**		**0.00237**
Cadmium	7440-43-9	0.0106	U	0.0549
Chromium	7440-47-3	1.44	U	1.64
Cobalt	**7440-48-4**	**0.243**		**0.0323**
Copper	**7440-50-8**	**41.3**		**1.95**
Lead	**7439-92-1**	**0.732**		**0.159**
Manganese	**7439-96-5**	**7.30**		**1.40**
Molybdenum	**7439-98-7**	**1.35**		**0.266**
Nickel	**7440-02-0**	**0.903**		**0.483**
Selenium	**7782-49-2**	**0.169**		**0.00664**
Thallium	**7440-28-0**	**9.09E-4**		**4.37E-4**
Vanadium	**7440-62-2**	**0.693**		**0.0392**
Zinc	7440-66-6	14.6	U	56.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031024-HM
Matrix: Air
Lab ID: 4031840-16
Sample Volume: 2277.721 m³
Filter ID:
Sampled: 03/10/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 05:14

Comments: Q9516961 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0369**	SL	**0.0276**
Arsenic	**7440-38-2**	**0.110**		**0.00669**
Barium	**7440-39-3**	**1.59**	QB-01	**0.764**
Beryllium	**7440-41-7**	**0.00517**		**0.00229**
Cadmium	7440-43-9	0.00952	U	0.0529
Chromium	7440-47-3	0.980	U	1.58
Cobalt	**7440-48-4**	**0.118**		**0.0311**
Copper	**7440-50-8**	**40.1**		**1.88**
Lead	**7439-92-1**	**0.345**		**0.153**
Manganese	**7439-96-5**	**3.21**		**1.35**
Molybdenum	**7439-98-7**	**2.12**		**0.256**
Nickel	7440-02-0	0.446	U	0.466
Selenium	**7782-49-2**	**0.124**		**0.00640**
Thallium	**7440-28-0**	**7.35E-4**		**4.21E-4**
Vanadium	**7440-62-2**	**0.305**		**0.0378**
Zinc	7440-66-6	11.5	U	54.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031024-HM
Matrix: Air
Lab ID: 4031840-17
Sample Volume: 1930.355 m³
Filter ID:
Sampled: 03/10/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 05:29

Comments: Q9516960 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0789**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.157**		**0.00790**
Barium	**7440-39-3**	**2.45**	QB-01	**0.902**
Beryllium	**7440-41-7**	**0.00551**		**0.00270**
Cadmium	7440-43-9	0.0135	U	0.0625
Chromium	7440-47-3	1.32	U	1.86
Cobalt	**7440-48-4**	**0.161**		**0.0367**
Copper	**7440-50-8**	**39.2**		**2.22**
Lead	**7439-92-1**	**0.589**		**0.180**
Manganese	**7439-96-5**	**5.28**		**1.59**
Molybdenum	**7439-98-7**	**2.13**		**0.303**
Nickel	**7440-02-0**	**0.592**		**0.550**
Selenium	**7782-49-2**	**0.138**		**0.00755**
Thallium	**7440-28-0**	**7.14E-4**		**4.96E-4**
Vanadium	**7440-62-2**	**0.490**		**0.0446**
Zinc	7440-66-6	15.6	U	64.7

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-031024-HM
Matrix: Air
Lab ID: 4031840-18
Sample Volume: 2052.979 m³
Filter ID:
Sampled: 03/10/24 00:00
Received: 03/18/24 14:42
Analysis Date: 03/23/24 05:43

Comments: Q9516959 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0149	SL, U	0.0306
Arsenic	**7440-38-2**	**0.00836**	FB-01	**0.00743**
Barium	7440-39-3	0.542	QB-01, U	0.848
Beryllium	7440-41-7	4.94E-4	U	0.00254
Cadmium	7440-43-9	0.00336	U	0.0587
Chromium	7440-47-3	0.772	U	1.75
Cobalt	7440-48-4	0.0123	U	0.0346
Copper	**7440-50-8**	**3.98**	FB-01	**2.08**
Lead	7439-92-1	0.0506	U	0.170
Manganese	7439-96-5	0.242	U	1.50
Molybdenum	7439-98-7	0.231	U	0.285
Nickel	7440-02-0	0.232	U	0.517
Selenium	7782-49-2	0.00545	U	0.00710
Thallium	7440-28-0	1.46E-4	U	4.67E-4
Vanadium	7440-62-2	0.0236	U	0.0419
Zinc	7440-66-6	8.13	U	60.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031124-HM
Matrix: Air
Lab ID: 4031840-19
Sample Volume: 2070.082 m³
Filter ID:
Sampled: 03/11/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 05:57

Comments: Q9516958 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0944**	SL	**0.0303**
Arsenic	**7440-38-2**	**3.91**		**0.00736**
Barium	**7440-39-3**	**4.14**	QB-01	**0.841**
Beryllium	**7440-41-7**	**0.00669**		**0.00252**
Cadmium	7440-43-9	0.0372	U	0.0582
Chromium	**7440-47-3**	**3.17**		**1.74**
Cobalt	**7440-48-4**	**0.252**		**0.0343**
Copper	**7440-50-8**	**69.3**		**2.07**
Lead	**7439-92-1**	**0.968**		**0.168**
Manganese	**7439-96-5**	**7.80**		**1.49**
Molybdenum	**7439-98-7**	**2.63**		**0.282**
Nickel	**7440-02-0**	**1.00**		**0.512**
Selenium	**7782-49-2**	**0.162**		**0.00704**
Thallium	**7440-28-0**	**0.00121**		**4.63E-4**
Vanadium	**7440-62-2**	**0.713**		**0.0416**
Zinc	7440-66-6	20.0	U	60.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031124-HM
Matrix: Air
Lab ID: 4031840-20
Sample Volume: 2179.301 m³
Filter ID:
Sampled: 03/11/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 06:47

Comments: Q9516957 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.379**		**0.00700**
Barium	**7440-39-3**	**4.27**	QB-01	**0.799**
Beryllium	**7440-41-7**	**0.0107**		**0.00239**
Cadmium	7440-43-9	0.0114	U	0.0553
Chromium	**7440-47-3**	**1.78**		**1.65**
Cobalt	**7440-48-4**	**0.300**		**0.0326**
Copper	**7440-50-8**	**49.5**		**1.96**
Lead	**7439-92-1**	**1.19**		**0.160**
Manganese	**7439-96-5**	**9.63**		**1.41**
Molybdenum	**7439-98-7**	**1.54**		**0.268**
Nickel	**7440-02-0**	**1.02**		**0.487**
Selenium	**7782-49-2**	**0.182**		**0.00669**
Thallium	**7440-28-0**	**0.00118**		**4.40E-4**
Vanadium	**7440-62-2**	**0.962**		**0.0395**
Zinc	7440-66-6	16.3	U	57.3

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031124-HM
Matrix: Air
Lab ID: 4031840-21
Sample Volume: 2288.191 m³
Filter ID:
Sampled: 03/11/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 07:04

Comments: Q9516945 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0697**	SL	**0.0274**
Arsenic	**7440-38-2**	**0.140**		**0.00666**
Barium	**7440-39-3**	**2.03**	QB-01	**0.761**
Beryllium	**7440-41-7**	**0.0128**		**0.00228**
Cadmium	7440-43-9	0.00648	U	0.0527
Chromium	7440-47-3	1.44	U	1.57
Cobalt	**7440-48-4**	**0.208**		**0.0310**
Copper	**7440-50-8**	**45.7**		**1.87**
Lead	**7439-92-1**	**0.299**		**0.152**
Manganese	**7439-96-5**	**5.55**		**1.34**
Molybdenum	**7439-98-7**	**2.30**		**0.255**
Nickel	**7440-02-0**	**0.729**		**0.464**
Selenium	**7782-49-2**	**0.146**		**0.00637**
Thallium	**7440-28-0**	**0.00107**		**4.19E-4**
Vanadium	**7440-62-2**	**0.553**		**0.0376**
Zinc	7440-66-6	9.88	U	54.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031124-HM
Matrix: Air
Lab ID: 4031840-22
Sample Volume: 1942.455 m³
Filter ID:
Sampled: 03/11/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 07:19

Comments: Q9516954 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0785**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.205**		**0.00785**
Barium	**7440-39-3**	**2.45**	QB-01	**0.896**
Beryllium	**7440-41-7**	**0.00578**		**0.00268**
Cadmium	7440-43-9	0.00972	U	0.0621
Chromium	7440-47-3	1.33	U	1.85
Cobalt	**7440-48-4**	**0.165**		**0.0365**
Copper	**7440-50-8**	**52.5**		**2.20**
Lead	**7439-92-1**	**0.617**		**0.179**
Manganese	**7439-96-5**	**5.54**		**1.58**
Molybdenum	**7439-98-7**	**2.62**		**0.301**
Nickel	**7440-02-0**	**0.593**		**0.546**
Selenium	**7782-49-2**	**0.135**		**0.00750**
Thallium	**7440-28-0**	**8.88E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**0.512**		**0.0443**
Zinc	7440-66-6	15.1	U	64.3

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031224-HM
Matrix: Air
Lab ID: 4031840-23
Sample Volume: 2054.699 m³
Filter ID:
Sampled: 03/12/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 07:47

Comments: Q9516953 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0306**
Arsenic	**7440-38-2**	**1.30**		**0.00742**
Barium	**7440-39-3**	**4.72**	QB-01	**0.847**
Beryllium	**7440-41-7**	**0.00833**		**0.00253**
Cadmium	7440-43-9	0.0149	U	0.0587
Chromium	**7440-47-3**	**2.54**		**1.75**
Cobalt	**7440-48-4**	**0.335**		**0.0345**
Copper	**7440-50-8**	**75.7**		**2.08**
Lead	**7439-92-1**	**0.602**		**0.169**
Manganese	**7439-96-5**	**9.68**		**1.50**
Molybdenum	**7439-98-7**	**2.71**		**0.284**
Nickel	**7440-02-0**	**1.49**		**0.516**
Selenium	**7782-49-2**	**0.176**		**0.00709**
Thallium	**7440-28-0**	**9.57E-4**		**4.66E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0419**
Zinc	7440-66-6	21.6	U	60.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031224-HM
Matrix: Air
Lab ID: 4031840-24
Sample Volume: 2157.445 m³
Filter ID:
Sampled: 03/12/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 08:02

Comments: Q9516952 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.167**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.495**		**0.00707**
Barium	**7440-39-3**	**5.02**	QB-01	**0.807**
Beryllium	**7440-41-7**	**0.0125**		**0.00241**
Cadmium	7440-43-9	0.0124	U	0.0559
Chromium	**7440-47-3**	**1.75**		**1.67**
Cobalt	**7440-48-4**	**0.337**		**0.0329**
Copper	**7440-50-8**	**49.7**		**1.98**
Lead	**7439-92-1**	**1.08**		**0.161**
Manganese	**7439-96-5**	**10.5**		**1.43**
Molybdenum	**7439-98-7**	**1.44**		**0.271**
Nickel	**7440-02-0**	**1.22**		**0.492**
Selenium	**7782-49-2**	**0.211**		**0.00676**
Thallium	**7440-28-0**	**8.54E-4**		**4.44E-4**
Vanadium	**7440-62-2**	**1.13**		**0.0399**
Zinc	7440-66-6	18.4	U	57.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031224-HM/MS/MS **Lab ID:** 4031840-25 **Sampled:** 03/12/24 23:59
Matrix: Air **Sample Volume:** 2302.121 m³ **Received:** 03/18/24 14:42
Filter ID: **Analysis Date:** 03/22/24 22:26

Comments: Q9516951 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0872**	SL	**0.0273**
Arsenic	**7440-38-2**	**0.301**		**0.00662**
Barium	**7440-39-3**	**4.35**	QB-01	**0.756**
Beryllium	**7440-41-7**	**0.0258**		**0.00226**
Cadmium	7440-43-9	0.0101	U	0.0524
Chromium	**7440-47-3**	**2.16**		**1.56**
Cobalt	**7440-48-4**	**0.437**		**0.0308**
Copper	**7440-50-8**	**42.8**		**1.86**
Lead	**7439-92-1**	**0.574**		**0.151**
Manganese	**7439-96-5**	**11.2**		**1.34**
Molybdenum	**7439-98-7**	**2.13**		**0.254**
Nickel	**7440-02-0**	**1.28**		**0.461**
Selenium	**7782-49-2**	**0.201**		**0.00633**
Thallium	**7440-28-0**	**9.31E-4**		**4.16E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0374**
Zinc	7440-66-6	17.5	U	54.3

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031224-HM
Matrix: Air
Lab ID: 4031840-26
Sample Volume: 1942.305 m³
Filter ID:
Sampled: 03/12/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 08:18

Comments: Q9516950 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0952**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.328**		**0.00785**
Barium	**7440-39-3**	**3.54**	QB-01	**0.896**
Beryllium	**7440-41-7**	**0.00820**		**0.00268**
Cadmium	7440-43-9	0.00864	U	0.0621
Chromium	7440-47-3	1.66	U	1.85
Cobalt	**7440-48-4**	**0.235**		**0.0365**
Copper	**7440-50-8**	**49.7**		**2.20**
Lead	**7439-92-1**	**0.673**		**0.179**
Manganese	**7439-96-5**	**7.95**		**1.58**
Molybdenum	**7439-98-7**	**2.47**		**0.301**
Nickel	**7440-02-0**	**1.19**		**0.546**
Selenium	**7782-49-2**	**0.163**		**0.00751**
Thallium	**7440-28-0**	**7.74E-4**		**4.93E-4**
Vanadium	**7440-62-2**	**0.780**		**0.0443**
Zinc	7440-66-6	13.8	U	64.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-031224-HM
Matrix: Air
Lab ID: 4031840-27
Sample Volume: 2054.699 m³
Filter ID:
Sampled: 03/12/24 00:00
Received: 03/18/24 14:42
Analysis Date: 03/23/24 08:32

Comments: Q9516947 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0150	SL, U	0.0306
Arsenic	**7440-38-2**	**0.00975**	FB-01	**0.00742**
Barium	7440-39-3	0.702	QB-01, U	0.847
Beryllium	7440-41-7	5.79E-4	U	0.00253
Cadmium	7440-43-9	0.00127	U	0.0587
Chromium	7440-47-3	0.669	U	1.75
Cobalt	7440-48-4	0.0117	U	0.0345
Copper	7440-50-8	1.90	U	2.08
Lead	7439-92-1	0.0651	U	0.169
Manganese	7439-96-5	0.291	U	1.50
Molybdenum	7439-98-7	0.187	U	0.284
Nickel	7440-02-0	0.279	U	0.516
Selenium	7782-49-2	0.00291	U	0.00709
Thallium	7440-28-0	1.41E-4	U	4.66E-4
Vanadium	7440-62-2	0.0283	U	0.0419
Zinc	7440-66-6	10.3	U	60.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031324-HM
Matrix: Air
Lab ID: 4031840-28
Sample Volume: 2078.754 m³
Filter ID:
Sampled: 03/13/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 08:46

Comments: Q9516949 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0842**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.335**		**0.00733**
Barium	**7440-39-3**	**2.64**	QB-01	**0.837**
Beryllium	**7440-41-7**	**0.00409**		**0.00250**
Cadmium	7440-43-9	0.00722	U	0.0580
Chromium	7440-47-3	1.36	U	1.73
Cobalt	**7440-48-4**	**0.131**		**0.0341**
Copper	**7440-50-8**	**74.4**		**2.06**
Lead	**7439-92-1**	**0.310**		**0.167**
Manganese	**7439-96-5**	**4.45**		**1.48**
Molybdenum	**7439-98-7**	**2.68**		**0.281**
Nickel	**7440-02-0**	**0.972**		**0.510**
Selenium	**7782-49-2**	**0.260**		**0.00701**
Thallium	**7440-28-0**	**7.20E-4**		**4.61E-4**
Vanadium	**7440-62-2**	**0.456**		**0.0414**
Zinc	7440-66-6	11.5	U	60.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031324-HM
Matrix: Air
Lab ID: 4031840-29
Sample Volume: 2087.206 m³
Filter ID:
Sampled: 03/13/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 09:00

Comments: Q9516948 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.140**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.262**		**0.00730**
Barium	**7440-39-3**	**4.78**	QB-01	**0.834**
Beryllium	**7440-41-7**	**0.0120**		**0.00249**
Cadmium	7440-43-9	0.0140	U	0.0578
Chromium	**7440-47-3**	**2.01**		**1.72**
Cobalt	**7440-48-4**	**0.415**		**0.0340**
Copper	**7440-50-8**	**47.8**		**2.05**
Lead	**7439-92-1**	**0.605**		**0.167**
Manganese	**7439-96-5**	**11.2**		**1.47**
Molybdenum	**7439-98-7**	**1.34**		**0.280**
Nickel	**7440-02-0**	**1.54**		**0.508**
Selenium	**7782-49-2**	**0.272**		**0.00698**
Thallium	**7440-28-0**	**9.00E-4**		**4.59E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0412**
Zinc	7440-66-6	14.9	U	59.9

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031324-HM
Matrix: Air
Lab ID: 4031840-30
Sample Volume: 2594.139 m³
Filter ID:
Sampled: 03/13/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 09:48

Comments: Q9516946 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0483**	SL	**0.0242**
Arsenic	**7440-38-2**	**0.117**		**0.00588**
Barium	**7440-39-3**	**2.64**	QB-01	**0.671**
Beryllium	**7440-41-7**	**0.0113**		**0.00201**
Cadmium	7440-43-9	0.00500	U	0.0465
Chromium	7440-47-3	1.31	U	1.39
Cobalt	**7440-48-4**	**0.227**		**0.0273**
Copper	**7440-50-8**	**23.6**		**1.65**
Lead	**7439-92-1**	**0.209**		**0.134**
Manganese	**7439-96-5**	**6.08**		**1.19**
Molybdenum	**7439-98-7**	**1.20**		**0.225**
Nickel	**7440-02-0**	**0.722**		**0.409**
Selenium	**7782-49-2**	**0.146**		**0.00562**
Thallium	**7440-28-0**	**5.78E-4**		**3.69E-4**
Vanadium	**7440-62-2**	**0.651**		**0.0332**
Zinc	7440-66-6	10.1	U	48.2

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031324-HM
Matrix: Air
Lab ID: 4031840-31
Sample Volume: 1534.411 m³
Filter ID:
Sampled: 03/13/24 23:59
Received: 03/18/24 14:42
Analysis Date: 03/23/24 10:02

Comments: Q9516944 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.142**	SL	**0.0409**
Arsenic	**7440-38-2**	**0.384**		**0.00994**
Barium	**7440-39-3**	**4.86**	QB-01	**1.13**
Beryllium	**7440-41-7**	**0.0144**		**0.00339**
Cadmium	7440-43-9	0.0153	U	0.0786
Chromium	**7440-47-3**	**2.42**		**2.34**
Cobalt	**7440-48-4**	**0.437**		**0.0462**
Copper	**7440-50-8**	**29.2**		**2.79**
Lead	**7439-92-1**	**1.43**		**0.227**
Manganese	**7439-96-5**	**13.4**		**2.00**
Molybdenum	**7439-98-7**	**1.29**		**0.381**
Nickel	**7440-02-0**	**1.42**		**0.691**
Selenium	**7782-49-2**	**0.288**		**0.00950**
Thallium	**7440-28-0**	**0.00116**		**6.25E-4**
Vanadium	**7440-62-2**	**1.24**		**0.0561**
Zinc	7440-66-6	27.3	U	81.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
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 2403068 - B4C1905										
Calibration Blank (2403068-CCB1)				Prepared & Analyzed: 03/22/24						
Antimony	3.13		ng/l							
Arsenic	5.54		ng/l							
Barium	-1.21		ng/l							U
Beryllium	0.189		ng/l							
Cadmium	0.390		ng/l							
Chromium	4.12		ng/l							
Cobalt	0.692		ng/l							
Copper	90.0		ng/l							
Lead	13.3		ng/l							
Manganese	9.62		ng/l							
Molybdenum	8.16		ng/l							
Nickel	2.01		ng/l							
Selenium	5.03		ng/l							
Thallium	0.861		ng/l							
Vanadium	-17.8		ng/l							U
Zinc	8.24		ng/l							
Calibration Blank (2403068-CCB2)				Prepared & Analyzed: 03/22/24						
Antimony	3.10		ng/l							
Arsenic	6.76		ng/l							
Barium	-0.396		ng/l							U
Beryllium	0.125		ng/l							
Cadmium	0.674		ng/l							
Chromium	5.29		ng/l							
Cobalt	0.676		ng/l							
Copper	103		ng/l							
Lead	8.08		ng/l							
Manganese	9.76		ng/l							
Molybdenum	4.87		ng/l							
Nickel	2.23		ng/l							
Selenium	19.5		ng/l							
Thallium	0.415		ng/l							
Vanadium	-23.0		ng/l							U
Zinc	0.677		ng/l							
Calibration Blank (2403068-CCB3)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	4.12		ng/l							
Arsenic	4.95		ng/l							
Barium	-0.353		ng/l							U
Beryllium	1.61		ng/l							

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
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 2403068 - B4C1905										
Calibration Blank (2403068-CCB3) Contin				Prepared: 03/22/24 Analyzed: 03/23/24						
Cadmium	0.664		ng/l							
Chromium	6.71		ng/l							
Cobalt	1.08		ng/l							
Copper	114		ng/l							
Lead	10.8		ng/l							
Manganese	13.3		ng/l							
Molybdenum	6.52		ng/l							
Nickel	3.31		ng/l							
Selenium	7.57		ng/l							
Thallium	0.567		ng/l							
Vanadium	-26.7		ng/l							U
Zinc	14.6		ng/l							
Calibration Blank (2403068-CCB4)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	4.69		ng/l							
Arsenic	7.25		ng/l							
Barium	8.42		ng/l							
Beryllium	0.800		ng/l							
Cadmium	1.01		ng/l							
Chromium	13.5		ng/l							
Cobalt	2.20		ng/l							
Copper	161		ng/l							
Lead	13.7		ng/l							
Manganese	25.8		ng/l							
Molybdenum	8.10		ng/l							
Nickel	7.09		ng/l							
Selenium	18.5		ng/l							
Thallium	0.396		ng/l							
Vanadium	-25.4		ng/l							U
Zinc	-4.77		ng/l							U
Calibration Blank (2403068-CCB5)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	1.82		ng/l							
Arsenic	5.71		ng/l							
Barium	-2.02		ng/l							U
Beryllium	-0.120		ng/l							U
Cadmium	0.297		ng/l							
Chromium	3.91		ng/l							
Cobalt	0.440		ng/l							
Copper	73.6		ng/l							

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SUBMITTED: 03/18/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403068 - B4C1905										
Calibration Blank (2403068-CCB5) Contin				Prepared: 03/22/24 Analyzed: 03/23/24						
Lead	6.79		ng/l							
Manganese	6.25		ng/l							
Molybdenum	4.50		ng/l							
Nickel	1.40		ng/l							
Selenium	2.03		ng/l							
Thallium	0.423		ng/l							
Vanadium	-26.7		ng/l							U
Zinc	-14.0		ng/l							U
Calibration Blank (2403068-CCB6)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	2.35		ng/l							
Arsenic	6.20		ng/l							
Barium	-0.673		ng/l							U
Beryllium	1.16		ng/l							
Cadmium	0.385		ng/l							
Chromium	6.70		ng/l							
Cobalt	0.960		ng/l							
Copper	93.8		ng/l							
Lead	8.13		ng/l							
Manganese	14.8		ng/l							
Molybdenum	5.64		ng/l							
Nickel	2.62		ng/l							
Selenium	15.5		ng/l							
Thallium	0.713		ng/l							
Vanadium	-25.2		ng/l							U
Zinc	-23.8		ng/l							U
Calibration Blank (2403068-CCB7)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	3.00		ng/l							
Arsenic	5.98		ng/l							
Barium	5.58		ng/l							
Beryllium	2.96		ng/l							
Cadmium	0.663		ng/l							
Chromium	13.0		ng/l							
Cobalt	2.13		ng/l							
Copper	152		ng/l							
Lead	13.0		ng/l							
Manganese	25.5		ng/l							
Molybdenum	8.24		ng/l							
Nickel	6.02		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403068 - B4C1905										
Calibration Blank (2403068-CCB7) Contin				Prepared: 03/22/24 Analyzed: 03/23/24						
Selenium	24.4		ng/l							
Thallium	0.674		ng/l							
Vanadium	-28.3		ng/l							U
Zinc	-10.8		ng/l							U
Calibration Check (2403068-CCV1)				Prepared & Analyzed: 03/22/24						
Antimony	19600		ng/l	20000		98.0	90-110			
Arsenic	19800		ng/l	20000		99.1	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	19600		ng/l	20000		98.0	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	494000		ng/l	500000		98.9	90-110			
Molybdenum	48400		ng/l	50000		96.8	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19800		ng/l	20000		98.9	90-110			
Thallium	496		ng/l	500.00		99.3	90-110			
Vanadium	19400		ng/l	20000		96.8	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2403068-CCV2)				Prepared & Analyzed: 03/22/24						
Antimony	19500		ng/l	20000		97.7	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	195000		ng/l	200000		97.4	90-110			
Beryllium	4990		ng/l	5000.0		99.8	90-110			
Cadmium	19600		ng/l	20000		98.2	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	49700		ng/l	50000		99.5	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.3	90-110			
Manganese	489000		ng/l	500000		97.8	90-110			
Molybdenum	48400		ng/l	50000		96.8	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			
Vanadium	19500		ng/l	20000		97.7	90-110			
Zinc	511000		ng/l	500000		102	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 2403068 - B4C1905										
Calibration Check (2403068-CCV3)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	19800		ng/l	20000		98.8	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4860		ng/l	5000.0		97.2	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.5	90-110			
Manganese	500000		ng/l	500000		99.9	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	20000		ng/l	20000		99.8	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2403068-CCV4)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	4850		ng/l	5000.0		97.0	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	261000		ng/l	240000		109	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	51600		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20900		ng/l	20000		105	90-110			
Thallium	499		ng/l	500.00		99.7	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	514000		ng/l	500000		103	90-110			
Calibration Check (2403068-CCV5)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	19800		ng/l	20000		99.0	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4930		ng/l	5000.0		98.6	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 2403068 - B4C1905										
Calibration Check (2403068-CCV5) Contin				Prepared: 03/22/24 Analyzed: 03/23/24						
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	256000		ng/l	240000		107	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	504000		ng/l	500000		101	90-110			
Calibration Check (2403068-CCV6)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4850		ng/l	5000.0		97.0	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	261000		ng/l	240000		109	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.16E6		ng/l	2.0000E6		108	90-110			
Lead	207000		ng/l	200000		103	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20900		ng/l	20000		104	90-110			
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2403068-CCV7)				Prepared: 03/22/24 Analyzed: 03/23/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	19800		ng/l	20000		98.8	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	50000		ng/l	50000		99.9	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403068 - B4C1905										
Calibration Check (2403068-CCV7) Contin				Prepared: 03/22/24 Analyzed: 03/23/24						
Lead	200000		ng/l	200000		100	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	48600		ng/l	50000		97.2	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	487		ng/l	500.00		97.4	90-110			
Vanadium	19800		ng/l	20000		98.8	90-110			
Zinc	502000		ng/l	500000		100	90-110			
High Cal Check (2403068-HCV1)				Prepared & Analyzed: 03/22/24						
Antimony	39700		ng/l	40000		99.3	95-105			
Arsenic	40200		ng/l	40000		100	95-105			
Barium	393000		ng/l	400000		98.1	95-105			
Beryllium	9860		ng/l	10000		98.6	95-105			
Cadmium	39600		ng/l	40000		99.0	95-105			
Chromium	465000		ng/l	480000		96.9	95-105			
Cobalt	99200		ng/l	100000		99.2	95-105			
Copper	3.99E6		ng/l	4.0000E6		99.9	95-105			
Lead	400000		ng/l	400000		100	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	98600		ng/l	100000		98.6	95-105			
Nickel	238000		ng/l	240000		99.3	95-105			
Selenium	39700		ng/l	40000		99.3	95-105			
Thallium	996		ng/l	1000.0		99.6	95-105			
Vanadium	40000		ng/l	40000		99.9	95-105			
Zinc	991000		ng/l	1.0000E6		99.1	95-105			
Initial Cal Blank (2403068-ICB1)				Prepared & Analyzed: 03/22/24						
Antimony	2.77		ng/l							
Arsenic	4.48		ng/l							
Barium	-1.88		ng/l							U
Beryllium	-0.0991		ng/l							U
Cadmium	0.208		ng/l							
Chromium	1.61		ng/l							
Cobalt	0.439		ng/l							
Copper	49.7		ng/l							
Lead	13.3		ng/l							
Manganese	6.20		ng/l							
Molybdenum	3.13		ng/l							
Nickel	0.811		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403068 - B4C1905										
Initial Cal Blank (2403068-ICB1) Continu				Prepared & Analyzed: 03/22/24						
Selenium	16.2		ng/l							
Thallium	1.08		ng/l							
Vanadium	-21.1		ng/l							U
Zinc	-18.6		ng/l							U
Initial Cal Check (2403068-ICV1)				Prepared & Analyzed: 03/22/24						
Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	492000		ng/l	500000		98.4	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	481		ng/l	500.00		96.3	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	504000		ng/l	500000		101	90-110			
Interference Check A (2403068-IFA1)				Prepared & Analyzed: 03/22/24						
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	304000		ng/l	300000		101	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 2403068 - B4C1905										
Interference Check B (2403068-IFB1)					Prepared & Analyzed: 03/22/24					
Antimony	20500		ng/l	20000		102	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	203000		ng/l	200000		102	80-120			
Beryllium	4860		ng/l	5000.0		97.3	80-120			
Cadmium	19600		ng/l	20000		98.0	80-120			
Chromium	246000		ng/l	240000		103	80-120			
Cobalt	50300		ng/l	50000		101	80-120			
Copper	1.95E6		ng/l	2.0000E6		97.5	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	523000		ng/l	500000		105	80-120			
Molybdenum	346000		ng/l	350000		98.8	80-120			
Nickel	118000		ng/l	120000		98.7	80-120			
Selenium	19400		ng/l	20000		97.0	80-120			
Thallium	500		ng/l	500.00		100	80-120			
Vanadium	18800		ng/l	20000		94.2	80-120			
Zinc	467000		ng/l	500000		93.5	80-120			
Batch B4C1905 - ICP-MS Extraction										
Blank (B4C1905-BLK1)					Prepared: 03/19/24 Analyzed: 03/22/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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 (B4C1905-BS1)					Prepared: 03/19/24 Analyzed: 03/22/24					
Antimony	0.716	0.0386	ng/m³ Air	1.3829		51.8	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.4	80-120			
Barium	28.3	1.07	ng/m³ Air	27.658		102	80-120			QB-01

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
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 B4C1905 - ICP-MS Extraction										
LCS (B4C1905-BS1) Continued					Prepared: 03/19/24 Analyzed: 03/22/24					
Beryllium	1.38	0.00320	ng/m³ Air	1.3829		99.6	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	16.0	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	31.6	2.63	ng/m³ Air	27.658		114	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		98.8	80-120			
Manganese	9.06	1.89	ng/m³ Air	8.2975		109	80-120			
Molybdenum	1.49	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	3.29	0.652	ng/m³ Air	2.7658		119	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		99.9	80-120			
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.6	80-120			
Vanadium	2.77	0.0529	ng/m³ Air	2.7658		100	80-120			
Zinc	120	76.8	ng/m³ Air	82.975		145	80-120			
LCS (B4C1905-BS2)					Prepared: 03/19/24 Analyzed: 03/22/24					
Antimony	0.707	0.0386	ng/m³ Air	1.3829		51.1	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.2	80-120			
Barium	28.1	1.07	ng/m³ Air	27.658		102	80-120			QB-01
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		97.2	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.7	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.1	80-120			
Copper	31.2	2.63	ng/m³ Air	27.658		113	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.1	80-120			
Manganese	8.78	1.89	ng/m³ Air	8.2975		106	80-120			
Molybdenum	1.48	0.359	ng/m³ Air	1.3829		107	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.9	80-120			
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.4	80-120			
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.8	80-120			
Zinc	111	76.8	ng/m³ Air	82.975		133	80-120			
Duplicate (B4C1905-DUP1)		**Source: 4031840-05**			Prepared: 03/19/24 Analyzed: 03/22/24					
Antimony	0.0600	0.0312	ng/m³ Air		0.0721			18.3	10	SL
Arsenic	0.768	0.00758	ng/m³ Air		0.640			18.2	10	
Barium	2.99	0.866	ng/m³ Air		2.87			3.96	10	QB-01
Beryllium	0.00831	0.00259	ng/m³ Air		0.00838			0.783	10	
Cadmium	ND	0.0599	ng/m³ Air		ND				10	U
Chromium	3.91	1.79	ng/m³ Air		3.91			0.0996	10	
Cobalt	0.385	0.0353	ng/m³ Air		0.301			24.6	10	D-F

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
SUBMITTED: 03/18/24
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 B4C1905 - ICP-MS Extraction										
Duplicate (B4C1905-DUP1) Continued			**Source: 4031840-05**		Prepared: 03/19/24		Analyzed: 03/22/24			
Copper	40.8	2.13	ng/m³ Air		38.9			4.61	10	
Lead	0.476	0.173	ng/m³ Air		0.459			3.70	10	
Manganese	8.17	1.53	ng/m³ Air		8.24			0.954	10	
Molybdenum	1.51	0.290	ng/m³ Air		1.48			2.01	10	
Nickel	1.72	0.527	ng/m³ Air		1.65			4.11	10	
Selenium	0.140	0.00725	ng/m³ Air		0.135			3.94	10	
Thallium	0.00109	4.76E-4	ng/m³ Air		0.00107			2.21	10	
Vanadium	0.665	0.0428	ng/m³ Air		0.673			1.17	10	
Zinc	ND	62.1	ng/m³ Air		ND				10	U
Duplicate (B4C1905-DUP2)			**Source: 4031840-25**		Prepared: 03/19/24		Analyzed: 03/22/24			
Antimony	0.0892	0.0273	ng/m³ Air		0.0872			2.23	10	SL
Arsenic	0.303	0.00662	ng/m³ Air		0.301			0.741	10	
Barium	3.65	0.756	ng/m³ Air		4.35			17.6	10	QB-01
Beryllium	0.0244	0.00226	ng/m³ Air		0.0258			5.74	10	
Cadmium	ND	0.0524	ng/m³ Air		ND				10	U
Chromium	2.15	1.56	ng/m³ Air		2.16			0.497	10	
Cobalt	0.423	0.0308	ng/m³ Air		0.437			3.20	10	
Copper	42.0	1.86	ng/m³ Air		42.8			2.05	10	
Lead	0.541	0.151	ng/m³ Air		0.574			5.87	10	
Manganese	10.9	1.34	ng/m³ Air		11.2			2.81	10	
Molybdenum	2.11	0.254	ng/m³ Air		2.13			0.842	10	
Nickel	1.17	0.461	ng/m³ Air		1.28			8.98	10	
Selenium	0.187	0.00633	ng/m³ Air		0.201			7.11	10	
Thallium	9.72E-4	4.16E-4	ng/m³ Air		9.31E-4			4.25	10	
Vanadium	1.10	0.0374	ng/m³ Air		1.14			2.76	10	
Zinc	ND	54.3	ng/m³ Air		ND				10	U
Duplicate (B4C1905-DUP3)			**Source: 4031840-11**		Prepared: 03/19/24		Analyzed: 03/23/24			
Antimony	0.101	0.0300	ng/m³ Air		0.102			0.281	10	SL
Arsenic	0.830	0.00729	ng/m³ Air		0.828			0.332	10	
Barium	5.99	0.833	ng/m³ Air		6.06			1.02	10	QB-01
Beryllium	0.0163	0.00249	ng/m³ Air		0.0166			1.64	10	
Cadmium	ND	0.0577	ng/m³ Air		ND				10	U
Chromium	3.87	1.72	ng/m³ Air		3.92			1.26	10	
Cobalt	0.665	0.0339	ng/m³ Air		0.672			1.06	10	
Copper	62.5	2.05	ng/m³ Air		62.9			0.581	10	
Lead	1.08	0.167	ng/m³ Air		1.09			0.846	10	
Manganese	16.7	1.47	ng/m³ Air		16.8			0.207	10	
Molybdenum	1.78	0.279	ng/m³ Air		1.80			1.04	10	

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FILE #: 4205.00.003.001
REPORTED: 03/26/24 14:17
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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 B4C1905 - ICP-MS Extraction										
Duplicate (B4C1905-DUP3) Continued		**Source: 4031840-11**		Prepared: 03/19/24	Analyzed: 03/23/24					
Nickel	2.67	0.507	ng/m³ Air		2.70			1.01	10	
Selenium	0.190	0.00697	ng/m³ Air		0.201			5.49	10	
Thallium	0.00126	4.58E-4	ng/m³ Air		0.00130			3.42	10	
Vanadium	1.59	0.0412	ng/m³ Air		1.62			1.60	10	
Zinc	ND	59.8	ng/m³ Air		ND				10	U
Duplicate (B4C1905-DUP4)		**Source: 4031840-22**		Prepared: 03/19/24	Analyzed: 03/23/24					
Antimony	0.0789	0.0323	ng/m³ Air		0.0785			0.527	10	SL
Arsenic	0.204	0.00785	ng/m³ Air		0.205			0.719	10	
Barium	2.44	0.896	ng/m³ Air		2.45			0.356	10	QB-01
Beryllium	0.00599	0.00268	ng/m³ Air		0.00578			3.53	10	
Cadmium	ND	0.0621	ng/m³ Air		ND				10	U
Chromium	ND	1.85	ng/m³ Air		ND				10	U
Cobalt	0.166	0.0365	ng/m³ Air		0.165			0.672	10	
Copper	52.5	2.20	ng/m³ Air		52.5			0.133	10	
Lead	0.613	0.179	ng/m³ Air		0.617			0.725	10	
Manganese	5.55	1.58	ng/m³ Air		5.54			0.0543	10	
Molybdenum	2.64	0.301	ng/m³ Air		2.62			0.469	10	
Nickel	0.594	0.546	ng/m³ Air		0.593			0.251	10	
Selenium	0.138	0.00750	ng/m³ Air		0.135			2.34	10	
Thallium	8.21E-4	4.93E-4	ng/m³ Air		8.88E-4			7.90	10	
Vanadium	0.512	0.0443	ng/m³ Air		0.512			0.0835	10	
Zinc	ND	64.3	ng/m³ Air		ND				10	U
Matrix Spike (B4C1905-MS1)		**Source: 4031840-05**		Prepared: 03/19/24	Analyzed: 03/22/24					
Antimony	0.518	0.0312	ng/m³ Air	1.1188	0.0721	39.9	80-120			SL
Arsenic	2.82	0.00758	ng/m³ Air	2.2375	0.640	97.5	80-120			
Barium	25.0	0.866	ng/m³ Air	22.375	2.87	98.8	80-120			QB-01
Beryllium	1.13	0.00259	ng/m³ Air	1.1188	0.00838	99.9	80-120			
Cadmium	1.15	0.0599	ng/m³ Air	1.1188	ND	102	80-120			
Chromium	15.4	1.79	ng/m³ Air	11.188	3.91	103	80-120			
Cobalt	1.41	0.0353	ng/m³ Air	1.1188	0.301	98.8	80-120			
Copper	64.7	2.13	ng/m³ Air	22.375	38.9	115	80-120			
Lead	11.7	0.173	ng/m³ Air	11.188	0.459	100	80-120			
Manganese	15.2	1.53	ng/m³ Air	6.7125	8.24	103	80-120			
Molybdenum	2.57	0.290	ng/m³ Air	1.1188	1.48	97.9	80-120			
Nickel	3.79	0.527	ng/m³ Air	2.2375	1.65	95.4	80-120			
Selenium	2.34	0.00725	ng/m³ Air	2.2375	0.135	98.6	80-120			
Thallium	0.108	4.76E-4	ng/m³ Air	0.11188	0.00107	95.5	80-120			
Vanadium	2.85	0.0428	ng/m³ Air	2.2375	0.673	97.2	80-120			

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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 B4C1905 - ICP-MS Extraction										
Matrix Spike (B4C1905-MS1) Continued Source: 4031840-05 Prepared: 03/19/24 Analyzed: 03/22/24										
Zinc	84.8	62.1	ng/m³ Air	67.125	ND	126	80-120			
Matrix Spike (B4C1905-MS2) Source: 4031840-25 Prepared: 03/19/24 Analyzed: 03/22/24										
Antimony	0.666	0.0273	ng/m³ Air	0.97736	0.0872	59.2	80-120			SL
Arsenic	2.15	0.00662	ng/m³ Air	1.9547	0.301	94.6	80-120			
Barium	23.2	0.756	ng/m³ Air	19.547	4.35	96.7	80-120			QB-01
Beryllium	0.938	0.00226	ng/m³ Air	0.97736	0.0258	93.4	80-120			
Cadmium	0.984	0.0524	ng/m³ Air	0.97736	ND	101	80-120			
Chromium	12.3	1.56	ng/m³ Air	9.7736	2.16	104	80-120			
Cobalt	1.39	0.0308	ng/m³ Air	0.97736	0.437	97.5	80-120			
Copper	61.6	1.86	ng/m³ Air	19.547	42.8	96.0	80-120			
Lead	10.2	0.151	ng/m³ Air	9.7736	0.574	99.0	80-120			
Manganese	17.3	1.34	ng/m³ Air	5.8642	11.2	104	80-120			
Molybdenum	3.07	0.254	ng/m³ Air	0.97736	2.13	96.5	80-120			
Nickel	3.14	0.461	ng/m³ Air	1.9547	1.28	95.2	80-120			
Selenium	2.10	0.00633	ng/m³ Air	1.9547	0.201	97.0	80-120			
Thallium	0.0946	4.16E-4	ng/m³ Air	9.7736E-2	9.31E-4	95.9	80-120			
Vanadium	3.01	0.0374	ng/m³ Air	1.9547	1.14	95.7	80-120			
Zinc	74.0	54.3	ng/m³ Air	58.642	ND	126	80-120			
Matrix Spike Dup (B4C1905-MSD1) Source: 4031840-05 Prepared: 03/19/24 Analyzed: 03/22/24										
Antimony	0.561	0.0312	ng/m³ Air	1.1188	0.0721	43.7	80-120	7.88	20	SL
Arsenic	2.99	0.00758	ng/m³ Air	2.2375	0.640	105	80-120	5.82	20	
Barium	25.3	0.866	ng/m³ Air	22.375	2.87	100	80-120	1.13	20	QB-01
Beryllium	1.10	0.00259	ng/m³ Air	1.1188	0.00838	97.5	80-120	2.38	20	
Cadmium	1.15	0.0599	ng/m³ Air	1.1188	ND	103	80-120	0.175	20	
Chromium	16.0	1.79	ng/m³ Air	11.188	3.91	108	80-120	3.85	20	
Cobalt	1.46	0.0353	ng/m³ Air	1.1188	0.301	104	80-120	3.90	20	
Copper	66.0	2.13	ng/m³ Air	22.375	38.9	121	80-120	2.00	20	QM-07
Lead	12.0	0.173	ng/m³ Air	11.188	0.459	103	80-120	2.51	20	
Manganese	15.5	1.53	ng/m³ Air	6.7125	8.24	108	80-120	2.02	20	
Molybdenum	2.65	0.290	ng/m³ Air	1.1188	1.48	105	80-120	2.88	20	
Nickel	4.17	0.527	ng/m³ Air	2.2375	1.65	113	80-120	9.72	20	
Selenium	2.34	0.00725	ng/m³ Air	2.2375	0.135	98.6	80-120	0.00124	20	
Thallium	0.110	4.76E-4	ng/m³ Air	0.11188	0.00107	97.4	80-120	1.96	20	
Vanadium	2.90	0.0428	ng/m³ Air	2.2375	0.673	99.3	80-120	1.70	20	
Zinc	88.1	62.1	ng/m³ Air	67.125	ND	131	80-120	3.84	20	
Matrix Spike Dup (B4C1905-MSD2) Source: 4031840-25 Prepared: 03/19/24 Analyzed: 03/22/24										
Antimony	0.680	0.0273	ng/m³ Air	0.97736	0.0872	60.7	80-120	2.13	20	SL
Arsenic	2.16	0.00662	ng/m³ Air	1.9547	0.301	95.0	80-120	0.427	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4C1905 - ICP-MS Extraction										
Matrix Spike Dup (B4C1905-MSD2) Conti		**Source: 4031840-25**			Prepared: 03/19/24		Analyzed: 03/22/24			
Barium	23.4	0.756	ng/m³ Air	19.547	4.35	97.4	80-120	0.599	20	QB-01
Beryllium	1.02	0.00226	ng/m³ Air	0.97736	0.0258	102	80-120	8.41	20	
Cadmium	0.977	0.0524	ng/m³ Air	0.97736	ND	100	80-120	0.683	20	
Chromium	12.3	1.56	ng/m³ Air	9.7736	2.16	103	80-120	0.371	20	
Cobalt	1.40	0.0308	ng/m³ Air	0.97736	0.437	98.7	80-120	0.782	20	
Copper	62.8	1.86	ng/m³ Air	19.547	42.8	102	80-120	1.87	20	
Lead	10.3	0.151	ng/m³ Air	9.7736	0.574	99.5	80-120	0.510	20	
Manganese	17.5	1.34	ng/m³ Air	5.8642	11.2	108	80-120	1.39	20	
Molybdenum	3.17	0.254	ng/m³ Air	0.97736	2.13	107	80-120	3.24	20	
Nickel	3.20	0.461	ng/m³ Air	1.9547	1.28	98.0	80-120	1.69	20	
Selenium	2.11	0.00633	ng/m³ Air	1.9547	0.201	97.9	80-120	0.856	20	
Thallium	0.0930	4.16E-4	ng/m³ Air	9.7736E-2	9.31E-4	94.2	80-120	1.75	20	
Vanadium	3.05	0.0374	ng/m³ Air	1.9547	1.14	98.1	80-120	1.55	20	
Zinc	73.4	54.3	ng/m³ Air	58.642	ND	125	80-120	0.882	20	
Post Spike (B4C1905-PS1)		**Source: 4031840-05**			Prepared: 03/19/24		Analyzed: 03/22/24			
Antimony	0.283	0.0312	ng/m³ Air	0.22375	0.0721	94.3	75-125			SL
Arsenic	1.72	0.00758	ng/m³ Air	1.1188	0.640	96.1	75-125			
Barium	5.00	0.866	ng/m³ Air	2.2375	2.87	94.9	75-125			QB-01
Beryllium	0.235	0.00259	ng/m³ Air	0.22375	0.00838	101	75-125			
Cadmium	0.124	0.0599	ng/m³ Air	0.11188	ND	111	75-125			
Chromium	4.90	1.79	ng/m³ Air	1.1188	3.91	88.6	75-125			
Cobalt	0.512	0.0353	ng/m³ Air	0.22375	0.301	94.1	75-125			
Copper	50.6	2.13	ng/m³ Air	11.188	38.9	105	75-125			
Lead	21.8	0.173	ng/m³ Air	22.375	0.459	95.5	75-125			
Manganese	10.4	1.53	ng/m³ Air	2.2375	8.24	94.2	75-125			
Molybdenum	2.45	0.290	ng/m³ Air	1.1188	1.48	87.1	75-125			
Nickel	3.79	0.527	ng/m³ Air	2.2375	1.65	95.5	75-125			
Selenium	1.20	0.00725	ng/m³ Air	1.1188	0.135	95.1	75-125			
Thallium	0.0546	4.76E-4	ng/m³ Air	5.5938E-2	0.00107	95.7	75-125			
Vanadium	1.68	0.0428	ng/m³ Air	1.1188	0.673	90.3	75-125			
Zinc	ND	62.1	ng/m³ Air	22.375	ND		75-125			U
Post Spike (B4C1905-PS2)		**Source: 4031840-25**			Prepared: 03/19/24		Analyzed: 03/22/24			
Antimony	0.273	0.0273	ng/m³ Air	0.19547	0.0872	95.1	75-125			SL
Arsenic	1.24	0.00662	ng/m³ Air	0.97736	0.301	95.9	75-125			
Barium	6.40	0.756	ng/m³ Air	1.9547	4.35	105	75-125			QB-01
Beryllium	0.231	0.00226	ng/m³ Air	0.19547	0.0258	105	75-125			
Cadmium	0.107	0.0524	ng/m³ Air	9.7736E-2	ND	109	75-125			
Chromium	3.11	1.56	ng/m³ Air	0.97736	2.16	97.2	75-125			

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
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 B4C1905 - ICP-MS Extraction										
Post Spike (B4C1905-PS2) Continued		**Source: 4031840-25**		Prepared: 03/19/24		Analyzed: 03/22/24				
Cobalt	0.633	0.0308	ng/m³ Air	0.19547	0.437	100	75-125			
Copper	54.0	1.86	ng/m³ Air	9.7736	42.8	114	75-125			
Lead	19.6	0.151	ng/m³ Air	19.547	0.574	97.2	75-125			
Manganese	13.2	1.34	ng/m³ Air	1.9547	11.2	103	75-125			
Molybdenum	3.04	0.254	ng/m³ Air	0.97736	2.13	93.6	75-125			
Nickel	3.21	0.461	ng/m³ Air	1.9547	1.28	98.9	75-125			
Selenium	1.14	0.00633	ng/m³ Air	0.97736	0.201	96.4	75-125			
Thallium	0.0475	4.16E-4	ng/m³ Air	4.8868E-2	9.31E-4	95.3	75-125			
Vanadium	2.06	0.0374	ng/m³ Air	0.97736	1.14	94.8	75-125			
Zinc	ND	54.3	ng/m³ Air	19.547	ND		75-125			U
Dilution Check (B4C1905-SRL1)		**Source: 4031840-05**		Prepared: 03/19/24		Analyzed: 03/22/24				
Antimony	ND	0.156	ng/m³ Air		ND				10	SL, U
Arsenic	0.654	0.0379	ng/m³ Air		0.640			2.14	10	
Barium	ND	4.33	ng/m³ Air		ND				10	QB-01, U
Beryllium	ND	0.0129	ng/m³ Air		ND				10	U
Cadmium	ND	0.300	ng/m³ Air		ND				10	U
Chromium	ND	8.94	ng/m³ Air		ND				10	U
Cobalt	0.307	0.176	ng/m³ Air		0.301			2.09	10	
Copper	39.5	10.6	ng/m³ Air		38.9			1.36	10	
Lead	ND	0.866	ng/m³ Air		ND				10	U
Manganese	8.37	7.64	ng/m³ Air		8.24			1.55	10	
Molybdenum	1.46	1.45	ng/m³ Air		1.48			1.10	10	
Nickel	ND	2.64	ng/m³ Air		ND				10	U
Selenium	0.129	0.0362	ng/m³ Air		0.135			4.26	10	
Thallium	ND	0.00238	ng/m³ Air		ND				10	U
Vanadium	0.675	0.214	ng/m³ Air		0.673			0.232	10	
Zinc	ND	311	ng/m³ Air		ND				10	U
Dilution Check (B4C1905-SRL2)		**Source: 4031840-25**		Prepared: 03/19/24		Analyzed: 03/22/24				
Antimony	ND	0.136	ng/m³ Air		ND				10	SL, U
Arsenic	0.315	0.0331	ng/m³ Air		0.301			4.61	10	
Barium	4.45	3.78	ng/m³ Air		4.35			2.16	10	QB-01
Beryllium	0.0252	0.0113	ng/m³ Air		0.0258			2.42	10	
Cadmium	ND	0.262	ng/m³ Air		ND				10	U
Chromium	ND	7.81	ng/m³ Air		ND				10	U
Cobalt	0.453	0.154	ng/m³ Air		0.437			3.73	10	
Copper	43.9	9.29	ng/m³ Air		42.8			2.58	10	
Lead	ND	0.756	ng/m³ Air		ND				10	U
Manganese	11.5	6.68	ng/m³ Air		11.2			2.72	10	

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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: 03/26/24 14:17
SUBMITTED: 03/18/24
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 B4C1905 - ICP-MS Extraction										
Dilution Check (B4C1905-SRL2) ContinueSource: 4031840-25 Prepared: 03/19/24 Analyzed: 03/22/24										
Molybdenum	2.20	1.27	ng/m³ Air		2.13			3.37	10	
Nickel	ND	2.30	ng/m³ Air		ND				10	U
Selenium	0.203	0.0317	ng/m³ Air		0.201			0.710	10	
Thallium	0.00258	0.00208	ng/m³ Air		ND			93.9	10	
Vanadium	1.16	0.187	ng/m³ Air		1.14			1.92	10	
Zinc	ND	271	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-01	Analyte exceeds method blank criteria
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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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 3/27/2024 and Shanna Vasser 3/28/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 3/7/2024 - 3/13/2024
Report No: 4031840

√	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.
√	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 and copper in MFL-FB01-031024-HM and for arsenic in MFL-FB01-031224-HM.

Notes:

1. CoC was revised on March 25, 2024, to correct volumes.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

March 14 through March 20, 2024
[Report Updated: March 31, 2025]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from March 14 through March 20, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from March 14through March 20 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/m^3), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 µg/m^3 screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. Of the 28 samples collected, one sample taken at Leialii Hawaiian Homelands on 3/15 was voided as a result of a greater than 10% discrepancy between the pre and post calibration values, as stated in the asbestos sampling

standard operating procedures (SOP). All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on March 15, and 19 through 20
- WW Pump Station #4 on March 14, 16, and 18 through 19
- Lahaina Intermediate School on March 14, and 20
- Lahaina Boys & Girls Club on March 14, 17 and 19 through 20

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all four community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.4 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and SOP are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler

- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
March 14 through March 20, 2024
[Report Updated: March 31, 2025]

Screening Level		**150 µg/m^3**
3/14/2024	Leialii Hawaiian Homelands (AM-01)	6.1
	WW Pump Station #4 (AM-02)	7.0
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Boys & Girls Club (AM-04)	6.6
3/15/2024	Leialii Hawaiian Homelands (AM-01)	6.2
	WW Pump Station #4 (AM-02)	6.2
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	5.1
3/16/2024	Leialii Hawaiian Homelands (AM-01)	5.4
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	5.1
	Lahaina Boys & Girls Club (AM-04)	4.5
3/17/2024	Leialii Hawaiian Homelands (AM-01)	6.2
	WW Pump Station #4 (AM-02)	6.5
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Boys & Girls Club (AM-04)	5.4
3/18/2024	Leialii Hawaiian Homelands (AM-01)	6.8
	WW Pump Station #4 (AM-02)	7.5
	Lahaina Intermediate School (AM-03)	5.7
	Lahaina Boys & Girls Club (AM-04)	4.0
3/19/2024	Leialii Hawaiian Homelands (AM-01)	6.1
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	6.4
	Lahaina Boys & Girls Club (AM-04)	9.2
3/20/2024	Leialii Hawaiian Homelands (AM-01)	7.4
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	8.0
	Lahaina Boys & Girls Club (AM-04)	8.7

Notes:
µg/m^3 = micrograms per cubic meter
Time weighted average (TWA) calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation
Results from Leialii Hawaiian Homelands on 3/14, 3/15, 3/20 have been revised from previously submitted report.
Results from WW Pump Station #4 on 3/16 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
March 14 through March 20, 2024
[Report Updated: March 31, 2025]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
3/14/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000739	0.000205	0.00499	0.00000549	ND	ND	0.000227	0.0525	0.000306	0.00632	0.00202	0.00140	0.000149	0.00000103	0.000811	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000179	0.000526	0.00450	0.0000119	ND	0.00190	0.000355	0.0605	0.00124	0.0116	0.00166	0.00145	0.000190	0.00000119	0.00140	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000951	0.000286	0.00470	0.0000378	ND	0.00318	0.000786	0.0518	0.000647	0.0196	0.00224	0.00236	0.000243	0.00000145	0.00213	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000139	0.000464	0.00437	0.0000111	ND	0.00208	0.000364	0.0406	0.00121	0.0110	0.00191	0.00136	0.000190	0.00000110	0.00119	ND
3/15/2024	Leialii Hawaiian Homelands (AM-01)		0.0000506	0.000338	0.00609	0.00000966	ND	0.00203	0.000340	0.0349	0.000676	0.0114	0.00118	0.00143	0.000133	0.00000241	0.000900	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000177	0.00103	0.00755	0.0000262	ND	0.00298	0.000715	0.0667	0.00283	0.0229	0.00156	0.00220	0.000185	0.00000287	0.00225	ND
	Lahaina Intermediate School (AM-03)	<0.0028	0.0000640	0.000264	0.00414	0.0000240	ND	0.00277	0.000519	0.0681	0.000885	0.0138	0.00217	0.00255	0.000117	0.00000124	0.00141	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000147	0.00134	0.00702	0.0000231	ND	0.00369	0.000814	0.0297	0.00205	0.0231	0.00120	0.00232	0.000131	0.00000155	0.00184	ND
3/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000386	0.000195	0.00345	0.00000564	ND	ND	0.000211	0.0523	0.000227	0.00669	0.00176	0.00145	0.0000698	0.000000639	0.000583	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000221	0.000579	0.00647	0.0000108	ND	0.00190	0.000365	0.0319	0.000962	0.0115	0.00110	0.00112	0.0000935	0.00000102	0.00107	ND
	Lahaina Intermediate School (AM-03)	<0.0026	0.0000584	0.000201	0.00225	0.00000688	ND	ND	0.000178	0.0309	0.000309	0.00472	0.00106	0.000785	0.0000688	0.000000598	0.000448	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000117	0.000447	0.00439	0.00000866	ND	0.00195	0.000311	0.0382	0.00102	0.00948	0.00124	0.00107	0.0000883	0.000000763	0.000814	ND
3/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000997	0.000423	0.00386	0.00000503	ND	ND	0.000198	0.0305	0.00105	0.00601	0.00102	0.000659	0.000102	0.00000104	0.000566	ND
	WW Pump Station #4 (AM-02)	<0.0026	0.000160	0.000460	0.00363	0.00000827	ND	ND	0.000248	0.0326	0.00110	0.00823	0.00114	0.000931	0.000117	0.00000112	0.000848	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000556	0.000266	0.00175	0.0000100	ND	ND	0.000203	0.0348	0.000321	0.00527	0.00113	0.000618	0.000117	0.00000122	0.000557	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000161	0.000420	0.00451	0.00000817	ND	0.00199	0.000278	0.0490	0.000982	0.00860	0.00148	0.000897	0.000130	0.00000111	0.000821	ND
3/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000679	0.000429	0.00267	0.00000589	ND	0.00208	0.000213	0.0358	0.000589	0.00664	0.00148	0.000827	0.000123	0.00000120	0.000686	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000129	0.000508	0.00482	0.0000135	ND	0.00243	0.000528	0.0299	0.000898	0.0132	0.00101	0.00190	0.000154	0.00000159	0.00142	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000569	0.000242	0.00277	0.0000183	ND	0.00201	0.000396	0.0374	0.000611	0.00957	0.00118	0.00124	0.000148	0.00000136	0.000982	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000144	0.00103	0.00414	0.00000884	ND	0.00201	0.000299	0.0459	0.00113	0.00906	0.00148	0.000988	0.000143	0.00000142	0.000831	ND
3/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000862	0.000581	0.00435	0.00000923	ND	0.00243	0.000314	0.0401	0.000874	0.00894	0.00179	0.00118	0.000135	0.00000203	0.000926	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000348	0.00275	0.00904	0.0000173	ND	0.00436	0.000623	0.0414	0.0129	0.0176	0.00115	0.00210	0.000196	0.00000285	0.00181	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000720	0.000310	0.00339	0.0000191	ND	0.00198	0.000365	0.0411	0.000601	0.00907	0.00131	0.00110	0.000154	0.00000223	0.000939	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000116	0.000507	0.00411	0.00000962	ND	0.00189	0.000315	0.0524	0.00122	0.00987	0.00199	0.000975	0.000142	0.00000208	0.000894	ND
3/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.0000576	0.000403	0.00308	0.00000895	ND	0.00230	0.000324	0.0245	0.000576	0.0108	0.00140	0.00105	0.000157	0.00000229	0.000952	ND
	WW Pump Station #4 (AM-02)	<0.0026	0.000232	0.000681	0.0112	0.0000282	ND	0.00622	0.00167	0.0366	0.00178	0.0379	0.00122	0.00695	0.000252	0.00000315	0.00381	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000536	0.000246	0.00302	0.0000236	ND	0.00206	0.000438	0.0392	0.000445	0.0116	0.00129	0.00114	0.000190	0.00000230	0.00116	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000377	0.000753	0.00648	0.0000193	ND	0.00272	0.000551	0.0457	0.00144	0.0204	0.00204	0.00162	0.000208	0.00000250	0.00136	ND
95% Upper Confidence Limit[2]		NA	0.000160	0.000700	0.00550	0.0000170	NA	0.00291	0.000520	0.0458	0.00171	0.0146	0.00160	0.00183	0.000170	0.00000190	0.00141	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/m^3 = 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 shown in Table 2 has been converted to micrograms per cubic meter so data was comparable to SSALs
The asbestos sample was voided at Leialii Hawaiian Homelands on 3/15 due to the sampling pump providing inconsistent air flow through the filter and not maintaining flow rate within 10% of the initial measurement throughout the sampling period.

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
March 14 through March 20, 2024
[Report Updated: March 31, 2025]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
3/14/2024	AM-01	Leialii Hawaiian Homelands	1.9	SSW	74	72	759.6
3/14/2024	AM-02	WW Pump Station #4	1.7	SE	75	74	761.7
3/14/2024	AM-03	Lahaina Intermediate School	1.8	SSW	72	76	752.2
3/14/2024	AM-04	Lahaina Boys & Girls Club	1.8	SW	74	71	761.3
3/15/2024	AM-01	Leialii Hawaiian Homelands	2.2	SW	70	76	758.7
3/15/2024	AM-02	WW Pump Station #4	1.7	SE	71	77	761.0
3/15/2024	AM-03	Lahaina Intermediate School	1.3	SSW	70	77	751.5
3/15/2024	AM-04	Lahaina Boys & Girls Club	1.5	WSW	72	72	760.7
3/16/2024	AM-01	Leialii Hawaiian Homelands	1.5	SSE	74	65	758.7
3/16/2024	AM-02	WW Pump Station #4	1.1	SE	74	67	761.0
3/16/2024	AM-03	Lahaina Intermediate School	1.1	ESE	71	70	751.5
3/16/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	72	68	760.7
3/17/2024	AM-01	Leialii Hawaiian Homelands	1.3	SSE	76	60	760.1
3/17/2024	AM-02	WW Pump Station #4	1.2	SSE	75	63	762.4
3/17/2024	AM-03	Lahaina Intermediate School	1.3	ESE	72	64	752.9
3/17/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	72	65	762.1
3/18/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	76	57	760.9
3/18/2024	AM-02	WW Pump Station #4	1.0	SSE	76	61	763.2
3/18/2024	AM-03	Lahaina Intermediate School	1.1	SE	72	63	753.7
3/18/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	73	62	762.9
3/19/2024	AM-01	Leialii Hawaiian Homelands	1.3	ESE	74	54	761.1
3/19/2024	AM-02	WW Pump Station #4	1.1	SE	75	56	763.3
3/19/2024	AM-03	Lahaina Intermediate School	1.2	ESE	71	60	753.8
3/19/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	72	57	763.0
3/20/2024	AM-01	Leialii Hawaiian Homelands	1.8	SE	73	60	761.5
3/20/2024	AM-02	WW Pump Station #4	1.5	E	74	60	763.7
3/20/2024	AM-03	Lahaina Intermediate School	1.4	E	71	62	754.1
3/20/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	72	59	763.3

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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EMSL Order:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031424-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7338.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0001 **Customer Sample:** MFL-AM01-031424-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					
B3	J4	None Detected									
B3	G2	None Detected									
B3	D3	None Detected									
B4	H3	None Detected									
B4	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031424-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7228.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0002 **Customer Sample:** MFL-AM02-031424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	D7	None Detected									
B5	G9	None Detected									
B6	C8	None Detected									
B6	I7	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:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031424-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7167.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0003 **Customer Sample:** MFL-AM03-031424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	B6	None Detected									
C2	E8	None Detected									
C2	H7	None Detected									
C3	B6	None Detected									
C3	H4	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:	

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-031424-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7249.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0004 **Customer Sample:** MFL-AM04-031424-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	G6	None Detected									
C5	C3	None Detected									
C6	C6	None Detected									
C6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031424-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0005 **Customer Sample:** MFL-FB01-031424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A6	None Detected									
D2	C5	None Detected									
D2	E4	None Detected									
D2	G5	None Detected									
D2	H6	None Detected									
D3	A3	None Detected									
D3	C4	None Detected									
D3	E3	None Detected									
D3	G1	None Detected									
D3	I2	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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1560 Broadway, Suite 1400
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Project: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031524-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7374.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0006 **Customer Sample:** MFL-AM02-031524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A2	None Detected									
D5	E3	None Detected									
D5	I6	None Detected									
D6	H5	None Detected									
D6	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-031524-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7414.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	- 0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**- 0.0024**

Comment

Approved Signatory

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EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0007 **Customer Sample:** MFL-AM04-031524-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	I5	None Detected									
E2	F4	None Detected									
E2	C2	None Detected									
E3	J2	None Detected									
E3	E3	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:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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1560 Broadway, Suite 1400
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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031524-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0008 **Customer Sample:** MFL-FB01-031524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	J4	None Detected									
E5	H2	None Detected									
E5	F3	None Detected									
E5	D2	None Detected									
E5	B4	None Detected									
E6	J5	None Detected									
E6	H3	None Detected									
E6	F4	None Detected									
E6	D2	None Detected									
E6	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:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031624-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7261.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0009 **Customer Sample:** MFL-AM01-031624-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	A7	None Detected									
F2	D8	None Detected									
F2	H10	None Detected									
F3	G2	None Detected									
F3	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031624-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7223.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0010 **Customer Sample:** MFL-AM02-031624-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	J5	None Detected									
F5	F4	None Detected									
F5	B3	None Detected									
F6	C7	None Detected									
F6	I5	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:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031624-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6954.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment

Approved Signatory

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EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0011 **Customer Sample:** MFL-AM03-031624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A9	None Detected									
G2	D7	None Detected									
G2	G6	None Detected									
G3	C6	None Detected									
G3	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
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Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-031624-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6784.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	- 0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**- 0.0027**

Comment

Approved Signatory

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0012 **Customer Sample:** MFL-AM04-031624-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	I6	None Detected									
G5	F4	None Detected									
G5	C5	None Detected									
G6	I4	None Detected									
G6	C3	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:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/22/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031624-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0013 **Customer Sample:** MFL-FB01-031624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J3	None Detected									
H2	H5	None Detected									
H2	F8	None Detected									
H2	D7	None Detected									
H2	B6	None Detected									
H3	J6	None Detected									
H3	H5	None Detected									
H3	F3	None Detected									
H3	D5	None Detected									
H3	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:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
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Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031724-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0014 **Customer Sample:** MFL-AM01-031724-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	A5	None Detected									
H5	C7	None Detected									
H5	E2	None Detected									
H6	A7	None Detected									
H6	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:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Denver, CO, 80202

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Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/22/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031724-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7093.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 47.09	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0015 **Customer Sample:** MFL-AM02-031724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	J6	None Detected									
I2	G4	None Detected									
I2	D5	None Detected									
I3	G3	None Detected									
I3	B1	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	03/22/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031724-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7200.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0016 **Customer Sample:** MFL-AM03-031724-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	J3	None Detected									
I5	G1	None Detected									
I5	D3	None Detected									
I6	J3	None Detected									
I6	H6	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-AM04-031724-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 47.09	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0017 **Customer Sample:** MFL-AM04-031724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	A6	None Detected									
J2	D7	None Detected									
J2	G9	None Detected									
J3	H2	None Detected									
J3	C4	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:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/22/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031724-AB**		**Sample Description:**	
EMSL Sample Number:	042405791-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0018 **Customer Sample:** MFL-FB01-031724-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	J4	None Detected									
J5	H8	None Detected									
J5	F8	None Detected									
J5	D7	None Detected									
J5	B6	None Detected									
J6	J6	None Detected									
J6	H5	None Detected									
J6	F4	None Detected									
J6	D7	None Detected									
J6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042405791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/20/2024 09:35 AM
Analysis Date:	03/21/2024
Report Date:	03/25/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042405791-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower		Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Actinolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Amosite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Anthophyllite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Crocidolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Tremolite	ADX	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**
Other Minerals	-	0	0	< 23.54	< N/A	Not Applicable	-	Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**	**< N/A**	**Not Applicable**	**-**	**Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042405791**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042405791-0019 **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	J3	None Detected									
A1	H1	None Detected									
A1	F3	None Detected									
A1	D2	None Detected									
A1	B1	None Detected									
A2	A7	None Detected									
A2	C10	None Detected									
A2	E9	None Detected									
A2	G8	None Detected									
A2	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042405791

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405791

200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
CinnAsblab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 MAR 20 A 11:15

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: CHELSEA.SABER@TETRATECH.COM

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES-LAHAINA / 10359230
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: MITCH PETERS
Sampled By Signature:
No. of Samples in Shipment: 20RH 18

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-AM01-031424-AB		7338.918	03/14/24 1100
MFL-AM02-031424-AB		7228.397	03/14/24 1126
MFL-AM03-031424-AB		7167.600	03/14/24 1312
MFL-AM04-031424-AB		7248.974	03/14/24 1336
MFL-FB01-031424-AB		0	03/14/24 1200
MFL-AM01-031524-AB		7896.489 (VOID)	3/14/24 1101
MFL-AM02-031524-AB		7373.952	03/15/24 1130
~~MFL-AM03-031524-AB~~		~~2944.717~~	~~03/15/24 2312 (3/14)~~ RH

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

18C

Method of Shipment: FED EX 03/18/24 1108
Sample Condition Upon Receipt:

Relinquished by: Date/Time: ~~03/24 1100~~ Received by: FX Date/Time 3/20/24 935

Relinquished by: Date/Time: Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042405791

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405791

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

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CINNAMINSON, N.J.
2024 MAR 20 A 11:15

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-AM04-031524-AB		7414.560	03/15/24 1341
MFL-FB01-031524-AB		0	03/15/24 1200
MFL-AM01-031624-AB		7261.111	03/16/24 1059
MFL-AM02-031624-AB		7223.832	03/16/24 1138
MFL-AM03-031624-AB		6954.261	03/16/24 1307
MFL-AM04-031624-AB		6784.542	03/16/24 1336
MFL-FB01-031624-AB		0	03/16/24 1200
MFL-AM01-031724-AB		7214.989	03/17/24 1056
MFL-AM02-031724-AB		7093.428	03/17/24 1112
MFL-AM03-031724-AB		7200.526	03/17/24 1302
MFL-AM04-031724-AB		7134.780	03/17/24 1323
MFL-FB01-031724-AB		0	03/17/24 1200

Method of Shipment: FedEx	03/18/24 11:00	Sample Condition Upon Receipt:	
Relinquished by: [signature]	Date/Time: ~~03/21/24~~ (AB)	Received by:	Date/Time
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 3/25/2024 and Shanna Vasser 3/26/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/14/2024 - 3/17/2024
Report No: 42405791

√	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:

4. MFL-AM01-031524-AB was listed on the CoC with a not that it was void. MFL-AM03-031524-AB was listed on the CoC, 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: None

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031824-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7008.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0001 **Customer Sample:** MFL-AM01-031824-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	J2	None Detected									
B2	F4	None Detected									
B2	C2	None Detected									
B3	I2	None Detected									
B3	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031824-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7328.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0002 **Customer Sample:** MFL-AM02-031824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A5	None Detected									
B5	D7	None Detected									
B5	G6	None Detected									
B6	C8	None Detected									
B6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031824-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7339.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0003 **Customer Sample:** MFL-AM03-031824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	A5	None Detected									
C2	C7	None Detected									
C2	H5	None Detected									
C3	H5	None Detected									
C3	C3	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:	

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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-031824-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7265.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0004 **Customer Sample:** MFL-AM04-031824-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	F7	None Detected									
C5	B7	None Detected									
C6	G8	None Detected									
C6	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: 042406118
Customer ID: TTDC42
Customer PO: 1207085
Project ID:

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Analysis Date: 03/26/2024
Report Date: 03/28/2024

Project: **Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031824-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	S / mm²	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0005 **Customer Sample:** MFL-FB01-031824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A9	None Detected									
D2	C8	None Detected									
D2	E10	None Detected									
D2	G7	None Detected									
D2	I5	None Detected									
D3	A6	None Detected									
D3	C3	None Detected									
D3	E4	None Detected									
D3	G6	None Detected									
D3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-031924-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6899.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0006 **Customer Sample:** MFL-AM01-031924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	D5	None Detected									
D5	H4	None Detected									
D6	B3	None Detected									
D6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-031924-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7136.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0007 **Customer Sample:** MFL-AM02-031924-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	A6	None Detected									
E2	E4	None Detected									
E2	H8	None Detected									
E3	D8	None Detected									
E3	J5	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:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031924-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7139.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0008 **Customer Sample:** MFL-AM03-031924-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	I6	None Detected									
E5	F4	None Detected									
E5	B2	None Detected									
E6	H3	None Detected									
E6	C4	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:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-031924-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0009 **Customer Sample:** MFL-AM04-031924-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	B5	None Detected									
F2	E4	None Detected									
F2	J3	None Detected									
F3	H7	None Detected									
F3	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:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-031924-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	S / mm²	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0010 **Customer Sample:** MFL-FB01-031924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A5	None Detected									
F5	C7	None Detected									
F5	E4	None Detected									
F5	G2	None Detected									
F5	I3	None Detected									
F6	J7	None Detected									
F6	H6	None Detected									
F6	F4	None Detected									
F6	D3	None Detected									
F6	B2	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:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
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Analysis Date:	03/26/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-031524-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	2944.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	11
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0028**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 21.24**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Total Amphibole	**ADX**	**0**	**0**	**< 21.24**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Actinolite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Amosite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Anthophyllite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Crocidolite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Tremolite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 21.24**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Other Minerals	-	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Total All Structures	**-**	**0**	**0**	**< 21.24**	**< 0.0028**	**Not Applicable**	**- 0.0028**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 21.24**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 21.24**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Actinolite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Amosite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Anthophyllite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Crocidolite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Tremolite	ADX	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 21.24**	**< 0.0028**	**Not Applicable**	**- 0.0028**
Other Minerals	-	0	0	< 21.24	< 0.0028	Not Applicable	- 0.0028
Total All Structures (PCMe)	**-**	**0**	**0**	**< 21.24**	**< 0.0028**	**Not Applicable**	**- 0.0028**

Comment

Approved Signatory

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EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0011 **Customer Sample:** MFL-AM03-031524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	A9	None Detected									
G2	C7	None Detected									
G2	F9	None Detected									
G2	H10	None Detected									
G2	J7	None Detected									
G3	J4	None Detected									
G3	H3	None Detected									
G3	F2	None Detected									
G3	D5	None Detected									
G3	B6	None Detected									
G4	C7	None Detected									

Abbreviations used:
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XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina / 103S9230**

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Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032024-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0012 **Customer Sample:** MFL-AM01-032024-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	I6	None Detected									
G5	G3	None Detected									
G5	C3	None Detected									
G6	D9	None Detected									
G6	J6	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: 042406118
Customer ID: TTDC42
Customer PO: 1207085
Project ID:

Attn: **Chelsea Saber**
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Phone: (703) 489-2674
Fax:
Received Date: 03/25/2024 08:32 AM
Analysis Date: 03/26/2024
Report Date: 03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032024-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7000.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment

Approved Signatory

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EMSL Order ID: 042406118
Client: Tetra Tech
Project ID: Maui Fires - Lahaina / 103S9230

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0013 **Customer Sample:** MFL-AM02-032024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	A5	None Detected									
H2	E9	None Detected									
H2	G6	None Detected									
H3	C8	None Detected									
H3	H10	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:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032024-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7210.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0014 **Customer Sample:** MFL-AM03-032024-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	A7	None Detected									
H5	C4	None Detected									
H5	I3	None Detected									
H6	I8	None Detected									
H6	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:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032024-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7097.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	Random	*(4.00)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**1**	**2**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0053**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**1**	**2**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0053**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**1**	**2**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0053**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**1**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**1**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**1**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

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: 042406118
Client: Tetra Tech
Project ID: Maui Fires - Lahaina / 103S9230

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0015 **Customer Sample:** MFL-AM04-032024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	B3	None Detected									
I2	E8	None Detected									
I2	H5	None Detected									
I3	E3	None Detected									
I3	H6	MD22	1		11.65	2.2	CD	Chrysotile			
I3	H6	MF		1	11.65	0.07	CD	Chrysotile		MG_28	
I3	H6	MF		2	8.09	0.09	CD	Chrysotile			

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:	042406118
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/25/2024 08:32 AM
Analysis Date:	03/26/2024
Report Date:	03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032024-AB**		**Sample Description:**	
EMSL Sample Number:	042406118-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	S / mm²	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0016 **Customer Sample:** MFL-FB01-032024-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	A6	None Detected									
I5	C9	None Detected									
I5	E7	None Detected									
I6	G5	None Detected									
I6	I5	None Detected									
I7	A3	None Detected									
I7	C4	None Detected									
I7	E2	None Detected									
I7	H3	None Detected									
I7	J2	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: 042406118
Customer ID: TTDC42
Customer PO: 1207085
Project ID:

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina / 103S9230**

Phone: (703) 489-2674
Fax:
Received Date: 03/25/2024 08:32 AM
Analysis Date: 03/26/2024
Report Date: 03/28/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042406118-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	S / mm²	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

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:	**042406118**
Client:	**Tetra Tech**
Project ID:	**Maui Fires - Lahaina / 103S9230**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042406118-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J8	None Detected									
A1	H9	None Detected									
A1	F10	None Detected									
A1	D8	None Detected									
A1	B7	None Detected									
A2	A4	None Detected									
A2	C5	None Detected									
A2	E7	None Detected									
A2	G9	None Detected									
A2	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042406118

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042406118

200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

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EMSL
CINNAMINSON, NJ
24 MAR 25 AM 11:40

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	TETRA TECH	Company Name:	
Contact Name:	CHELSEA SABER	Billing Contact:	
Street Address:	1560 BROADWAY STE 1400	Street Address:	
City, State, Zip:	DENVER CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	CHELSEA.SABER@TETRATECH.COM	Email(s) for Invoice:	

Project Information

Project Name/No: MAUI FIRES - LAHAINA / 103S9230
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: MITCH PETERS

Sampled By Signature:

No. of Samples in Shipment: 16

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ 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-AM01-031824-AB		7008.037	03/18/24 1103
MFL-AM02-031824-AB		7328.490	03/18/24 1125
MFL-AM03-031824-AB		7339.763	03/18/24 1304
MFL-AM04-031824-AB		7265.783	03/18/24 1323
MFL-FB01-031824-AB		0	03/18/24 1200
MFL-AM01-031924-AB		6899.101	03/19/24 1104
MFL-AM02-031924-AB		7136.014	03/19/24 1124
MFL-AM03-031924-AB		7139.505	03/19/24 1305

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

* PLEASE CONTACT CHELSEA SABER DIRECTLY BEFORE ADDITIONAL GRIDS ARE OPENED.

All samples received acceptable for analysis.

16 SB

Method of Shipment:	FED EX		Sample Condition Upon Receipt:		
Relinquished by:		Date/Time: 03/21/24 1100	Received by: FedEx	Date/Time	3/25/24 8:32A
Relinquished by:		Date/Time:	Received by:	Date/Time	

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042406118

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406118

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-AM04-031924-AB		7207.344	03/19/24 1327
MFL-FB01-031924-AB		0	03/19/24 1200
* MFL-AM03-031524-AB		2944.717 m/a	03/15/24 ~~03/19/24~~ 2312
MFL-AM01-032024-AB		7231.539	03/20/24 1103
MFL-AM02-032024-AB		7000.367	03/20/24 1123
MFL-AM03-032024-AB		7210.707	03/20/24 1307
MFL-AM04-032024-AB		7097.143	03/20/24 1328
MFL-FB01-032024-AB		0	03/20/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAR 25 AM 11:40

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/21/24 1100	Received by:	Date/Time
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 3/29/2024 and Shanna Vasser 3/31/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/15/2024 and 3/18/2024 – 3/20/2024
Report No: 42406118

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes: None

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

April 02, 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 03/25/24 14:46.

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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-031424-HM	4032536-01	Air	03/14/24 23:59	03/25/24 14:46
MFL-AM02-031424-HM	4032536-02	Air	03/14/24 23:59	03/25/24 14:46
MFL-AM03-031424-HM	4032536-03	Air	03/14/24 23:59	03/25/24 14:46
MFL-AM04-031424-HM	4032536-04	Air	03/14/24 23:59	03/25/24 14:46
MFL-FB01-031424-HM	4032536-05	Air	03/14/24 00:00	03/25/24 14:46
MFL-AM01-031524-HM	4032536-06	Air	03/15/24 23:59	03/25/24 14:46
MFL-AM02-031524-HM	4032536-07	Air	03/15/24 23:59	03/25/24 14:46
MFL-AM03-031524-HM	4032536-08	Air	03/15/24 23:59	03/25/24 14:46
MFL-AM04-031524-HM	4032536-09	Air	03/15/24 23:59	03/25/24 14:46
MFL-AM01-031624-HM	4032536-10	Air	03/16/24 23:59	03/25/24 14:46
MFL-AM02-031624-HM	4032536-11	Air	03/16/24 23:59	03/25/24 14:46
MFL-AM03-031624-HM	4032536-12	Air	03/16/24 23:59	03/25/24 14:46
MFL-AM04-031624-HM	4032536-13	Air	03/16/24 23:59	03/25/24 14:46
MFL-FB01-031624-HM	4032536-14	Air	03/16/24 00:00	03/25/24 14:46
MFL-AM01-031724-HM/MS/I	4032536-15	Air	03/17/24 23:59	03/25/24 14:46
MFL-AM02-031724-HM	4032536-16	Air	03/17/24 23:59	03/25/24 14:46
MFL-AM03-031724-HM	4032536-17	Air	03/17/24 23:59	03/25/24 14:46
MFL-AM04-031724-HM	4032536-18	Air	03/17/24 23:59	03/25/24 14:46
MFL-AM01-031824-HM	4032536-19	Air	03/18/24 23:59	03/25/24 14:46
MFL-AM02-031824-HM	4032536-20	Air	03/18/24 23:59	03/25/24 14:46
MFL-AM03-031824-HM	4032536-21	Air	03/18/24 23:59	03/25/24 14:46

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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-031824-HM	4032536-22	Air	03/18/24 23:59	03/25/24 14:46
MFL-FB01-031824-HM	4032536-23	Air	03/18/24 00:00	03/25/24 14:46
MFL-AM01-031924-HM	4032536-24	Air	03/19/24 23:59	03/25/24 14:46
MFL-AM02-031924-HM	4032536-25	Air	03/19/24 23:59	03/25/24 14:46
MFL-AM03-031924-HM	4032536-26	Air	03/19/24 23:59	03/25/24 14:46
MFL-AM04-031924-HM	4032536-27	Air	03/19/24 23:59	03/25/24 14:46
MFL-AM01-032024-HM	4032536-28	Air	03/20/24 23:59	03/25/24 14:46
MFL-AM02-032024-HM	4032536-29	Air	03/20/24 23:59	03/25/24 14:46
MFL-AM03-032024-HM	4032536-30	Air	03/20/24 23:59	03/25/24 14:46
MFL-AM04-032024-HM	4032536-31	Air	03/20/24 23:59	03/25/24 14:46
MFL-FB01-032024-HM	4032536-32	Air	03/20/24 00:00	03/25/24 14:46

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031424-HM
Matrix: Air
Lab ID: 4032536-01
Sample Volume: 2049.341 m³
Filter ID:
Sampled: 03/14/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 00:04

Comments: Q9516943 - Received in good condition. - Nonhomogenous sample

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0739**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.205**		**0.00744**
Barium	**7440-39-3**	**4.99**	QB-01	**0.849**
Beryllium	**7440-41-7**	**0.00549**		**0.00254**
Cadmium	7440-43-9	0.00902	U	0.0588
Chromium	7440-47-3	1.51	U	1.75
Cobalt	**7440-48-4**	**0.227**		**0.0346**
Copper	**7440-50-8**	**52.5**		**2.09**
Lead	**7439-92-1**	**0.306**		**0.170**
Manganese	**7439-96-5**	**6.32**		**1.50**
Molybdenum	**7439-98-7**	**2.02**		**0.285**
Nickel	**7440-02-0**	**1.40**		**0.518**
Selenium	**7782-49-2**	**0.149**		**0.00711**
Thallium	**7440-28-0**	**0.00103**	QB-01	**4.68E-4**
Vanadium	**7440-62-2**	**0.811**		**0.0420**
Zinc	7440-66-6	22.0	U	61.0

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031424-HM
Matrix: Air
Lab ID: 4032536-02
Sample Volume: 2130.263 m³
Filter ID:
Sampled: 03/14/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/27/24 21:19

Comments: Q9516942 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.179**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.526**		**0.00716**
Barium	**7440-39-3**	**4.50**	QB-01	**0.817**
Beryllium	**7440-41-7**	**0.0119**		**0.00244**
Cadmium	7440-43-9	0.0172	U	0.0566
Chromium	**7440-47-3**	**1.90**		**1.69**
Cobalt	**7440-48-4**	**0.355**		**0.0333**
Copper	**7440-50-8**	**60.5**		**2.01**
Lead	**7439-92-1**	**1.24**		**0.163**
Manganese	**7439-96-5**	**11.6**		**1.44**
Molybdenum	**7439-98-7**	**1.66**		**0.274**
Nickel	**7440-02-0**	**1.45**		**0.498**
Selenium	**7782-49-2**	**0.190**	SRD-01	**0.00684**
Thallium	**7440-28-0**	**0.00119**	QB-01	**4.50E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0404**
Zinc	7440-66-6	32.6	U	58.7

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031424-HM
Matrix: Air
Lab ID: 4032536-03
Sample Volume: 2114.219 m³
Filter ID:
Sampled: 03/14/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 00:20

Comments: Q9516941 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0951**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.286**		**0.00721**
Barium	**7440-39-3**	**4.70**	QB-01	**0.823**
Beryllium	**7440-41-7**	**0.0378**		**0.00246**
Cadmium	7440-43-9	0.0101	U	0.0570
Chromium	**7440-47-3**	**3.18**		**1.70**
Cobalt	**7440-48-4**	**0.786**		**0.0336**
Copper	**7440-50-8**	**51.8**		**2.02**
Lead	**7439-92-1**	**0.647**		**0.165**
Manganese	**7439-96-5**	**19.6**		**1.45**
Molybdenum	**7439-98-7**	**2.24**		**0.276**
Nickel	**7440-02-0**	**2.36**		**0.502**
Selenium	**7782-49-2**	**0.243**		**0.00690**
Thallium	**7440-28-0**	**0.00145**	QB-01	**4.53E-4**
Vanadium	**7440-62-2**	**2.13**		**0.0407**
Zinc	7440-66-6	25.5	U	59.1

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031424-HM
Matrix: Air
Lab ID: 4032536-04
Sample Volume: 1912.061 m³
Filter ID:
Sampled: 03/14/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 00:36

Comments: Q9516940 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.139**	SL	**0.0328**
Arsenic	**7440-38-2**	**0.464**		**0.00797**
Barium	**7440-39-3**	**4.37**	QB-01	**0.910**
Beryllium	**7440-41-7**	**0.0111**		**0.00272**
Cadmium	7440-43-9	0.0193	U	0.0631
Chromium	**7440-47-3**	**2.08**		**1.88**
Cobalt	**7440-48-4**	**0.364**		**0.0371**
Copper	**7440-50-8**	**40.6**		**2.24**
Lead	**7439-92-1**	**1.21**		**0.182**
Manganese	**7439-96-5**	**11.0**		**1.61**
Molybdenum	**7439-98-7**	**1.91**		**0.305**
Nickel	**7440-02-0**	**1.36**		**0.555**
Selenium	**7782-49-2**	**0.190**		**0.00762**
Thallium	**7440-28-0**	**0.00110**	QB-01	**5.01E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0450**
Zinc	7440-66-6	25.0	U	65.4

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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-031424-HM
Matrix: Air
Lab ID: 4032536-05
Sample Volume: 2049.341 m³
Filter ID:
Sampled: 03/14/24 00:00
Received: 03/25/24 14:46
Analysis Date: 03/28/24 00:52

Comments: Q9516936 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0139	SL, U	0.0306
Arsenic	7440-38-2	0.00489	U	0.00744
Barium	7440-39-3	0.505	QB-01, U	0.849
Beryllium	7440-41-7	5.56E-4	U	0.00254
Cadmium	7440-43-9	6.08E-4	U	0.0588
Chromium	7440-47-3	0.671	U	1.75
Cobalt	7440-48-4	0.00889	U	0.0346
Copper	7440-50-8	0.415	U	2.09
Lead	7439-92-1	0.0445	U	0.170
Manganese	7439-96-5	0.191	U	1.50
Molybdenum	7439-98-7	0.0898	U	0.285
Nickel	7440-02-0	0.189	U	0.518
Selenium	7782-49-2	0.00383	U	0.00711
Thallium	7440-28-0	2.02E-4	QB-01, U	4.68E-4
Vanadium	7440-62-2	0.0173	U	0.0420
Zinc	7440-66-6	12.9	U	61.0

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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031524-HM
Matrix: Air
Lab ID: 4032536-06
Sample Volume: 1940.062 m³
Filter ID:
Sampled: 03/15/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 01:06

Comments: Q9516939 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0506**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.338**		**0.00786**
Barium	**7440-39-3**	**6.09**	QB-01	**0.897**
Beryllium	**7440-41-7**	**0.00966**		**0.00268**
Cadmium	7440-43-9	0.0222	U	0.0621
Chromium	**7440-47-3**	**2.03**		**1.85**
Cobalt	**7440-48-4**	**0.340**		**0.0366**
Copper	**7440-50-8**	**34.9**		**2.21**
Lead	**7439-92-1**	**0.676**		**0.179**
Manganese	**7439-96-5**	**11.4**		**1.59**
Molybdenum	**7439-98-7**	**1.18**		**0.301**
Nickel	**7440-02-0**	**1.43**		**0.547**
Selenium	**7782-49-2**	**0.133**		**0.00751**
Thallium	**7440-28-0**	**0.00241**	QB-01	**4.94E-4**
Vanadium	**7440-62-2**	**0.900**		**0.0444**
Zinc	7440-66-6	24.5	U	64.4

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031524-HM
Matrix: Air
Lab ID: 4032536-07
Sample Volume: 2206.377 m³
Filter ID:
Sampled: 03/15/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 01:21

Comments: Q9516938 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.177**	SL	**0.0285**
Arsenic	**7440-38-2**	**1.03**		**0.00691**
Barium	**7440-39-3**	**7.55**	QB-01	**0.789**
Beryllium	**7440-41-7**	**0.0262**		**0.00236**
Cadmium	7440-43-9	0.0476	U	0.0546
Chromium	**7440-47-3**	**2.98**		**1.63**
Cobalt	**7440-48-4**	**0.715**		**0.0322**
Copper	**7440-50-8**	**66.7**		**1.94**
Lead	**7439-92-1**	**2.83**		**0.158**
Manganese	**7439-96-5**	**22.9**		**1.39**
Molybdenum	**7439-98-7**	**1.56**		**0.265**
Nickel	**7440-02-0**	**2.20**		**0.481**
Selenium	**7782-49-2**	**0.185**		**0.00661**
Thallium	**7440-28-0**	**0.00287**	QB-01	**4.34E-4**
Vanadium	**7440-62-2**	**2.25**		**0.0390**
Zinc	7440-66-6	48.1	U	56.6

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031524-HM
Matrix: Air
Lab ID: 4032536-08
Sample Volume: 2131.097 m³
Filter ID:
Sampled: 03/15/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 01:38

Comments: Q9516937 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0640**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.264**		**0.00715**
Barium	**7440-39-3**	**4.14**	QB-01	**0.817**
Beryllium	**7440-41-7**	**0.0240**		**0.00244**
Cadmium	7440-43-9	0.0166	U	0.0566
Chromium	**7440-47-3**	**2.77**		**1.69**
Cobalt	**7440-48-4**	**0.519**		**0.0333**
Copper	**7440-50-8**	**68.1**		**2.01**
Lead	**7439-92-1**	**0.885**		**0.163**
Manganese	**7439-96-5**	**13.8**		**1.44**
Molybdenum	**7439-98-7**	**2.17**		**0.274**
Nickel	**7440-02-0**	**2.55**		**0.498**
Selenium	**7782-49-2**	**0.117**		**0.00684**
Thallium	**7440-28-0**	**0.00124**	QB-01	**4.50E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0404**
Zinc	7440-66-6	29.0	U	58.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031524-HM
Matrix: Air
Lab ID: 4032536-09
Sample Volume: 2048.862 m³
Filter ID:
Sampled: 03/15/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 02:10

Comments: Q9516935 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.147**	SL	**0.0307**
Arsenic	**7440-38-2**	**1.34**		**0.00744**
Barium	**7440-39-3**	**7.02**	QB-01	**0.850**
Beryllium	**7440-41-7**	**0.0231**		**0.00254**
Cadmium	7440-43-9	0.0430	U	0.0588
Chromium	**7440-47-3**	**3.69**		**1.75**
Cobalt	**7440-48-4**	**0.814**		**0.0346**
Copper	**7440-50-8**	**29.7**		**2.09**
Lead	**7439-92-1**	**2.05**		**0.170**
Manganese	**7439-96-5**	**23.1**		**1.50**
Molybdenum	**7439-98-7**	**1.20**		**0.285**
Nickel	**7440-02-0**	**2.32**		**0.518**
Selenium	**7782-49-2**	**0.131**		**0.00712**
Thallium	**7440-28-0**	**0.00155**	QB-01	**4.68E-4**
Vanadium	**7440-62-2**	**1.84**		**0.0420**
Zinc	7440-66-6	34.1	U	61.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031624-HM
Matrix: Air
Lab ID: 4032536-10
Sample Volume: 2064.185 m³
Filter ID:
Sampled: 03/16/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 02:27

Comments: Q9516925 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0386**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.195**		**0.00739**
Barium	**7440-39-3**	**3.45**	QB-01	**0.843**
Beryllium	**7440-41-7**	**0.00564**		**0.00252**
Cadmium	7440-43-9	0.00570	U	0.0584
Chromium	7440-47-3	1.65	U	1.74
Cobalt	**7440-48-4**	**0.211**		**0.0344**
Copper	**7440-50-8**	**52.3**		**2.07**
Lead	**7439-92-1**	**0.227**		**0.169**
Manganese	**7439-96-5**	**6.69**		**1.49**
Molybdenum	**7439-98-7**	**1.76**		**0.283**
Nickel	**7440-02-0**	**1.45**		**0.514**
Selenium	**7782-49-2**	**0.0698**		**0.00706**
Thallium	**7440-28-0**	**6.39E-4**	QB-01	**4.64E-4**
Vanadium	**7440-62-2**	**0.583**		**0.0417**
Zinc	7440-66-6	22.2	U	60.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031624-HM
Matrix: Air
Lab ID: 4032536-11
Sample Volume: 2069.028 m³
Filter ID:
Sampled: 03/16/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 03:36

Comments: Q9516934 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.221**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.579**		**0.00737**
Barium	**7440-39-3**	**6.47**	QB-01	**0.841**
Beryllium	**7440-41-7**	**0.0108**		**0.00252**
Cadmium	7440-43-9	0.0485	U	0.0583
Chromium	**7440-47-3**	**1.90**		**1.74**
Cobalt	**7440-48-4**	**0.365**		**0.0343**
Copper	**7440-50-8**	**31.9**		**2.07**
Lead	**7439-92-1**	**0.962**		**0.168**
Manganese	**7439-96-5**	**11.5**		**1.49**
Molybdenum	**7439-98-7**	**1.10**		**0.282**
Nickel	**7440-02-0**	**1.12**		**0.513**
Selenium	**7782-49-2**	**0.0935**		**0.00705**
Thallium	**7440-28-0**	**0.00102**	QB-01	**4.63E-4**
Vanadium	**7440-62-2**	**1.07**		**0.0416**
Zinc	7440-66-6	32.6	U	60.4

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031624-HM
Matrix: Air
Lab ID: 4032536-12
Sample Volume: 2076.181 m³
Filter ID:
Sampled: 03/16/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 03:53

Comments: Q9516933 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0584**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.201**		**0.00734**
Barium	**7440-39-3**	**2.25**	QB-01	**0.839**
Beryllium	**7440-41-7**	**0.00688**		**0.00251**
Cadmium	7440-43-9	0.0160	U	0.0581
Chromium	7440-47-3	1.46	U	1.73
Cobalt	**7440-48-4**	**0.178**		**0.0342**
Copper	**7440-50-8**	**30.9**		**2.06**
Lead	**7439-92-1**	**0.309**		**0.168**
Manganese	**7439-96-5**	**4.72**		**1.48**
Molybdenum	**7439-98-7**	**1.06**		**0.281**
Nickel	**7440-02-0**	**0.785**		**0.511**
Selenium	**7782-49-2**	**0.0688**		**0.00702**
Thallium	**7440-28-0**	**5.98E-4**	QB-01	**4.62E-4**
Vanadium	**7440-62-2**	**0.448**		**0.0415**
Zinc	7440-66-6	25.7	U	60.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031624-HM
Matrix: Air
Lab ID: 4032536-13
Sample Volume: 1884.501 m³
Filter ID:
Sampled: 03/16/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 04:08

Comments: Q9516932 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.117**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.447**		**0.00809**
Barium	**7440-39-3**	**4.39**	QB-01	**0.924**
Beryllium	**7440-41-7**	**0.00866**		**0.00276**
Cadmium	7440-43-9	0.0314	U	0.0640
Chromium	**7440-47-3**	**1.95**		**1.91**
Cobalt	**7440-48-4**	**0.311**		**0.0376**
Copper	**7440-50-8**	**38.2**		**2.27**
Lead	**7439-92-1**	**1.02**		**0.185**
Manganese	**7439-96-5**	**9.48**		**1.63**
Molybdenum	**7439-98-7**	**1.24**		**0.310**
Nickel	**7440-02-0**	**1.07**		**0.563**
Selenium	**7782-49-2**	**0.0883**		**0.00774**
Thallium	**7440-28-0**	**7.63E-4**	QB-01	**5.09E-4**
Vanadium	**7440-62-2**	**0.814**		**0.0457**
Zinc	7440-66-6	26.8	U	66.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-031624-HM
Matrix: Air
Lab ID: 4032536-14
Sample Volume: 2064.185 m³
Filter ID:
Sampled: 03/16/24 00:00
Received: 03/25/24 14:46
Analysis Date: 03/28/24 04:24

Comments: Q9516927 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0173	SL, U	0.0304
Arsenic	**7440-38-2**	**0.00950**	FB-01	**0.00739**
Barium	7440-39-3	0.549	QB-01, U	0.843
Beryllium	7440-41-7	6.94E-4	U	0.00252
Cadmium	7440-43-9	0.0137	U	0.0584
Chromium	7440-47-3	0.690	U	1.74
Cobalt	7440-48-4	0.0130	U	0.0344
Copper	7440-50-8	1.28	U	2.07
Lead	7439-92-1	0.0638	U	0.169
Manganese	7439-96-5	0.350	U	1.49
Molybdenum	7439-98-7	0.112	U	0.283
Nickel	7440-02-0	0.224	U	0.514
Selenium	7782-49-2	0.00257	U	0.00706
Thallium	7440-28-0	1.93E-4	QB-01, U	4.64E-4
Vanadium	7440-62-2	0.0293	U	0.0417
Zinc	7440-66-6	12.5	U	60.5

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031724-HM/MS/MS **Lab ID:** 4032536-15 **Sampled:** 03/17/24 23:59
Matrix: Air **Sample Volume:** 2062.105 m³ **Received:** 03/25/24 14:46
Filter ID: **Analysis Date:** 03/27/24 17:21

Comments: Q9516931 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0997**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.423**		**0.00739**
Barium	**7440-39-3**	**3.86**	QB-01	**0.844**
Beryllium	**7440-41-7**	**0.00503**		**0.00252**
Cadmium	7440-43-9	0.0383	U	0.0585
Chromium	7440-47-3	1.67	U	1.74
Cobalt	**7440-48-4**	**0.198**		**0.0344**
Copper	**7440-50-8**	**30.5**		**2.08**
Lead	**7439-92-1**	**1.05**		**0.169**
Manganese	**7439-96-5**	**6.01**		**1.49**
Molybdenum	**7439-98-7**	**1.02**		**0.283**
Nickel	**7440-02-0**	**0.659**		**0.514**
Selenium	**7782-49-2**	**0.102**		**0.00707**
Thallium	**7440-28-0**	**0.00104**	QB-01, QB-04	**4.65E-4**
Vanadium	**7440-62-2**	**0.566**		**0.0417**
Zinc	7440-66-6	25.5	U	60.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031724-HM
Matrix: Air
Lab ID: 4032536-16
Sample Volume: 2022.799 m³
Filter ID:
Sampled: 03/17/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 04:38

Comments: Q9516930 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.160**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.460**		**0.00754**
Barium	**7440-39-3**	**3.63**	QB-01	**0.861**
Beryllium	**7440-41-7**	**0.00827**		**0.00257**
Cadmium	7440-43-9	0.0495	U	0.0596
Chromium	7440-47-3	1.57	U	1.78
Cobalt	**7440-48-4**	**0.248**		**0.0351**
Copper	**7440-50-8**	**32.6**		**2.12**
Lead	**7439-92-1**	**1.10**		**0.172**
Manganese	**7439-96-5**	**8.23**		**1.52**
Molybdenum	**7439-98-7**	**1.14**		**0.289**
Nickel	**7440-02-0**	**0.931**		**0.524**
Selenium	**7782-49-2**	**0.117**		**0.00721**
Thallium	**7440-28-0**	**0.00112**	QB-01	**4.74E-4**
Vanadium	**7440-62-2**	**0.848**		**0.0425**
Zinc	7440-66-6	24.6	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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031724-HM
Matrix: Air
Lab ID: 4032536-17
Sample Volume: 2152.138 m³
Filter ID:
Sampled: 03/17/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 04:54

Comments: Q9516929 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0556**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.266**		**0.00708**
Barium	**7440-39-3**	**1.75**	QB-01	**0.809**
Beryllium	**7440-41-7**	**0.0100**		**0.00242**
Cadmium	7440-43-9	0.0106	U	0.0560
Chromium	7440-47-3	1.38	U	1.67
Cobalt	**7440-48-4**	**0.203**		**0.0330**
Copper	**7440-50-8**	**34.8**		**1.99**
Lead	**7439-92-1**	**0.321**		**0.162**
Manganese	**7439-96-5**	**5.27**		**1.43**
Molybdenum	**7439-98-7**	**1.13**		**0.271**
Nickel	**7440-02-0**	**0.618**		**0.493**
Selenium	**7782-49-2**	**0.117**		**0.00677**
Thallium	**7440-28-0**	**0.00122**	QB-01	**4.45E-4**
Vanadium	**7440-62-2**	**0.557**		**0.0400**
Zinc	7440-66-6	14.1	U	58.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031724-HM
Matrix: Air
Lab ID: 4032536-18
Sample Volume: 1953.424 m³
Filter ID:
Sampled: 03/17/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 05:09

Comments: Q9516928 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.161**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.420**		**0.00780**
Barium	**7440-39-3**	**4.51**	QB-01	**0.891**
Beryllium	**7440-41-7**	**0.00817**		**0.00267**
Cadmium	7440-43-9	0.0341	U	0.0617
Chromium	**7440-47-3**	**1.99**		**1.84**
Cobalt	**7440-48-4**	**0.278**		**0.0363**
Copper	**7440-50-8**	**49.0**		**2.19**
Lead	**7439-92-1**	**0.982**		**0.178**
Manganese	**7439-96-5**	**8.60**		**1.57**
Molybdenum	**7439-98-7**	**1.48**		**0.299**
Nickel	**7440-02-0**	**0.897**		**0.543**
Selenium	**7782-49-2**	**0.130**		**0.00746**
Thallium	**7440-28-0**	**0.00111**	QB-01	**4.91E-4**
Vanadium	**7440-62-2**	**0.821**		**0.0441**
Zinc	7440-66-6	21.3	U	64.0

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031824-HM
Matrix: Air
Lab ID: 4032536-19
Sample Volume: 2122.235 m³
Filter ID:
Sampled: 03/18/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 05:25

Comments: Q9516926 - Received in good condition.- Nonhomogenous sample

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0679**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.429**		**0.00718**
Barium	**7440-39-3**	**2.67**	QB-01	**0.820**
Beryllium	**7440-41-7**	**0.00589**		**0.00245**
Cadmium	7440-43-9	0.0130	U	0.0568
Chromium	**7440-47-3**	**2.08**		**1.69**
Cobalt	**7440-48-4**	**0.213**		**0.0334**
Copper	**7440-50-8**	**35.8**		**2.02**
Lead	**7439-92-1**	**0.589**		**0.164**
Manganese	**7439-96-5**	**6.64**		**1.45**
Molybdenum	**7439-98-7**	**1.48**		**0.275**
Nickel	**7440-02-0**	**0.827**		**0.500**
Selenium	**7782-49-2**	**0.123**		**0.00687**
Thallium	**7440-28-0**	**0.00120**	QB-01	**4.52E-4**
Vanadium	**7440-62-2**	**0.686**		**0.0406**
Zinc	7440-66-6	18.3	U	58.9

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031824-HM
Matrix: Air
Lab ID: 4032536-20
Sample Volume: 2115.474 m³
Filter ID:
Sampled: 03/18/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 05:39

Comments: Q9516924 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0297**
Arsenic	**7440-38-2**	**0.508**		**0.00721**
Barium	**7440-39-3**	**4.82**	QB-01	**0.823**
Beryllium	**7440-41-7**	**0.0135**		**0.00246**
Cadmium	7440-43-9	0.0277	U	0.0570
Chromium	**7440-47-3**	**2.43**		**1.70**
Cobalt	**7440-48-4**	**0.528**		**0.0335**
Copper	**7440-50-8**	**29.9**		**2.02**
Lead	**7439-92-1**	**0.898**		**0.165**
Manganese	**7439-96-5**	**13.2**		**1.45**
Molybdenum	**7439-98-7**	**1.01**		**0.276**
Nickel	**7440-02-0**	**1.90**		**0.501**
Selenium	**7782-49-2**	**0.154**		**0.00689**
Thallium	**7440-28-0**	**0.00159**	QB-01	**4.53E-4**
Vanadium	**7440-62-2**	**1.42**		**0.0407**
Zinc	7440-66-6	22.4	U	59.1

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031824-HM
Matrix: Air
Lab ID: 4032536-21
Sample Volume: 2163.894 m³
Filter ID:
Sampled: 03/18/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 05:56

Comments: Q9516923 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0569**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.242**		**0.00705**
Barium	**7440-39-3**	**2.77**	QB-01	**0.805**
Beryllium	**7440-41-7**	**0.0183**		**0.00241**
Cadmium	7440-43-9	0.0138	U	0.0557
Chromium	**7440-47-3**	**2.01**		**1.66**
Cobalt	**7440-48-4**	**0.396**		**0.0328**
Copper	**7440-50-8**	**37.4**		**1.98**
Lead	**7439-92-1**	**0.611**		**0.161**
Manganese	**7439-96-5**	**9.57**		**1.42**
Molybdenum	**7439-98-7**	**1.18**		**0.270**
Nickel	**7440-02-0**	**1.24**		**0.490**
Selenium	**7782-49-2**	**0.148**		**0.00674**
Thallium	**7440-28-0**	**0.00136**	QB-01	**4.43E-4**
Vanadium	**7440-62-2**	**0.982**		**0.0398**
Zinc	7440-66-6	18.6	U	57.7

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031824-HM
Matrix: Air
Lab ID: 4032536-22
Sample Volume: 1956.388 m³
Filter ID:
Sampled: 03/18/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 07:05

Comments: Q9516922 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.144**	SL	**0.0321**
Arsenic	**7440-38-2**	**1.03**		**0.00779**
Barium	**7440-39-3**	**4.14**	QB-01	**0.890**
Beryllium	**7440-41-7**	**0.00884**		**0.00266**
Cadmium	7440-43-9	0.0227	U	0.0616
Chromium	**7440-47-3**	**2.01**		**1.84**
Cobalt	**7440-48-4**	**0.299**		**0.0363**
Copper	**7440-50-8**	**45.9**		**2.19**
Lead	**7439-92-1**	**1.13**		**0.178**
Manganese	**7439-96-5**	**9.06**		**1.57**
Molybdenum	**7439-98-7**	**1.48**		**0.299**
Nickel	**7440-02-0**	**0.988**		**0.542**
Selenium	**7782-49-2**	**0.143**		**0.00745**
Thallium	**7440-28-0**	**0.00142**	QB-01	**4.90E-4**
Vanadium	**7440-62-2**	**0.831**		**0.0440**
Zinc	7440-66-6	22.3	U	63.9

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-031824-HM
Matrix: Air
Lab ID: 4032536-23
Sample Volume: 2122.235 m³
Filter ID:
Sampled: 03/18/24 00:00
Received: 03/25/24 14:46
Analysis Date: 03/28/24 07:21

Comments: Q9516920 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0170	SL, U	0.0296
Arsenic	**7440-38-2**	**0.00909**	FB-01	**0.00718**
Barium	**7440-39-3**	**1.07**	FB-01, QB-01	**0.820**
Beryllium	7440-41-7	5.65E-4	U	0.00245
Cadmium	7440-43-9	0.00452	U	0.0568
Chromium	7440-47-3	0.695	U	1.69
Cobalt	7440-48-4	0.0121	U	0.0334
Copper	**7440-50-8**	**11.8**	FB-01	**2.02**
Lead	**7439-92-1**	**0.304**	FB-01	**0.164**
Manganese	7439-96-5	0.274	U	1.45
Molybdenum	7439-98-7	0.159	U	0.275
Nickel	7440-02-0	0.229	U	0.500
Selenium	7782-49-2	0.00116	U	0.00687
Thallium	7440-28-0	1.75E-4	QB-01, U	4.52E-4
Vanadium	7440-62-2	0.0227	U	0.0406
Zinc	7440-66-6	13.2	U	58.9

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-031924-HM
Matrix: Air
Lab ID: 4032536-24
Sample Volume: 2092.456 m³
Filter ID:
Sampled: 03/19/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 07:36

Comments: Q9516921 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0862**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.581**		**0.00729**
Barium	**7440-39-3**	**4.35**	QB-01	**0.832**
Beryllium	**7440-41-7**	**0.00923**		**0.00249**
Cadmium	7440-43-9	0.0181	U	0.0576
Chromium	**7440-47-3**	**2.43**		**1.72**
Cobalt	**7440-48-4**	**0.314**		**0.0339**
Copper	**7440-50-8**	**40.1**		**2.04**
Lead	**7439-92-1**	**0.874**		**0.166**
Manganese	**7439-96-5**	**8.94**		**1.47**
Molybdenum	**7439-98-7**	**1.79**		**0.279**
Nickel	**7440-02-0**	**1.18**		**0.507**
Selenium	**7782-49-2**	**0.135**		**0.00697**
Thallium	**7440-28-0**	**0.00203**	QB-01	**4.58E-4**
Vanadium	**7440-62-2**	**0.926**		**0.0411**
Zinc	7440-66-6	19.0	U	59.7

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-031924-HM
Matrix: Air
Lab ID: 4032536-25
Sample Volume: 2074.978 m³
Filter ID:
Sampled: 03/19/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 07:52

Comments: Q9516919 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.348**	SL	**0.0303**
Arsenic	**7440-38-2**	**2.75**		**0.00735**
Barium	**7440-39-3**	**9.04**	QB-01	**0.839**
Beryllium	**7440-41-7**	**0.0173**		**0.00251**
Cadmium	7440-43-9	0.0330	U	0.0581
Chromium	**7440-47-3**	**4.36**		**1.73**
Cobalt	**7440-48-4**	**0.623**		**0.0342**
Copper	**7440-50-8**	**41.4**		**2.06**
Lead	**7439-92-1**	**12.9**		**0.168**
Manganese	**7439-96-5**	**17.6**		**1.48**
Molybdenum	**7439-98-7**	**1.15**		**0.281**
Nickel	**7440-02-0**	**2.10**		**0.511**
Selenium	**7782-49-2**	**0.196**		**0.00703**
Thallium	**7440-28-0**	**0.00285**	QB-01	**4.62E-4**
Vanadium	**7440-62-2**	**1.81**		**0.0415**
Zinc	7440-66-6	42.0	U	60.2

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-031924-HM
Matrix: Air
Lab ID: 4032536-26
Sample Volume: 2140.687 m³
Filter ID:
Sampled: 03/19/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 08:12

Comments: Q9516918 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0720**	SL	**0.0293**
Arsenic	**7440-38-2**	**0.310**		**0.00712**
Barium	**7440-39-3**	**3.39**	QB-01	**0.813**
Beryllium	**7440-41-7**	**0.0191**		**0.00243**
Cadmium	7440-43-9	0.0160	U	0.0563
Chromium	**7440-47-3**	**1.98**		**1.68**
Cobalt	**7440-48-4**	**0.365**		**0.0331**
Copper	**7440-50-8**	**41.1**		**2.00**
Lead	**7439-92-1**	**0.601**		**0.163**
Manganese	**7439-96-5**	**9.07**		**1.44**
Molybdenum	**7439-98-7**	**1.31**		**0.273**
Nickel	**7440-02-0**	**1.10**		**0.496**
Selenium	**7782-49-2**	**0.154**		**0.00681**
Thallium	**7440-28-0**	**0.00223**	QB-01	**4.48E-4**
Vanadium	**7440-62-2**	**0.939**		**0.0402**
Zinc	7440-66-6	14.2	U	58.4

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-031924-HM
Matrix: Air
Lab ID: 4032536-27
Sample Volume: 1960.477 m³
Filter ID:
Sampled: 03/19/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 08:28

Comments: Q9516917 - Received in good condition. - Nonhomogenous sample

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.116**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.507**		**0.00778**
Barium	**7440-39-3**	**4.11**	QB-01	**0.888**
Beryllium	**7440-41-7**	**0.00962**		**0.00266**
Cadmium	7440-43-9	0.0229	U	0.0615
Chromium	**7440-47-3**	**1.89**		**1.83**
Cobalt	**7440-48-4**	**0.315**		**0.0362**
Copper	**7440-50-8**	**52.4**		**2.18**
Lead	**7439-92-1**	**1.22**		**0.178**
Manganese	**7439-96-5**	**9.87**		**1.57**
Molybdenum	**7439-98-7**	**1.99**		**0.298**
Nickel	**7440-02-0**	**0.975**		**0.541**
Selenium	**7782-49-2**	**0.142**		**0.00744**
Thallium	**7440-28-0**	**0.00208**	QB-01	**4.89E-4**
Vanadium	**7440-62-2**	**0.894**		**0.0439**
Zinc	7440-66-6	21.9	U	63.7

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032024-HM
Matrix: Air
Lab ID: 4032536-28
Sample Volume: 2130.756 m³
Filter ID:
Sampled: 03/20/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 09:00

Comments: Q9516916 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0576**	SL	**0.0295**
Arsenic	**7440-38-2**	**0.403**		**0.00715**
Barium	**7440-39-3**	**3.08**	QB-01	**0.817**
Beryllium	**7440-41-7**	**0.00895**		**0.00244**
Cadmium	7440-43-9	0.0165	U	0.0566
Chromium	**7440-47-3**	**2.30**		**1.69**
Cobalt	**7440-48-4**	**0.324**		**0.0333**
Copper	**7440-50-8**	**24.5**		**2.01**
Lead	**7439-92-1**	**0.576**		**0.163**
Manganese	**7439-96-5**	**10.8**		**1.44**
Molybdenum	**7439-98-7**	**1.40**		**0.274**
Nickel	**7440-02-0**	**1.05**		**0.498**
Selenium	**7782-49-2**	**0.157**		**0.00684**
Thallium	**7440-28-0**	**0.00229**	QB-01	**4.50E-4**
Vanadium	**7440-62-2**	**0.952**		**0.0404**
Zinc	7440-66-6	13.8	U	58.6

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032024-HM
Matrix: Air
Lab ID: 4032536-29
Sample Volume: 2106.012 m³
Filter ID:
Sampled: 03/20/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 09:16

Comments: Q9516915 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.232**	SL	**0.0298**
Arsenic	**7440-38-2**	**0.681**		**0.00724**
Barium	**7440-39-3**	**11.2**	QB-01	**0.827**
Beryllium	**7440-41-7**	**0.0282**		**0.00247**
Cadmium	7440-43-9	0.0473	U	0.0572
Chromium	**7440-47-3**	**6.22**		**1.71**
Cobalt	**7440-48-4**	**1.67**		**0.0337**
Copper	**7440-50-8**	**36.6**		**2.03**
Lead	**7439-92-1**	**1.78**		**0.165**
Manganese	**7439-96-5**	**37.9**		**1.46**
Molybdenum	**7439-98-7**	**1.22**		**0.277**
Nickel	**7440-02-0**	**6.95**		**0.504**
Selenium	**7782-49-2**	**0.252**		**0.00692**
Thallium	**7440-28-0**	**0.00315**	QB-01	**4.55E-4**
Vanadium	**7440-62-2**	**3.81**		**0.0409**
Zinc	7440-66-6	32.6	U	59.3

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032024-HM
Matrix: Air
Lab ID: 4032536-30
Sample Volume: 2178.954 m³
Filter ID:
Sampled: 03/20/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 09:34

Comments: Q9516914 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0536**	SL	**0.0288**
Arsenic	**7440-38-2**	**0.246**		**0.00700**
Barium	**7440-39-3**	**3.02**	QB-01	**0.799**
Beryllium	**7440-41-7**	**0.0236**		**0.00239**
Cadmium	7440-43-9	0.0221	U	0.0553
Chromium	**7440-47-3**	**2.06**		**1.65**
Cobalt	**7440-48-4**	**0.438**		**0.0326**
Copper	**7440-50-8**	**39.2**		**1.96**
Lead	**7439-92-1**	**0.445**		**0.160**
Manganese	**7439-96-5**	**11.6**		**1.41**
Molybdenum	**7439-98-7**	**1.29**		**0.268**
Nickel	**7440-02-0**	**1.14**		**0.487**
Selenium	**7782-49-2**	**0.190**		**0.00669**
Thallium	**7440-28-0**	**0.00230**	QB-01	**4.40E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0395**
Zinc	7440-66-6	11.3	U	57.3

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FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032024-HM
Matrix: Air
Lab ID: 4032536-31
Sample Volume: 1977.428 m³
Filter ID:
Sampled: 03/20/24 23:59
Received: 03/25/24 14:46
Analysis Date: 03/28/24 10:43

Comments: Q9516913 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.377**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.753**		**0.00771**
Barium	**7440-39-3**	**6.48**	QB-01	**0.880**
Beryllium	**7440-41-7**	**0.0193**		**0.00263**
Cadmium	7440-43-9	0.0300	U	0.0610
Chromium	**7440-47-3**	**2.72**		**1.82**
Cobalt	**7440-48-4**	**0.551**		**0.0359**
Copper	**7440-50-8**	**45.7**		**2.16**
Lead	**7439-92-1**	**1.44**		**0.176**
Manganese	**7439-96-5**	**20.4**		**1.56**
Molybdenum	**7439-98-7**	**2.04**		**0.295**
Nickel	**7440-02-0**	**1.62**		**0.536**
Selenium	**7782-49-2**	**0.208**		**0.00737**
Thallium	**7440-28-0**	**0.00250**	QB-01	**4.85E-4**
Vanadium	**7440-62-2**	**1.36**		**0.0435**
Zinc	7440-66-6	25.2	U	63.2

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FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-032024-HM
Matrix: Air
Lab ID: 4032536-32
Sample Volume: 2130.756 m³
Filter ID:
Sampled: 03/20/24 00:00
Received: 03/25/24 14:46
Analysis Date: 03/28/24 11:01

Comments: Q9516912 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0178	SL, U	0.0295
Arsenic	**7440-38-2**	**0.0105**	FB-01	**0.00715**
Barium	7440-39-3	0.795	QB-01, U	0.817
Beryllium	7440-41-7	5.72E-4	U	0.00244
Cadmium	7440-43-9	0.00146	U	0.0566
Chromium	7440-47-3	0.912	U	1.69
Cobalt	7440-48-4	0.0116	U	0.0333
Copper	7440-50-8	1.15	U	2.01
Lead	7439-92-1	0.0834	U	0.163
Manganese	7439-96-5	0.262	U	1.44
Molybdenum	7439-98-7	0.103	U	0.274
Nickel	7440-02-0	0.249	U	0.498
Selenium	7782-49-2	ND	U	0.00684
Thallium	7440-28-0	1.70E-4	QB-01, U	4.50E-4
Vanadium	7440-62-2	0.0249	U	0.0404
Zinc	7440-66-6	7.26	U	58.6

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FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
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 2403081 - B4C2609										
Calibration Blank (2403081-CCB1)				Prepared & Analyzed: 03/27/24						
Antimony	0.621		ng/l							
Arsenic	2.16		ng/l							
Barium	0.550		ng/l							
Beryllium	0.280		ng/l							
Cadmium	0.0116		ng/l							
Chromium	0.987		ng/l							
Cobalt	0.0917		ng/l							
Copper	56.4		ng/l							
Lead	16.7		ng/l							
Manganese	4.19		ng/l							
Molybdenum	8.61		ng/l							
Nickel	0.746		ng/l							
Selenium	-12.2		ng/l							U
Thallium	1.48		ng/l							QB-04
Vanadium	-25.9		ng/l							U
Zinc	10.7		ng/l							
Calibration Blank (2403081-CCB2)				Prepared & Analyzed: 03/27/24						
Antimony	0.179		ng/l							
Arsenic	-2.24		ng/l							U
Barium	1.98		ng/l							
Beryllium	0.00129		ng/l							
Cadmium	0.0674		ng/l							
Chromium	2.10		ng/l							
Cobalt	0.268		ng/l							
Copper	44.7		ng/l							
Lead	3.98		ng/l							
Manganese	4.05		ng/l							
Molybdenum	1.80		ng/l							
Nickel	0.393		ng/l							
Selenium	-3.00		ng/l							U
Thallium	0.931		ng/l							
Vanadium	-28.2		ng/l							U
Zinc	-12.6		ng/l							U
Calibration Blank (2403081-CCB3)				Prepared & Analyzed: 03/27/24						
Antimony	0.234		ng/l							
Arsenic	2.34		ng/l							
Barium	1.06		ng/l							
Beryllium	0.0875		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 2403081 - B4C2609										
Calibration Blank (2403081-CCB3) Contin				Prepared & Analyzed: 03/27/24						
Cadmium	-0.0625		ng/l							U
Chromium	1.67		ng/l							
Cobalt	0.275		ng/l							
Copper	42.7		ng/l							
Lead	3.03		ng/l							
Manganese	2.38		ng/l							
Molybdenum	1.90		ng/l							
Nickel	0.352		ng/l							
Selenium	0.756		ng/l							
Thallium	1.01		ng/l							
Vanadium	-31.6		ng/l							U
Zinc	62.9		ng/l							
Calibration Blank (2403081-CCB4)				Prepared: 03/27/24 Analyzed: 03/28/24						
Antimony	0.197		ng/l							
Arsenic	5.69		ng/l							
Barium	0.663		ng/l							
Beryllium	0.0520		ng/l							
Cadmium	-0.0237		ng/l							U
Chromium	2.44		ng/l							
Cobalt	0.229		ng/l							
Copper	27.4		ng/l							
Lead	2.62		ng/l							
Manganese	1.82		ng/l							
Molybdenum	2.26		ng/l							
Nickel	0.457		ng/l							
Selenium	-0.723		ng/l							U
Thallium	0.844		ng/l							
Vanadium	-35.5		ng/l							U
Zinc	-10.4		ng/l							U
Calibration Blank (2403081-CCB5)				Prepared: 03/27/24 Analyzed: 03/28/24						
Antimony	0.453		ng/l							
Arsenic	5.28		ng/l							
Barium	2.08		ng/l							
Beryllium	0.124		ng/l							
Cadmium	-0.0214		ng/l							U
Chromium	3.40		ng/l							
Cobalt	0.367		ng/l							
Copper	42.2		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403081 - B4C2609										
Calibration Blank (2403081-CCB5) Contin				Prepared: 03/27/24 Analyzed: 03/28/24						
Lead	3.67		ng/l							
Manganese	4.73		ng/l							
Molybdenum	2.10		ng/l							
Nickel	1.91		ng/l							
Selenium	-6.87		ng/l							U
Thallium	0.835		ng/l							
Vanadium	-29.9		ng/l							U
Zinc	2.09		ng/l							
Calibration Blank (2403081-CCB6)				Prepared: 03/27/24 Analyzed: 03/28/24						
Antimony	0.430		ng/l							
Arsenic	6.24		ng/l							
Barium	0.731		ng/l							
Beryllium	0.0655		ng/l							
Cadmium	0.0166		ng/l							
Chromium	3.86		ng/l							
Cobalt	0.374		ng/l							
Copper	35.3		ng/l							
Lead	3.01		ng/l							
Manganese	4.91		ng/l							
Molybdenum	1.80		ng/l							
Nickel	0.365		ng/l							
Selenium	3.47		ng/l							
Thallium	0.700		ng/l							
Vanadium	-29.3		ng/l							U
Zinc	3.86		ng/l							
Calibration Blank (2403081-CCB7)				Prepared: 03/27/24 Analyzed: 03/28/24						
Antimony	0.341		ng/l							
Arsenic	4.32		ng/l							
Barium	0.355		ng/l							
Beryllium	0.0131		ng/l							
Cadmium	0.0118		ng/l							
Chromium	2.39		ng/l							
Cobalt	0.301		ng/l							
Copper	45.2		ng/l							
Lead	3.60		ng/l							
Manganese	5.25		ng/l							
Molybdenum	3.49		ng/l							
Nickel	0.408		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 2403081 - B4C2609										
Calibration Blank (2403081-CCB7) Contin				Prepared: 03/27/24 Analyzed: 03/28/24						
Selenium	5.25		ng/l							
Thallium	1.10		ng/l							
Vanadium	-34.9		ng/l							U
Zinc	-7.55		ng/l							U
Calibration Check (2403081-CCV1)				Prepared & Analyzed: 03/27/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	208000		ng/l	200000		104	90-110			
Beryllium	5230		ng/l	5000.0		105	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	258000		ng/l	240000		107	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	51400		ng/l	50000		103	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2403081-CCV2)				Prepared & Analyzed: 03/27/24						
Antimony	19700		ng/l	20000		98.3	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4800		ng/l	5000.0		96.0	90-110			
Cadmium	20000		ng/l	20000		99.9	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	51000		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	503000		ng/l	500000		101	90-110			

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SUBMITTED: 03/25/24
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 2403081 - B4C2609										
Calibration Check (2403081-CCV3)				Prepared & Analyzed: 03/27/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	256000		ng/l	240000		106	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	497000		ng/l	500000		99.5	90-110			
Molybdenum	52000		ng/l	50000		104	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2403081-CCV4)				Prepared: 03/27/24 Analyzed: 03/28/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Chromium	263000		ng/l	240000		110	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	53600		ng/l	50000		107	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20800		ng/l	20000		104	90-110			
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	524000		ng/l	500000		105	90-110			
Calibration Check (2403081-CCV5)				Prepared: 03/27/24 Analyzed: 03/28/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	21000		ng/l	20000		105	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4830		ng/l	5000.0		96.7	90-110			

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REPORTED: 04/02/24 09:21
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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 2403081 - B4C2609										
Calibration Check (2403081-CCV5) Contin					Prepared: 03/27/24 Analyzed: 03/28/24					
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	263000		ng/l	240000		110	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.18E6		ng/l	2.0000E6		109	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	53700		ng/l	50000		107	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	21200		ng/l	20000		106	90-110			
Thallium	493		ng/l	500.00		98.6	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	527000		ng/l	500000		105	90-110			
Calibration Check (2403081-CCV6)					Prepared: 03/27/24 Analyzed: 03/28/24					
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4970		ng/l	5000.0		99.3	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	262000		ng/l	240000		109	90-110			
Cobalt	52500		ng/l	50000		105	90-110			
Copper	2.18E6		ng/l	2.0000E6		109	90-110			
Lead	207000		ng/l	200000		104	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	53800		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20900		ng/l	20000		104	90-110			
Thallium	496		ng/l	500.00		99.3	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	526000		ng/l	500000		105	90-110			
Calibration Check (2403081-CCV7)					Prepared: 03/27/24 Analyzed: 03/28/24					
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	264000		ng/l	240000		110	90-110			
Cobalt	51600		ng/l	50000		103	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			

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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: 04/02/24 09:21
SUBMITTED: 03/25/24
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 2403081 - B4C2609										
Calibration Check (2403081-CCV7) Contin				Prepared: 03/27/24 Analyzed: 03/28/24						
Lead	207000		ng/l	200000		104	90-110			
Manganese	522000		ng/l	500000		104	90-110			
Molybdenum	52700		ng/l	50000		105	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	21000		ng/l	20000		105	90-110			
Thallium	497		ng/l	500.00		99.4	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	527000		ng/l	500000		105	90-110			
High Cal Check (2403081-HCV1)				Prepared & Analyzed: 03/27/24						
Antimony	39500		ng/l	40000		98.8	95-105			
Arsenic	39900		ng/l	40000		99.8	95-105			
Barium	408000		ng/l	400000		102	95-105			
Beryllium	9950		ng/l	10000		99.5	95-105			
Cadmium	39400		ng/l	40000		98.5	95-105			
Chromium	467000		ng/l	480000		97.3	95-105			
Cobalt	98800		ng/l	100000		98.8	95-105			
Copper	3.94E6		ng/l	4.0000E6		98.5	95-105			
Lead	399000		ng/l	400000		99.8	95-105			
Manganese	983000		ng/l	1.0000E6		98.3	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	236000		ng/l	240000		98.1	95-105			
Selenium	40000		ng/l	40000		100	95-105			
Thallium	989		ng/l	1000.0		98.9	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	993000		ng/l	1.0000E6		99.3	95-105			
Initial Cal Blank (2403081-ICB1)				Prepared & Analyzed: 03/27/24						
Antimony	0.397		ng/l							
Arsenic	0.0366		ng/l							
Barium	0.802		ng/l							
Beryllium	-0.00944		ng/l							U
Cadmium	0.0907		ng/l							
Chromium	1.26		ng/l							
Cobalt	0.105		ng/l							
Copper	57.0		ng/l							
Lead	4.21		ng/l							
Manganese	3.92		ng/l							
Molybdenum	2.50		ng/l							
Nickel	0.862		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2403081 - B4C2609										
Initial Cal Blank (2403081-ICB1) Continu				Prepared & Analyzed: 03/27/24						
Selenium	-4.13		ng/l							U
Thallium	0.942		ng/l							
Vanadium	-29.2		ng/l							U
Zinc	1.10		ng/l							
Initial Cal Check (2403081-ICV1)				Prepared & Analyzed: 03/27/24						
Antimony	19300		ng/l	20000		96.7	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	197000		ng/l	200000		98.5	90-110			
Beryllium	4990		ng/l	5000.0		99.8	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	48600		ng/l	50000		97.3	90-110			
Copper	1.98E6		ng/l	2.0000E6		98.8	90-110			
Lead	194000		ng/l	200000		96.8	90-110			
Manganese	482000		ng/l	500000		96.5	90-110			
Molybdenum	49500		ng/l	50000		99.0	90-110			
Nickel	118000		ng/l	120000		98.5	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	501000		ng/l	500000		100	90-110			
Interference Check A (2403081-IFA1)				Prepared & Analyzed: 03/27/24						
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	311000		ng/l	300000		104	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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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 2403081 - B4C2609										
Interference Check B (2403081-IFB1)					Prepared & Analyzed: 03/27/24					
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20700		ng/l	20000		103	80-120			
Barium	211000		ng/l	200000		106	80-120			
Beryllium	4840		ng/l	5000.0		96.8	80-120			
Cadmium	19800		ng/l	20000		98.9	80-120			
Chromium	244000		ng/l	240000		102	80-120			
Cobalt	50600		ng/l	50000		101	80-120			
Copper	1.94E6		ng/l	2.0000E6		96.9	80-120			
Lead	207000		ng/l	200000		104	80-120			
Manganese	486000		ng/l	500000		97.1	80-120			
Molybdenum	364000		ng/l	350000		104	80-120			
Nickel	118000		ng/l	120000		98.5	80-120			
Selenium	19500		ng/l	20000		97.6	80-120			
Thallium	526		ng/l	500.00		105	80-120			
Vanadium	18300		ng/l	20000		91.4	80-120			
Zinc	472000		ng/l	500000		94.5	80-120			
Batch B4C2609 - ICP-MS Extraction										
Blank (B4C2609-BLK1)					Prepared: 03/26/24 Analyzed: 03/28/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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							QB-01, QB-04 U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4C2609-BS1)					Prepared: 03/26/24 Analyzed: 03/27/24					
Antimony	0.708	0.0386	ng/m³ Air	1.3829		51.2	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.7	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 B4C2609 - ICP-MS Extraction										
LCS (B4C2609-BS1) Continued				Prepared: 03/26/24 Analyzed: 03/27/24						
Barium	28.7	1.07	ng/m³ Air	27.658		104	80-120			QB-01
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		94.8	80-120			
Cadmium	1.37	0.0741	ng/m³ Air	1.3829		99.1	80-120			
Chromium	15.7	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		98.8	80-120			
Copper	30.1	2.63	ng/m³ Air	27.658		109	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.7	80-120			
Manganese	8.64	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.52	0.359	ng/m³ Air	1.3829		110	80-120			
Nickel	3.20	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.3	80-120			
Thallium	0.137	5.89E-4	ng/m³ Air	0.13829		99.0	80-120			QB-01, QB-04
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.9	80-120			
Zinc	113	76.8	ng/m³ Air	82.975		137	80-120			
LCS (B4C2609-BS2)				Prepared: 03/26/24 Analyzed: 03/27/24						
Antimony	0.734	0.0386	ng/m³ Air	1.3829		53.1	80-120			SL
Arsenic	2.74	0.00937	ng/m³ Air	2.7658		99.2	80-120			
Barium	30.2	1.07	ng/m³ Air	27.658		109	80-120			QB-01
Beryllium	1.36	0.00320	ng/m³ Air	1.3829		98.2	80-120			
Cadmium	1.42	0.0741	ng/m³ Air	1.3829		103	80-120			
Chromium	16.1	2.21	ng/m³ Air	13.829		117	80-120			
Cobalt	1.40	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	30.9	2.63	ng/m³ Air	27.658		112	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.96	1.89	ng/m³ Air	8.2975		108	80-120			
Molybdenum	1.61	0.359	ng/m³ Air	1.3829		116	80-120			
Nickel	3.29	0.652	ng/m³ Air	2.7658		119	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			
Thallium	0.140	5.89E-4	ng/m³ Air	0.13829		101	80-120			QB-01
Vanadium	2.86	0.0529	ng/m³ Air	2.7658		104	80-120			
Zinc	114	76.8	ng/m³ Air	82.975		138	80-120			
Duplicate (B4C2609-DUP1)		**Source: 4032536-15**		Prepared: 03/26/24 Analyzed: 03/27/24						
Antimony	0.0977	0.0305	ng/m³ Air		0.0997			1.97	10	SL
Arsenic	0.432	0.00739	ng/m³ Air		0.423			2.11	10	
Barium	3.85	0.844	ng/m³ Air		3.86			0.453	10	QB-01
Beryllium	0.00481	0.00252	ng/m³ Air		0.00503			4.57	10	
Cadmium	ND	0.0585	ng/m³ Air		ND				10	U
Chromium	ND	1.74	ng/m³ Air		ND				10	U

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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 B4C2609 - ICP-MS Extraction										
Duplicate (B4C2609-DUP1) Continued			**Source: 4032536-15**		Prepared: 03/26/24		Analyzed: 03/27/24			
Cobalt	0.202	0.0344	ng/m³ Air		0.198			1.95	10	
Copper	28.0	2.08	ng/m³ Air		30.5			8.51	10	
Lead	1.01	0.169	ng/m³ Air		1.05			3.15	10	
Manganese	5.93	1.49	ng/m³ Air		6.01			1.37	10	
Molybdenum	1.01	0.283	ng/m³ Air		1.02			0.455	10	
Nickel	0.628	0.514	ng/m³ Air		0.659			4.89	10	
Selenium	0.0997	0.00707	ng/m³ Air		0.102			2.78	10	
Thallium	9.19E-4	4.65E-4	ng/m³ Air		0.00104			12.3	10	QB-01, QB-04
Vanadium	0.575	0.0417	ng/m³ Air		0.566			1.46	10	
Zinc	ND	60.6	ng/m³ Air		ND				10	U
Duplicate (B4C2609-DUP2)			**Source: 4032536-02**		Prepared: 03/26/24		Analyzed: 03/27/24			
Antimony	0.167	0.0295	ng/m³ Air		0.179			7.24	10	SL
Arsenic	0.524	0.00716	ng/m³ Air		0.526			0.381	10	
Barium	4.63	0.817	ng/m³ Air		4.50			2.77	10	QB-01
Beryllium	0.0125	0.00244	ng/m³ Air		0.0119			5.55	10	
Cadmium	ND	0.0566	ng/m³ Air		ND				10	U
Chromium	1.83	1.69	ng/m³ Air		1.90			3.64	10	
Cobalt	0.343	0.0333	ng/m³ Air		0.355			3.45	10	
Copper	59.9	2.01	ng/m³ Air		60.5			0.960	10	
Lead	1.12	0.163	ng/m³ Air		1.24			9.43	10	
Manganese	11.2	1.44	ng/m³ Air		11.6			4.13	10	
Molybdenum	1.66	0.274	ng/m³ Air		1.66			0.0978	10	
Nickel	1.36	0.498	ng/m³ Air		1.45			6.54	10	
Selenium	0.183	0.00684	ng/m³ Air		0.190			3.86	10	
Thallium	0.00120	4.50E-4	ng/m³ Air		0.00119			0.0552	10	QB-01
Vanadium	1.34	0.0404	ng/m³ Air		1.40			4.31	10	
Zinc	ND	58.7	ng/m³ Air		ND				10	U
Duplicate (B4C2609-DUP3)			**Source: 4032536-08**		Prepared: 03/26/24		Analyzed: 03/28/24			
Antimony	0.0622	0.0295	ng/m³ Air		0.0640			2.72	10	SL
Arsenic	0.264	0.00715	ng/m³ Air		0.264			0.0220	10	
Barium	4.07	0.817	ng/m³ Air		4.14			1.68	10	QB-01
Beryllium	0.0252	0.00244	ng/m³ Air		0.0240			4.98	10	
Cadmium	ND	0.0566	ng/m³ Air		ND				10	U
Chromium	2.74	1.69	ng/m³ Air		2.77			1.05	10	
Cobalt	0.514	0.0333	ng/m³ Air		0.519			0.969	10	
Copper	67.3	2.01	ng/m³ Air		68.1			1.12	10	
Lead	0.875	0.163	ng/m³ Air		0.885			1.14	10	
Manganese	13.7	1.44	ng/m³ Air		13.8			1.11	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 B4C2609 - ICP-MS Extraction										
Duplicate (B4C2609-DUP3) Continued		**Source: 4032536-08**		Prepared: 03/26/24	Analyzed: 03/28/24					
Molybdenum	2.16	0.274	ng/m³ Air		2.17			0.363	10	
Nickel	2.52	0.498	ng/m³ Air		2.55			1.15	10	
Selenium	0.128	0.00684	ng/m³ Air		0.117			8.92	10	
Thallium	0.00122	4.50E-4	ng/m³ Air		0.00124			1.29	10	QB-01
Vanadium	1.39	0.0404	ng/m³ Air		1.41			0.884	10	
Zinc	ND	58.6	ng/m³ Air		ND				10	U
Duplicate (B4C2609-DUP4)		**Source: 4032536-27**		Prepared: 03/26/24	Analyzed: 03/28/24					
Antimony	0.114	0.0320	ng/m³ Air		0.116			1.54	10	SL
Arsenic	0.499	0.00778	ng/m³ Air		0.507			1.62	10	
Barium	4.03	0.888	ng/m³ Air		4.11			2.03	10	QB-01
Beryllium	0.00992	0.00266	ng/m³ Air		0.00962			3.09	10	
Cadmium	ND	0.0615	ng/m³ Air		ND				10	U
Chromium	1.89	1.83	ng/m³ Air		1.89			0.176	10	
Cobalt	0.314	0.0362	ng/m³ Air		0.315			0.330	10	
Copper	51.5	2.18	ng/m³ Air		52.4			1.66	10	
Lead	1.21	0.178	ng/m³ Air		1.22			1.36	10	
Manganese	9.75	1.57	ng/m³ Air		9.87			1.24	10	
Molybdenum	1.97	0.298	ng/m³ Air		1.99			1.19	10	
Nickel	0.973	0.541	ng/m³ Air		0.975			0.207	10	
Selenium	0.147	0.00744	ng/m³ Air		0.142			3.72	10	
Thallium	0.00206	4.89E-4	ng/m³ Air		0.00208			0.808	10	QB-01
Vanadium	0.893	0.0439	ng/m³ Air		0.894			0.0997	10	
Zinc	ND	63.7	ng/m³ Air		ND				10	U
Matrix Spike (B4C2609-MS1)		**Source: 4032536-15**		Prepared: 03/26/24	Analyzed: 03/27/24					
Antimony	0.814	0.0305	ng/m³ Air	1.0911	0.0997	65.5	80-120			SL
Arsenic	2.53	0.00739	ng/m³ Air	2.1822	0.423	96.5	80-120			
Barium	26.4	0.844	ng/m³ Air	21.822	3.86	103	80-120			QB-01
Beryllium	1.06	0.00252	ng/m³ Air	1.0911	0.00503	97.0	80-120			
Cadmium	1.13	0.0585	ng/m³ Air	1.0911	ND	104	80-120			
Chromium	13.1	1.74	ng/m³ Air	10.911	ND	120	80-120			
Cobalt	1.29	0.0344	ng/m³ Air	1.0911	0.198	99.8	80-120			
Copper	52.8	2.08	ng/m³ Air	21.822	30.5	102	80-120			
Lead	12.0	0.169	ng/m³ Air	10.911	1.05	100	80-120			
Manganese	12.8	1.49	ng/m³ Air	6.5467	6.01	104	80-120			
Molybdenum	2.09	0.283	ng/m³ Air	1.0911	1.02	98.2	80-120			
Nickel	2.86	0.514	ng/m³ Air	2.1822	0.659	101	80-120			
Selenium	2.24	0.00707	ng/m³ Air	2.1822	0.102	98.1	80-120			
Thallium	0.110	4.65E-4	ng/m³ Air	0.10911	0.00104	99.5	80-120			QB-01, QB-04

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
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 B4C2609 - ICP-MS Extraction										
Matrix Spike (B4C2609-MS1) Continued Source: 4032536-15 Prepared: 03/26/24 Analyzed: 03/27/24										
Vanadium	2.75	0.0417	ng/m³ Air	2.1822	0.566	99.9	80-120			
Zinc	94.7	60.6	ng/m³ Air	65.467	ND	145	80-120			
Matrix Spike (B4C2609-MS2) Source: 4032536-02 Prepared: 03/26/24 Analyzed: 03/27/24										
Antimony	0.777	0.0295	ng/m³ Air	1.0562	0.179	56.6	80-120			SL
Arsenic	2.54	0.00716	ng/m³ Air	2.1124	0.526	95.2	80-120			
Barium	26.2	0.817	ng/m³ Air	21.124	4.50	103	80-120			QB-01
Beryllium	1.05	0.00244	ng/m³ Air	1.0562	0.0119	98.3	80-120			
Cadmium	1.05	0.0566	ng/m³ Air	1.0562	ND	99.8	80-120			
Chromium	12.7	1.69	ng/m³ Air	10.562	1.90	103	80-120			
Cobalt	1.40	0.0333	ng/m³ Air	1.0562	0.355	98.5	80-120			
Copper	81.2	2.01	ng/m³ Air	21.124	60.5	98.3	80-120			
Lead	11.7	0.163	ng/m³ Air	10.562	1.24	99.1	80-120			
Manganese	17.9	1.44	ng/m³ Air	6.3372	11.6	98.7	80-120			
Molybdenum	2.68	0.274	ng/m³ Air	1.0562	1.66	95.7	80-120			
Nickel	3.48	0.498	ng/m³ Air	2.1124	1.45	96.1	80-120			
Selenium	2.26	0.00684	ng/m³ Air	2.1124	0.190	98.0	80-120			
Thallium	0.104	4.50E-4	ng/m³ Air	0.10562	0.00119	97.4	80-120			QB-01
Vanadium	3.41	0.0404	ng/m³ Air	2.1124	1.40	95.3	80-120			
Zinc	88.8	58.7	ng/m³ Air	63.372	ND	140	80-120			
Matrix Spike Dup (B4C2609-MSD1) Source: 4032536-15 Prepared: 03/26/24 Analyzed: 03/27/24										
Antimony	0.795	0.0305	ng/m³ Air	1.0911	0.0997	63.8	80-120	2.30	20	SL
Arsenic	2.50	0.00739	ng/m³ Air	2.1822	0.423	95.0	80-120	1.29	20	
Barium	26.0	0.844	ng/m³ Air	21.822	3.86	101	80-120	1.71	20	QB-01
Beryllium	1.08	0.00252	ng/m³ Air	1.0911	0.00503	98.3	80-120	1.31	20	
Cadmium	1.10	0.0585	ng/m³ Air	1.0911	ND	101	80-120	3.24	20	
Chromium	12.8	1.74	ng/m³ Air	10.911	ND	117	80-120	2.44	20	
Cobalt	1.26	0.0344	ng/m³ Air	1.0911	0.198	97.6	80-120	1.85	20	
Copper	50.4	2.08	ng/m³ Air	21.822	30.5	91.2	80-120	4.69	20	
Lead	11.7	0.169	ng/m³ Air	10.911	1.05	97.8	80-120	2.18	20	
Manganese	12.4	1.49	ng/m³ Air	6.5467	6.01	97.3	80-120	3.55	20	
Molybdenum	2.09	0.283	ng/m³ Air	1.0911	1.02	98.0	80-120	0.0614	20	
Nickel	2.75	0.514	ng/m³ Air	2.1822	0.659	95.7	80-120	3.99	20	
Selenium	2.24	0.00707	ng/m³ Air	2.1822	0.102	97.9	80-120	0.165	20	
Thallium	0.107	4.65E-4	ng/m³ Air	0.10911	0.00104	97.0	80-120	2.44	20	QB-01, QB-04
Vanadium	2.70	0.0417	ng/m³ Air	2.1822	0.566	97.7	80-120	1.69	20	
Zinc	93.7	60.6	ng/m³ Air	65.467	ND	143	80-120	1.08	20	
Matrix Spike Dup (B4C2609-MSD2) Source: 4032536-02 Prepared: 03/26/24 Analyzed: 03/27/24										
Antimony	0.784	0.0295	ng/m³ Air	1.0562	0.179	57.3	80-120	0.917	20	SL

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REPORTED: 04/02/24 09:21
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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 B4C2609 - ICP-MS Extraction										
Matrix Spike Dup (B4C2609-MSD2) Conti			**Source: 4032536-02**			Prepared: 03/26/24		Analyzed: 03/27/24		
Arsenic	2.53	0.00716	ng/m³ Air	2.1124	0.526	94.6	80-120	0.487	20	
Barium	26.2	0.817	ng/m³ Air	21.124	4.50	103	80-120	0.164	20	QB-01
Beryllium	1.04	0.00244	ng/m³ Air	1.0562	0.0119	97.0	80-120	1.40	20	
Cadmium	1.06	0.0566	ng/m³ Air	1.0562	ND	101	80-120	0.894	20	
Chromium	12.8	1.69	ng/m³ Air	10.562	1.90	103	80-120	0.164	20	
Cobalt	1.40	0.0333	ng/m³ Air	1.0562	0.355	99.0	80-120	0.408	20	
Copper	85.5	2.01	ng/m³ Air	21.124	60.5	119	80-120	5.13	20	
Lead	11.7	0.163	ng/m³ Air	10.562	1.24	99.2	80-120	0.0263	20	
Manganese	17.7	1.44	ng/m³ Air	6.3372	11.6	95.8	80-120	1.05	20	
Molybdenum	2.80	0.274	ng/m³ Air	1.0562	1.66	107	80-120	4.39	20	
Nickel	3.52	0.498	ng/m³ Air	2.1124	1.45	97.9	80-120	1.07	20	
Selenium	2.25	0.00684	ng/m³ Air	2.1124	0.190	97.6	80-120	0.372	20	
Thallium	0.105	4.50E-4	ng/m³ Air	0.10562	0.00119	97.9	80-120	0.571	20	QB-01
Vanadium	3.41	0.0404	ng/m³ Air	2.1124	1.40	95.1	80-120	0.135	20	
Zinc	88.8	58.7	ng/m³ Air	63.372	ND	140	80-120	0.0262	20	
Post Spike (B4C2609-PS1)			**Source: 4032536-15**			Prepared: 03/26/24		Analyzed: 03/27/24		
Antimony	0.309	0.0305	ng/m³ Air	0.21822	0.0997	95.8	75-125			SL
Arsenic	1.47	0.00739	ng/m³ Air	1.0911	0.423	95.9	75-125			
Barium	6.08	0.844	ng/m³ Air	2.1822	3.86	101	75-125			QB-01
Beryllium	0.215	0.00252	ng/m³ Air	0.21822	0.00503	96.0	75-125			
Cadmium	0.145	0.0585	ng/m³ Air	0.10911	ND	133	75-125			
Chromium	2.77	1.74	ng/m³ Air	1.0911	ND	254	75-125			
Cobalt	0.410	0.0344	ng/m³ Air	0.21822	0.198	96.9	75-125			
Copper	42.3	2.08	ng/m³ Air	10.911	30.5	109	75-125			
Lead	22.2	0.169	ng/m³ Air	21.822	1.05	96.7	75-125			
Manganese	8.18	1.49	ng/m³ Air	2.1822	6.01	99.4	75-125			
Molybdenum	2.08	0.283	ng/m³ Air	1.0911	1.02	97.6	75-125			
Nickel	2.78	0.514	ng/m³ Air	2.1822	0.659	97.1	75-125			
Selenium	1.16	0.00707	ng/m³ Air	1.0911	0.102	96.9	75-125			
Thallium	0.0552	4.65E-4	ng/m³ Air	5.4556E-2	0.00104	99.3	75-125			QB-01, QB-04
Vanadium	1.63	0.0417	ng/m³ Air	1.0911	0.566	97.3	75-125			
Zinc	ND	60.6	ng/m³ Air	21.822	ND		75-125			U
Post Spike (B4C2609-PS2)			**Source: 4032536-02**			Prepared: 03/26/24		Analyzed: 03/27/24		
Antimony	0.378	0.0295	ng/m³ Air	0.21124	0.179	94.4	75-125			SL
Arsenic	1.53	0.00716	ng/m³ Air	1.0562	0.526	94.7	75-125			
Barium	6.54	0.817	ng/m³ Air	2.1124	4.50	96.6	75-125			QB-01
Beryllium	0.225	0.00244	ng/m³ Air	0.21124	0.0119	101	75-125			
Cadmium	0.120	0.0566	ng/m³ Air	0.10562	ND	113	75-125			

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FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
SUBMITTED: 03/25/24
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 B4C2609 - ICP-MS Extraction										
Post Spike (B4C2609-PS2) Continued		**Source: 4032536-02**		Prepared: 03/26/24 Analyzed: 03/27/24						
Chromium	2.90	1.69	ng/m³ Air	1.0562	1.90	95.0	75-125			
Cobalt	0.561	0.0333	ng/m³ Air	0.21124	0.355	97.5	75-125			
Copper	69.7	2.01	ng/m³ Air	10.562	60.5	87.5	75-125			
Lead	21.7	0.163	ng/m³ Air	21.124	1.24	97.0	75-125			
Manganese	13.5	1.44	ng/m³ Air	2.1124	11.6	87.8	75-125			
Molybdenum	2.66	0.274	ng/m³ Air	1.0562	1.66	94.6	75-125			
Nickel	3.50	0.498	ng/m³ Air	2.1124	1.45	97.3	75-125			
Selenium	1.19	0.00684	ng/m³ Air	1.0562	0.190	94.6	75-125			
Thallium	0.0535	4.50E-4	ng/m³ Air	5.2810E-2	0.00119	99.0	75-125			QB-01
Vanadium	2.34	0.0404	ng/m³ Air	1.0562	1.40	89.0	75-125			
Zinc	ND	58.7	ng/m³ Air	21.124	ND		75-125			U
Dilution Check (B4C2609-SRL1)		**Source: 4032536-15**		Prepared: 03/26/24 Analyzed: 03/27/24						
Antimony	ND	0.152	ng/m³ Air		ND				10	SL, U
Arsenic	0.431	0.0370	ng/m³ Air		0.423			1.99	10	
Barium	ND	4.22	ng/m³ Air		ND				10	QB-01, U
Beryllium	ND	0.0126	ng/m³ Air		ND				10	U
Cadmium	ND	0.292	ng/m³ Air		ND				10	U
Chromium	ND	8.72	ng/m³ Air		ND				10	U
Cobalt	0.198	0.172	ng/m³ Air		0.198			0.0245	10	
Copper	30.7	10.4	ng/m³ Air		30.5			0.786	10	
Lead	1.04	0.844	ng/m³ Air		1.05			1.02	10	
Manganese	ND	7.46	ng/m³ Air		ND				10	U
Molybdenum	ND	1.42	ng/m³ Air		ND				10	U
Nickel	ND	2.57	ng/m³ Air		ND				10	U
Selenium	0.108	0.0353	ng/m³ Air		0.102			5.05	10	
Thallium	ND	0.00232	ng/m³ Air		ND				10	QB-01, QB-04 U
Vanadium	0.584	0.209	ng/m³ Air		0.566			3.09	10	
Zinc	ND	303	ng/m³ Air		ND				10	U
Dilution Check (B4C2609-SRL2)		**Source: 4032536-02**		Prepared: 03/26/24 Analyzed: 03/27/24						
Antimony	0.179	0.147	ng/m³ Air		0.179			0.205	10	SL
Arsenic	0.545	0.0358	ng/m³ Air		0.526			3.49	10	
Barium	4.55	4.09	ng/m³ Air		4.50			1.18	10	QB-01
Beryllium	ND	0.0122	ng/m³ Air		ND				10	U
Cadmium	ND	0.283	ng/m³ Air		ND				10	U
Chromium	ND	8.44	ng/m³ Air		ND				10	U
Cobalt	0.366	0.166	ng/m³ Air		0.355			2.93	10	
Copper	63.0	10.0	ng/m³ Air		60.5			4.13	10	

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FILE #: 4205.00.003.001
REPORTED: 04/02/24 09:21
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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 B4C2609 - ICP-MS Extraction										
Dilution Check (B4C2609-SRL2) Continue Source: 4032536-02 Prepared: 03/26/24 Analyzed: 03/27/24										
Lead	1.22	0.817	ng/m³ Air		1.24			1.27	10	
Manganese	11.9	7.22	ng/m³ Air		11.6			2.09	10	
Molybdenum	1.70	1.37	ng/m³ Air		1.66			2.06	10	
Nickel	ND	2.49	ng/m³ Air		ND				10	U
Selenium	0.216	0.0342	ng/m³ Air		0.190			12.8	10	SRD-01
Thallium	0.00236	0.00225	ng/m³ Air		ND			65.6	10	QB-01
Vanadium	1.40	0.202	ng/m³ Air		1.40			0.0847	10	
Zinc	ND	293	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.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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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 4/3/2024 and Shanna Vasser 4/3/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 3/14/2024 – 3/20/2024
Report No: 4032536

√	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, barium, copper, and lead in MFL-FB01-031824-HM, and for arsenic in MFL-FB01-031624-HM and MFL-FB01-032024-HM.

Notes:

2. The laboratory noted that MFL-AM01-031424-HM, MFL-AM01-031824-HM, and MFL-AM04-031924-HM were nonhomogeneous samples.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

March 21 through March 27, 2024
[Report Updated: December 4, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from March 21 through March 27, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from March 21 through March 27 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 $\mu g/m^3$ screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. Of the 28 samples collected, one sample collected at Lahaina Intermediate School on March 26 was voided due to a sample deployment error: the sample cassette cap was inadvertently left on for the duration of collection. All

analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on March 21
- WW Pump Station #4 on March 22
- Lahaina Intermediate School on March 21, 22, and 24
- Lahaina Boys & Girls Club on March 22 and 24

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all four community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler

- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
March 21 through March 27, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
3/21/2024	Leialii Hawaiian Homelands (AM-01)	5.2
	WW Pump Station #4 (AM-02)	8.7
	Lahaina Intermediate School (AM-03)	8.5
	Lahaina Boys & Girls Club (AM-04)	6.6
3/22/2024	Leialii Hawaiian Homelands (AM-01)	7.2
	WW Pump Station #4 (AM-02)	9.0
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Boys & Girls Club (AM-04)	6.6
3/23/2024	Leialii Hawaiian Homelands (AM-01)	7.4
	WW Pump Station #4 (AM-02)	6.5
	Lahaina Intermediate School (AM-03)	7.9
	Lahaina Boys & Girls Club (AM-04)	6.4
3/24/2024	Leialii Hawaiian Homelands (AM-01)	9.4
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	11
3/25/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	19
	Lahaina Intermediate School (AM-03)	18
	Lahaina Boys & Girls Club (AM-04)	18
3/26/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	16
	Lahaina Boys & Girls Club (AM-04)	14
3/27/2024	Leialii Hawaiian Homelands (AM-01)	5.5
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	7.8
	Lahaina Boys & Girls Club (AM-04)	6.0

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation
Results from Lahaina Intermediate School on 3/26 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
March 21 through March 27, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
3/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000481	0.000415	0.00300	0.0000106	ND	0.00192	0.000308	0.0160	0.000524	0.0108	0.000838	0.000754	0.000186	0.00000221	0.000945	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000199	0.00127	0.0102	0.0000385	ND	0.00513	0.00139	0.0333	0.00276	0.0358	0.000944	0.00431	0.000372	0.00000304	0.00366	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000413	0.000284	0.00491	0.0000579	ND	0.00323	0.000872	0.0343	0.000615	0.0249	0.00103	0.00181	0.000362	0.00000284	0.00235	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000135	0.000579	0.00541	0.0000245	ND	0.00314	0.000642	0.0352	0.00126	0.0199	0.00148	0.00184	0.000264	0.00000243	0.00163	ND
3/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.000430	0.00232	0.00382	0.0000126	ND	0.00218	0.000402	0.0225	0.000719	0.0134	0.00113	0.000956	0.000180	0.00000282	0.00110	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000529	0.00305	0.0133	0.0000416	ND	0.00542	0.00150	0.0359	0.00282	0.0397	0.00107	0.00496	0.000362	0.00000353	0.00387	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.000162	0.00114	0.00486	0.0000318	ND	0.00253	0.000490	0.0297	0.000830	0.0130	0.000964	0.00150	0.000201	0.00000250	0.00118	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000191	0.00194	0.00515	0.0000154	ND	0.00274	0.000395	0.0379	0.00153	0.0135	0.00189	0.00141	0.000172	0.00000241	0.00104	ND
3/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0025	0.000102	0.00333	0.00734	0.00000996	ND	0.00310	0.000385	0.0269	0.000769	0.0112	0.00141	0.00120	0.000151	0.00000177	0.000947	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000159	0.000443	0.00414	0.0000127	ND	0.00207	0.000382	0.0232	0.000746	0.0111	0.00107	0.00162	0.000173	0.00000185	0.00109	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000746	0.000261	0.00317	0.0000182	ND	0.00187	0.000274	0.0319	0.000613	0.00777	0.00122	0.00107	0.000156	0.00000170	0.000800	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.0000980	0.000498	0.00329	0.00000959	ND	ND	0.000236	0.0280	0.000912	0.00822	0.00135	0.000761	0.000145	0.00000155	0.000723	ND
3/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0026	0.0000734	0.000621	0.00242	0.00000760	ND	ND	0.000261	0.0219	0.000443	0.00744	0.00134	0.000636	0.000167	0.00000165	0.000758	ND
	WW Pump Station #4 (AM-02)	<0.0025	0.000137	0.000381	0.00444	0.0000129	ND	0.00180	0.000354	0.0267	0.000924	0.0108	0.00124	0.00112	0.000205	0.00000185	0.00114	ND
	Lahaina Intermediate School (AM-03)	<0.0025	0.0000573	0.000191	0.00263	0.0000141	ND	ND	0.000224	0.0328	0.000684	0.00626	0.00124	0.000868	0.000190	0.00000158	0.000638	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0025	0.000129	0.000612	0.00438	0.0000127	ND	0.00236	0.000344	0.0300	0.00186	0.0107	0.00150	0.00121	0.000219	0.00000185	0.000973	ND
3/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000100	0.000797	0.00384	0.00000976	ND	0.00214	0.000327	0.0251	0.00222	0.00977	0.00175	0.00121	0.000253	0.00000298	0.000962	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000137	0.000433	0.00534	0.0000172	ND	0.00241	0.000454	0.0223	0.000941	0.0135	0.00127	0.00188	0.000322	0.00000341	0.00154	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000653	0.000263	0.00379	0.0000178	ND	0.00285	0.000401	0.0278	0.000607	0.0109	0.00122	0.00165	0.000292	0.00000324	0.00119	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000982	0.000512	0.00436	0.0000120	ND	0.00194	0.000295	0.0306	0.00110	0.0102	0.00170	0.00114	0.000284	0.00000321	0.00105	ND
3/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000814	0.000401	0.00363	0.00000839	ND	ND	0.000226	0.0224	0.000710	0.00758	0.00167	0.00100	0.000288	0.00000324	0.00102	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000117	0.000438	0.00471	0.0000129	ND	ND	0.000271	0.0235	0.000949	0.00983	0.00138	0.00121	0.000320	0.00000334	0.00128	ND
	Lahaina Intermediate School (AM-03)		0.0000788	0.000259	0.00382	0.0000163	ND	0.00193	0.000319	0.0365	0.000865	0.00923	0.00125	0.00142	0.000333	0.00000352	0.00121	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000140	0.000614	0.00541	0.0000145	ND	0.00230	0.000373	0.0247	0.00141	0.0124	0.00146	0.00147	0.000351	0.00000335	0.00152	ND
3/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000628	0.000507	0.00430	0.0000125	ND	0.00223	0.000382	0.0270	0.000930	0.0121	0.00159	0.00127	0.000225	0.00000214	0.00115	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000199	0.000585	0.00834	0.0000192	ND	0.00424	0.000526	0.0356	0.00152	0.0172	0.00186	0.00233	0.000291	0.00000262	0.00163	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000908	0.000260	0.00435	0.0000254	ND	0.00240	0.000468	0.0342	0.000797	0.0120	0.00111	0.00146	0.000261	0.00000228	0.00122	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000160	0.000701	0.00509	0.0000103	ND	ND	0.000262	0.0327	0.00115	0.00886	0.00198	0.00129	0.000227	0.00000208	0.000818	ND
95% Upper Confidence Limit[2]		NA	0.000170	0.001080	0.00565	0.0000220	NA	0.00307	0.000530	0.0310	0.00132	0.0156	0.00146	0.00180	0.000280	0.00000280	0.00153	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs
The asbestos sample was voided at Leialii Hawaiian Homelands on 3/26 due to a sample deployment error

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
March 21 through March 27, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
3/21/2024	AM-01	Leialii Hawaiian Homelands	1.9	SE	74	57	762.6
3/21/2024	AM-02	WW Pump Station #4	1.6	ESE	75	57	764.8
3/21/2024	AM-03	Lahaina Intermediate School	1.4	ESE	72	59	755.2
3/21/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSE	73	56	764.4
3/22/2024	AM-01	Leialii Hawaiian Homelands	1.6	SE	75	52	763.5
3/22/2024	AM-02	WW Pump Station #4	1.4	SE	75	55	765.7
3/22/2024	AM-03	Lahaina Intermediate School	1.3	ESE	72	55	756.2
3/22/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSE	73	54	765.3
3/23/2024	AM-01	Leialii Hawaiian Homelands	1.5	SE	75	55	764.0
3/23/2024	AM-02	WW Pump Station #4	1.3	SE	75	57	766.2
3/23/2024	AM-03	Lahaina Intermediate School	1.3	ESE	72	59	756.6
3/23/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	73	57	765.8
3/24/2024	AM-01	Leialii Hawaiian Homelands	1.3	SE	76	55	764.2
3/24/2024	AM-02	WW Pump Station #4	1.2	SE	76	58	766.4
3/24/2024	AM-03	Lahaina Intermediate School	1.2	SE	73	60	756.9
3/24/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	58	766.0
3/25/2024	AM-01	Leialii Hawaiian Homelands	1.3	SE	76	56	764.3
3/25/2024	AM-02	WW Pump Station #4	1.2	SE	76	60	766.5
3/25/2024	AM-03	Lahaina Intermediate School	1.2	SE	73	61	756.9
3/25/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	59	766.1
3/26/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	77	57	764.1
3/26/2024	AM-02	WW Pump Station #4	1.2	SE	76	61	766.3
3/26/2024	AM-03	Lahaina Intermediate School	1.2	SE	73	63	756.8
3/26/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	61	765.9
3/27/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	77	58	763.9
3/27/2024	AM-02	WW Pump Station #4	1.1	SE	76	62	766.1
3/27/2024	AM-03	Lahaina Intermediate School	1.1	SE	73	64	756.6
3/27/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	62	765.7

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/28/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7395.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**- 0.0024**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**- 0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	- 0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**- 0.0024**

Comment

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: 042406300
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: 042406300-0001 **Customer Sample:** MFL-AM01-032124-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	J9	None Detected									
A5	G7	None Detected									
A5	B6	None Detected									
A6	H4	None Detected									
A6	D3	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7297.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0002 **Customer Sample:** MFL-AM02-032124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	H3	None Detected									
B1	E1	None Detected									
B1	C3	None Detected									
B2	A9	None Detected									
B2	G7	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:	

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Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0003 **Customer Sample:** MFL-AM03-032124-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	A7	None Detected									
B5	F9	None Detected									
B5	H6	None Detected									
B6	G5	None Detected									
B6	B2	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:	

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Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7178.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042406300-0004 **Customer Sample:** MFL-AM04-032124-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	C9	None Detected									
C1	E7	None Detected									
C1	H8	None Detected									
C2	I2	None Detected									
C2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032124-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0005 **Customer Sample:** MFL-FB01-032124-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	H6	None Detected									
C5	F7	None Detected									
C5	D8	None Detected									
C5	B6	None Detected									
C6	J5	None Detected									
C6	H7	None Detected									
C6	F8	None Detected									
C6	D9	None Detected									
C6	B8	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:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7030.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042406300**
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: 042406300-0006 **Customer Sample:** MFL-AM01-032224-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	J6	None Detected									
D1	G8	None Detected									
D1	B9	None Detected									
D2	G8	None Detected									
D2	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7222.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0007 **Customer Sample:** MFL-AM02-032224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A2	None Detected									
D5	D4	None Detected									
D5	I6	None Detected									
D6	H3	None Detected									
D6	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7245.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

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EMSL Order ID: 042406300
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: 042406300-0008 **Customer Sample:** MFL-AM03-032224-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	B10	None Detected									
E1	E8	None Detected									
E1	I6	None Detected									
E2	A7	None Detected									
E2	J10	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Phone:	(703) 489-2674
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Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7225.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0009 **Customer Sample:** MFL-AM04-032224-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	I7	None Detected									
E5	F8	None Detected									
E5	D6	None Detected									
E6	I5	None Detected									
E6	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032224-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0010 **Customer Sample:** MFL-FB01-032224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J6	None Detected									
F1	H5	None Detected									
F1	F3	None Detected									
F1	D4	None Detected									
F1	B2	None Detected									
F2	J2	None Detected									
F2	H4	None Detected									
F2	F3	None Detected									
F2	D1	None Detected									
F2	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7125.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042406300
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: 042406300-0011 **Customer Sample:** MFL-AM01-032324-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	I2	None Detected									
F5	G4	None Detected									
F5	B4	None Detected									
F6	D7	None Detected									
F6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7187.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0012 **Customer Sample:** MFL-AM02-032324-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	I3	None Detected									
G1	F1	None Detected									
G1	D4	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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EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID:	**042406300**
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: 042406300-0013 **Customer Sample:** MFL-AM03-032324-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	A6	None Detected									
G5	E7	None Detected									
G5	I9	None Detected									
G6	C7	None Detected									
G6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7193.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0014 **Customer Sample:** MFL-AM04-032324-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	J4	None Detected									
H1	E2	None Detected									
H1	B1	None Detected									
H2	G4	None Detected									
H2	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032324-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0015 **Customer Sample:** MFL-FB01-032324-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	J4	None Detected									
H5	H6	None Detected									
H5	F7	None Detected									
H5	D8	None Detected									
H5	B10	None Detected									
H6	A3	None Detected									
H6	C3	None Detected									
H6	E7	None Detected									
H6	G4	None Detected									
H6	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6924.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0026**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Actinolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Amosite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Anthophyllite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Crocidolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Tremolite	ADX	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**
Other Minerals	-	0	0	< 46.72	< 0.0026	Not Applicable	- 0.0026
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0026**	**Not Applicable**	**- 0.0026**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0016 **Customer Sample:** MFL-AM01-032424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I3	A4	None Detected									
I3	C2	None Detected									
I3	H3	None Detected									
I4	J10	None Detected									
I4	E10	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:	

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Denver, CO, 80202

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Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7264.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment
Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042406300
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: 042406300-0017 **Customer Sample:** MFL-AM02-032424-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					
I7	G9	None Detected									
I7	E8	None Detected									
I7	C5	None Detected									
I8	F1	None Detected									
I8	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 PO:	1207085
Project ID:	

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Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7185.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

Comment

Approved Signatory

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EMSL Order ID:	**042406300**
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: 042406300-0018 **Customer Sample:** MFL-AM03-032424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	H2	None Detected									
G6	F4	None Detected									
G6	C6	None Detected									
G7	I6	None Detected									
G7	G8	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
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Project ID:	

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Analysis Date:	03/29/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7211.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0025**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Actinolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Amosite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Anthophyllite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Crocidolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Tremolite	ADX	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**
Other Minerals	-	0	0	< 46.72	< 0.0025	Not Applicable	- 0.0025
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0025**	**Not Applicable**	**- 0.0025**

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: 042406300-0019 **Customer Sample:** MFL-AM04-032424-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	J7	None Detected									
H1	H5	None Detected									
H1	C3	None Detected									
H2	H3	None Detected									
H2	D2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-032424-AB**		**Sample Description:**	
EMSL Sample Number:	042406300-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	(S/cc)	Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected		Density	Concentration	95 % Confidence Interval (S/cc)	
		Primary	Total	(S/mm²)	S / mm²	Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406300
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: 042406300-0020 **Customer Sample:** MFL-FB01-032424-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	A7	None Detected									
H5	C6	None Detected									
H5	E8	None Detected									
H5	G7	None Detected									
H5	I9	None Detected									
H6	J6	None Detected									
H6	H2	None Detected									
H6	F4	None Detected									
H6	D3	None Detected									
H6	B2	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:	042406300
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	
Received Date:	03/27/2024 12:00 PM
Analysis Date:	03/28/2024
Report Date:	04/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042406300-0021		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 (mm²):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm²):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

PCM EQUIVALENT (PCMe) STRUCTURES
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm²)	Concentration S / mm²	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Actinolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Amosite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Anthophyllite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Crocidolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Tremolite	ADX	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**
Other Minerals	-	0	0	< 23.36	< N/A	Not Applicable	- Not Applicable
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**	**< N/A**	**Not Applicable**	**- Not Applicable**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406300
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: 042406300-0021 **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					
A2	J9	None Detected									
A2	H8	None Detected									
A2	F7	None Detected									
A2	D10	None Detected									
A2	B8	None Detected									
A3	A2	None Detected									
A3	C3	None Detected									
A3	E3	None Detected									
A3	G6	None Detected									
A3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042406300

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406300

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Suber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	Country:
Country:	USA		
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.suber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	E. Langston Saldaña	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.

RECEIVED EMSL CINNAMINSON, N.J. 2024 MAR 27 P 12:00

☐ 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-AM01-032124-AB		7,395.211	03/21/24 1100
MFL-AM02-032124-AB		7,297.758	03/21/24 1119
MFL-AM03-032124-AB		7,208.688	03/21/24 1303
MFL-AM04-032124-AB		7,178.759	03/21/24 1323
MFL-FB01-032124-AB		0	03/21/24 1200
MFL-AM01-032224-AB		7,030.382	03/22/24 1106
MFL-AM02-032224-AB		7,222.320	03/22/24 1122
MFL-AM03-032224-AB		7,245.792	03/22/24 1306

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:		Received by:	Date/Time: 03/25/24 1100
Relinquished by:	Date/Time:	Received by:	Date/Time: 3/27 PM

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042406300

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406300

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-AM04-032224-AB		7,225.920	03/22/24 1328
MFL-FB01-032224-AB		0	03/22/24 1200
MFL-AM01-032324-AB		7,125.403	03/23/24 1103
MFL-AM02-032324-AB		7,187.208	03/23/24 1122
MFL-AM03-032324-AB		7,219.737	03/23/24 1300
MFL-AM04-032324-AB		7,193.693	03/23/24 1325
MFL-FB01-032324-AB		0	03/23/24 1200
MFL-AM01-032424-AB		6,924.603	03/24/24 1059
MFL-AM02-032424-AB		7,264.522	03/24/24 1115
MFL-AM03-032424-AB		7,185.862	03/24/24 1305
MFL-AM04-032424-AB		7,211.736	03/24/24 1324
MFL-FB01-032424-AB		0	03/24/24 1200

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 MAR 27 P 12:00

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/25/24 1100	Received by:	Date/Time
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.

2 of 2

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 4/3/2024 and Shanna Vasser 4/3/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/21/2024 – 3/24/2024
Report No: 42406300

√	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-032524-AB**

EMSL Sample Number:	042406645-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6948.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406645
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: 042406645-0001 **Customer Sample:** MFL-AM01-032524-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	A8	None Detected									
B2	D6	None Detected									
B2	G4	None Detected									
B3	C4	None Detected									
B3	I7	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-032524-AB**

EMSL Sample Number:	042406645-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406645
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: 042406645-0002 **Customer Sample:** MFL-AM02-032524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	I3	None Detected									
B5	G5	None Detected									
B5	B3	None Detected									
B6	C8	None Detected									
B6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-032524-AB**

EMSL Sample Number:	042406645-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7288.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0003 **Customer Sample:** MFL-AM03-032524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	I3	None Detected									
C2	F7	None Detected									
C2	C4	None Detected									
C3	H3	None Detected									
C3	C1	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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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-032524-AB**

EMSL Sample Number:	042406645-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7265.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0004 **Customer Sample:** MFL-AM04-032524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J2	None Detected									
C5	G4	None Detected									
C5	E2	None Detected									
C6	H4	None Detected									
C6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-032524-AB**

EMSL Sample Number:	042406645-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0005 **Customer Sample:** MFL-FB01-032524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J6	None Detected									
D2	H5	None Detected									
D2	F3	None Detected									
D2	D6	None Detected									
D2	B4	None Detected									
D3	J2	None Detected									
D3	H4	None Detected									
D3	F7	None Detected									
D3	D5	None Detected									
D3	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-032624-AB**

EMSL Sample Number:	042406645-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7273.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0006 **Customer Sample:** MFL-AM01-032624-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	J6	None Detected									
D5	G7	None Detected									
D5	C6	None Detected									
D6	H7	None Detected									
D6	B9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-032624-AB**

EMSL Sample Number:	042406645-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0007 **Customer Sample:** MFL-AM02-032624-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	J8	None Detected									
E2	G6	None Detected									
E2	C8	None Detected									
E3	H8	None Detected									
E3	C5	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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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-032624-AB**

EMSL Sample Number:	042406645-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7121.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0008 **Customer Sample:** MFL-AM04-032624-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	I3	None Detected									
E5	E4	None Detected									
E5	B2	None Detected									
E6	C9	None Detected									
E6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-032624-AB**

EMSL Sample Number:	042406645-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0009 **Customer Sample:** MFL-FB01-032624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F2	J2	None Detected									
F2	H1	None Detected									
F2	F2	None Detected									
F2	D1	None Detected									
F2	B2	None Detected									
F3	J1	None Detected									
F3	H3	None Detected									
F3	F1	None Detected									
F3	D4	None Detected									
F3	B5	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

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-032724-AB**

EMSL Sample Number:	042406645-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7134.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0010 **Customer Sample:** MFL-AM01-032724-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	A6	None Detected									
F5	D7	None Detected									
F5	H9	None Detected									
F6	H3	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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Project ID:	N/A

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Received Date:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-032724-AB**

EMSL Sample Number:	042406645-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7210.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042406645
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: 042406645-0011 **Customer Sample:** MFL-AM02-032724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J6	None Detected									
G2	H5	None Detected									
G2	C6	None Detected									
G3	C7	None Detected									
G3	G8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-032724-AB**

EMSL Sample Number:	042406645-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406645
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: 042406645-0012 **Customer Sample:** MFL-AM03-032724-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	A7	None Detected									
G5	E10	None Detected									
G5	H7	None Detected									
G6	C7	None Detected									
G6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-032724-AB**

EMSL Sample Number:	042406645-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7128.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406645
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: 042406645-0013 **Customer Sample:** MFL-AM04-032724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	C9	None Detected									
H2	F7	None Detected									
H2	I3	None Detected									
H3	H6	None Detected									
H3	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:	042406645
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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-032724-AB**

EMSL Sample Number:	042406645-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0014 **Customer Sample:** MFL-FB01-032724-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	J4	None Detected									
H5	H3	None Detected									
H5	F2	None Detected									
H5	D1	None Detected									
H5	B3	None Detected									
H6	J3	None Detected									
H6	H4	None Detected									
H6	F4	None Detected									
H6	D5	None Detected									
H6	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:	042406645
Customer ID:	TTDC42
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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:	04/01/2024 09:00 AM
Analysis Date:	04/04/2024
Report Date:	04/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042406645-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406645
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: 042406645-0015 **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	A8	None Detected									
A1	J10	None Detected									
A2	J10	None Detected									
A2	I4	None Detected									
A2	G2	None Detected									
A2	E1	None Detected									
A2	C5	None Detected									
A2	A4	None Detected									
A3	A9	None Detected									
A3	C10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042406645

Asbestos Chain of Custody (Air, Bulk, Soil)

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#042406645

200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 24 APR -1 AM 9:24

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Suber	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.suber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Elan Kenyon-Schein	Sampled By Signature:	
No. of Samples in Shipment	~~15~~ 14 (EKS)		

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-AM01-032524-AB		6,948.302	03/25/24 1109
MFL-AM02-032524-AB		7,205.328	03/25/24 1118
MFL-AM03-032524-AB		7,288.272	03/25/24 1308
MFL-AM04-032524-AB		7,265.088	03/25/24 1328
MFL-FB01-032524-AB		0	03/25/24 1200
MFL-AM01-032624-AB		7,273.773	03/26/24 1105
MFL-AM02-032624-AB		7,197.089	03/26/24 1133
~~MFL-AM03-032624-AB~~ (EKS)	VOID	7,185.476	03/26/24 1315

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

14 (EKS)

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 03/28/24 1100	Received by: FedEx
Date/Time: 4/1/24 9AM			
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042406645

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406645

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-AM04-032624-AB		7,121.387	03/26/24 1344
~~MFL-AM05~~ (EKS)	MFL-FB01-032624-AB	0	03/26/24 1200
MFL-AM01-032724-AB		7,134.574	03/27/24 1100
MFL-AM02-032724-AB		7,210.483	03/27/24 1125
MFL-AM03-032724-AB		7,221.747	03/27/24 1310
MFL-AM04-032724-AB		7,128.402	03/27/24 1333
MFL-FB01-032724-AB		0	03/27/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 APR -1 AM 9:24

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 03/28/24 1100	Received by:	Date/Time
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 4/9/2024 and Shanna Vasser 4/9/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/25/2024 – 3/27/2024
Report No: 42406645

√	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:

4. MFL-AM03-032624-AB was listed on the CoC with a note that it was void.
No results were present in the laboratory report for this sample because it was not shipped.

Notes: None

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

April 10, 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 04/01/24 11:42.

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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-032124-HM	4040126-01	Air	03/21/24 23:59	04/01/24 11:42
MFL-AM02-032124-HM	4040126-02	Air	03/21/24 23:59	04/01/24 11:42
MFL-AM03-032124-HM/MS/I	4040126-03	Air	03/21/24 23:59	04/01/24 11:42
MFL-AM04-032124-HM	4040126-04	Air	03/21/24 23:59	04/01/24 11:42
MFL-AM01-032224-HM	4040126-05	Air	03/22/24 23:59	04/01/24 11:42
MFL-AM02-032224-HM	4040126-06	Air	03/22/24 23:59	04/01/24 11:42
MFL-AM03-032224-HM	4040126-07	Air	03/22/24 23:59	04/01/24 11:42
MFL-AM04-032224-HM	4040126-08	Air	03/22/24 23:59	04/01/24 11:42
MFL-FB01-032224-HM	4040126-09	Air	03/22/24 00:00	04/01/24 11:42
MFL-AM01-032324-HM	4040126-10	Air	03/23/24 23:59	04/01/24 11:42
MFL-AM02-032324-HM	4040126-11	Air	03/23/24 23:59	04/01/24 11:42
MFL-AM03-032324-HM	4040126-12	Air	03/23/24 23:59	04/01/24 11:42
MFL-AM04-032324-HM	4040126-13	Air	03/23/24 23:59	04/01/24 11:42
MFL-AM01-032424-HM	4040126-14	Air	03/24/24 23:59	04/01/24 11:42
MFL-AM02-032424-HM	4040126-15	Air	03/24/24 23:59	04/01/24 11:42
MFL-AM03-032424-HM	4040126-16	Air	03/24/24 23:59	04/01/24 11:42
MFL-AM04-032424-HM	4040126-17	Air	03/24/24 23:59	04/01/24 11:42
MFL-FB01-032424-HM	4040126-18	Air	03/24/24 00:00	04/01/24 11:42
MFL-AM01-032524-HM	4040126-19	Air	03/25/24 23:59	04/01/24 11:42
MFL-AM02-032524-HM	4040126-20	Air	03/25/24 23:59	04/01/24 11:42
MFL-AM03-032524-HM	4040126-21	Air	03/25/24 23:59	04/01/24 11:42

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-032524-HM	4040126-22	Air	03/25/24 23:59	04/01/24 11:42
MFL-AM01-032624-HM/MS/I	4040126-23	Air	03/26/24 23:59	04/01/24 11:42
MFL-AM02-032624-HM	4040126-24	Air	03/26/24 23:59	04/01/24 11:42
MFL-AM03-032624-HM	4040126-25	Air	03/26/24 23:59	04/01/24 11:42
MFL-AM04-032624-HM	4040126-26	Air	03/26/24 23:59	04/01/24 11:42
MFL-FB01-032624-HM	4040126-27	Air	03/26/24 00:00	04/01/24 11:42
MFL-AM01-032724-HM	4040126-28	Air	03/27/24 23:59	04/01/24 11:42
MFL-AM02-032724-HM	4040126-29	Air	03/27/24 23:59	04/01/24 11:42
MFL-AM03-032724-HM	4040126-30	Air	03/27/24 23:59	04/01/24 11:42
MFL-AM04-032724-HM	4040126-31	Air	03/27/24 23:59	04/01/24 11:42

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032124-HM
Matrix: Air
Lab ID: 4040126-01
Sample Volume: 2150.756 m³
Filter ID:
Sampled: 03/21/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 02:32

Comments: Q9516911 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0481**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.415**		**0.00709**
Barium	**7440-39-3**	**3.00**		**0.809**
Beryllium	**7440-41-7**	**0.0106**		**0.00242**
Cadmium	7440-43-9	0.0159	U	0.0561
Chromium	**7440-47-3**	**1.92**		**1.67**
Cobalt	**7440-48-4**	**0.308**		**0.0330**
Copper	**7440-50-8**	**16.0**		**1.99**
Lead	**7439-92-1**	**0.524**		**0.162**
Manganese	**7439-96-5**	**10.8**		**1.43**
Molybdenum	**7439-98-7**	**0.838**		**0.272**
Nickel	**7440-02-0**	**0.754**		**0.493**
Selenium	**7782-49-2**	**0.186**		**0.00678**
Thallium	**7440-28-0**	**0.00221**	QB-04	**4.46E-4**
Vanadium	**7440-62-2**	**0.945**		**0.0400**
Zinc	7440-66-6	9.27	U	58.1

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032124-HM
Matrix: Air
Lab ID: 4040126-02
Sample Volume: 2165.271 m³
Filter ID:
Sampled: 03/21/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 02:46

Comments: Q9516910 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.199**	SL	**0.0290**
Arsenic	**7440-38-2**	**1.27**		**0.00704**
Barium	**7440-39-3**	**10.2**		**0.804**
Beryllium	**7440-41-7**	**0.0385**		**0.00240**
Cadmium	7440-43-9	0.0424	U	0.0557
Chromium	**7440-47-3**	**5.13**		**1.66**
Cobalt	**7440-48-4**	**1.39**		**0.0328**
Copper	**7440-50-8**	**33.3**		**1.98**
Lead	**7439-92-1**	**2.76**		**0.161**
Manganese	**7439-96-5**	**35.8**		**1.42**
Molybdenum	**7439-98-7**	**0.944**		**0.270**
Nickel	**7440-02-0**	**4.31**		**0.490**
Selenium	**7782-49-2**	**0.372**		**0.00673**
Thallium	**7440-28-0**	**0.00304**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**3.66**		**0.0397**
Zinc	7440-66-6	36.2	U	57.7

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032124-HM/MS/MS **Lab ID:** 4040126-03 **Sampled:** 03/21/24 23:59
Matrix: Air **Sample Volume:** 2157.564 m³ **Received:** 04/01/24 11:42
Filter ID: **Analysis Date:** 04/03/24 20:16

Comments: Q9516909 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0413**	SL	**0.0291**
Arsenic	**7440-38-2**	**0.284**		**0.00707**
Barium	**7440-39-3**	**4.91**		**0.807**
Beryllium	**7440-41-7**	**0.0579**		**0.00241**
Cadmium	7440-43-9	0.0168	U	0.0559
Chromium	**7440-47-3**	**3.23**		**1.67**
Cobalt	**7440-48-4**	**0.872**		**0.0329**
Copper	**7440-50-8**	**34.3**		**1.98**
Lead	**7439-92-1**	**0.615**		**0.161**
Manganese	**7439-96-5**	**24.9**		**1.43**
Molybdenum	**7439-98-7**	**1.03**		**0.271**
Nickel	**7440-02-0**	**1.81**		**0.492**
Selenium	**7782-49-2**	**0.362**	SRD-01	**0.00676**
Thallium	**7440-28-0**	**0.00284**	QB-04	**4.44E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0399**
Zinc	7440-66-6	9.09	U	57.9

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032124-HM
Matrix: Air
Lab ID: 4040126-04
Sample Volume: 1950.663 m³
Filter ID:
Sampled: 03/21/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 03:02

Comments: Q9516908 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.579**		**0.00782**
Barium	**7440-39-3**	**5.41**		**0.892**
Beryllium	**7440-41-7**	**0.0245**		**0.00267**
Cadmium	7440-43-9	0.0191	U	0.0618
Chromium	**7440-47-3**	**3.14**		**1.84**
Cobalt	**7440-48-4**	**0.642**		**0.0364**
Copper	**7440-50-8**	**35.2**		**2.19**
Lead	**7439-92-1**	**1.26**		**0.178**
Manganese	**7439-96-5**	**19.9**		**1.58**
Molybdenum	**7439-98-7**	**1.48**		**0.299**
Nickel	**7440-02-0**	**1.84**		**0.544**
Selenium	**7782-49-2**	**0.264**		**0.00747**
Thallium	**7440-28-0**	**0.00243**	QB-04	**4.91E-4**
Vanadium	**7440-62-2**	**1.63**		**0.0441**
Zinc	7440-66-6	22.3	U	64.1

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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032224-HM
Matrix: Air
Lab ID: 4040126-05
Sample Volume: 2161.577 m³
Filter ID:
Sampled: 03/22/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 03:18

Comments: Q9516907 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.430**	SL	**0.0291**
Arsenic	**7440-38-2**	**2.32**		**0.00705**
Barium	**7440-39-3**	**3.82**		**0.805**
Beryllium	**7440-41-7**	**0.0126**		**0.00241**
Cadmium	7440-43-9	0.0224	U	0.0558
Chromium	**7440-47-3**	**2.18**		**1.66**
Cobalt	**7440-48-4**	**0.402**		**0.0328**
Copper	**7440-50-8**	**22.5**		**1.98**
Lead	**7439-92-1**	**0.719**		**0.161**
Manganese	**7439-96-5**	**13.4**		**1.42**
Molybdenum	**7439-98-7**	**1.13**		**0.270**
Nickel	**7440-02-0**	**0.956**		**0.491**
Selenium	**7782-49-2**	**0.180**		**0.00674**
Thallium	**7440-28-0**	**0.00282**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0398**
Zinc	7440-66-6	11.1	U	57.8

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032224-HM
Matrix: Air
Lab ID: 4040126-06
Sample Volume: 2115.726 m³
Filter ID:
Sampled: 03/22/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 03:32

Comments: Q9516905 - Filter damaged during collection

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.529**	SL	**0.0297**
Arsenic	**7440-38-2**	**3.05**		**0.00721**
Barium	**7440-39-3**	**13.3**		**0.823**
Beryllium	**7440-41-7**	**0.0416**		**0.00246**
Cadmium	7440-43-9	0.0505	U	0.0570
Chromium	**7440-47-3**	**5.42**		**1.70**
Cobalt	**7440-48-4**	**1.50**		**0.0335**
Copper	**7440-50-8**	**35.9**		**2.02**
Lead	**7439-92-1**	**2.82**		**0.165**
Manganese	**7439-96-5**	**39.7**		**1.45**
Molybdenum	**7439-98-7**	**1.07**		**0.276**
Nickel	**7440-02-0**	**4.96**		**0.501**
Selenium	**7782-49-2**	**0.362**		**0.00689**
Thallium	**7440-28-0**	**0.00353**	QB-04	**4.53E-4**
Vanadium	**7440-62-2**	**3.87**		**0.0407**
Zinc	7440-66-6	33.0	U	59.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032224-HM
Matrix: Air
Lab ID: 4040126-07
Sample Volume: 2076.459 m³
Filter ID:
Sampled: 03/22/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 03:50

Comments: Q8507600 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.162**	SL	**0.0302**
Arsenic	**7440-38-2**	**1.14**		**0.00734**
Barium	**7440-39-3**	**4.86**		**0.838**
Beryllium	**7440-41-7**	**0.0318**		**0.00251**
Cadmium	7440-43-9	0.0172	U	0.0581
Chromium	**7440-47-3**	**2.53**		**1.73**
Cobalt	**7440-48-4**	**0.490**		**0.0342**
Copper	**7440-50-8**	**29.7**		**2.06**
Lead	**7439-92-1**	**0.830**		**0.168**
Manganese	**7439-96-5**	**13.0**		**1.48**
Molybdenum	**7439-98-7**	**0.964**		**0.281**
Nickel	**7440-02-0**	**1.50**		**0.511**
Selenium	**7782-49-2**	**0.201**		**0.00702**
Thallium	**7440-28-0**	**0.00250**	QB-04	**4.62E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0414**
Zinc	7440-66-6	11.5	U	60.2

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032224-HM
Matrix: Air
Lab ID: 4040126-08
Sample Volume: 1892.914 m³
Filter ID:
Sampled: 03/22/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 04:05

Comments: Q8507605 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.191**	SL	**0.0332**
Arsenic	**7440-38-2**	**1.94**		**0.00805**
Barium	**7440-39-3**	**5.15**		**0.920**
Beryllium	**7440-41-7**	**0.0154**		**0.00275**
Cadmium	7440-43-9	0.0284	U	0.0637
Chromium	**7440-47-3**	**2.74**		**1.90**
Cobalt	**7440-48-4**	**0.395**		**0.0375**
Copper	**7440-50-8**	**37.9**		**2.26**
Lead	**7439-92-1**	**1.53**		**0.184**
Manganese	**7439-96-5**	**13.5**		**1.62**
Molybdenum	**7439-98-7**	**1.89**		**0.309**
Nickel	**7440-02-0**	**1.41**		**0.560**
Selenium	**7782-49-2**	**0.172**		**0.00770**
Thallium	**7440-28-0**	**0.00241**	QB-04	**5.06E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0455**
Zinc	7440-66-6	18.7	U	66.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-032224-HM
Matrix: Air
Lab ID: 4040126-09
Sample Volume: 2161.577 m³
Filter ID:
Sampled: 03/22/24 00:00
Received: 04/01/24 11:42
Analysis Date: 04/04/24 04:19

Comments: Q8507602 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0157	SL, U	0.0291
Arsenic	**7440-38-2**	**0.00757**	FB-01	**0.00705**
Barium	7440-39-3	0.728	U	0.805
Beryllium	7440-41-7	6.57E-4	U	0.00241
Cadmium	7440-43-9	5.90E-4	U	0.0558
Chromium	7440-47-3	0.767	U	1.66
Cobalt	7440-48-4	0.0113	U	0.0328
Copper	7440-50-8	1.30	U	1.98
Lead	7439-92-1	0.0525	U	0.161
Manganese	7439-96-5	0.214	U	1.42
Molybdenum	7439-98-7	0.123	U	0.270
Nickel	7440-02-0	0.328	U	0.491
Selenium	7782-49-2	0.00233	U	0.00674
Thallium	7440-28-0	1.17E-4	QB-04, U	4.43E-4
Vanadium	7440-62-2	0.0159	U	0.0398
Zinc	7440-66-6	3.18	U	57.8

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032324-HM
Matrix: Air
Lab ID: 4040126-10
Sample Volume: 2004.509 m³
Filter ID:
Sampled: 03/23/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 04:32

Comments: Q8507604 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0313**
Arsenic	**7440-38-2**	**3.33**		**0.00761**
Barium	**7440-39-3**	**7.34**		**0.868**
Beryllium	**7440-41-7**	**0.00996**		**0.00260**
Cadmium	7440-43-9	0.0131	U	0.0601
Chromium	**7440-47-3**	**3.10**		**1.79**
Cobalt	**7440-48-4**	**0.385**		**0.0354**
Copper	**7440-50-8**	**26.9**		**2.13**
Lead	**7439-92-1**	**0.769**		**0.174**
Manganese	**7439-96-5**	**11.2**		**1.53**
Molybdenum	**7439-98-7**	**1.41**		**0.291**
Nickel	**7440-02-0**	**1.20**		**0.529**
Selenium	**7782-49-2**	**0.151**		**0.00727**
Thallium	**7440-28-0**	**0.00177**	QB-04	**4.78E-4**
Vanadium	**7440-62-2**	**0.947**		**0.0429**
Zinc	7440-66-6	14.9	U	62.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032324-HM
Matrix: Air
Lab ID: 4040126-11
Sample Volume: 1996.858 m³
Filter ID:
Sampled: 03/23/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 05:35

Comments: Q8507603 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.443**		**0.00763**
Barium	**7440-39-3**	**4.14**		**0.872**
Beryllium	**7440-41-7**	**0.0127**		**0.00261**
Cadmium	7440-43-9	0.0134	U	0.0604
Chromium	**7440-47-3**	**2.07**		**1.80**
Cobalt	**7440-48-4**	**0.382**		**0.0355**
Copper	**7440-50-8**	**23.2**		**2.14**
Lead	**7439-92-1**	**0.746**		**0.174**
Manganese	**7439-96-5**	**11.1**		**1.54**
Molybdenum	**7439-98-7**	**1.07**		**0.293**
Nickel	**7440-02-0**	**1.62**		**0.531**
Selenium	**7782-49-2**	**0.173**		**0.00730**
Thallium	**7440-28-0**	**0.00185**	QB-04	**4.80E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0431**
Zinc	7440-66-6	11.1	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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032324-HM
Matrix: Air
Lab ID: 4040126-12
Sample Volume: 2029.056 m³
Filter ID:
Sampled: 03/23/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 06:04

Comments: Q8507601 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0746**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.261**		**0.00751**
Barium	**7440-39-3**	**3.17**		**0.858**
Beryllium	**7440-41-7**	**0.0182**		**0.00257**
Cadmium	7440-43-9	0.0115	U	0.0594
Chromium	**7440-47-3**	**1.87**		**1.77**
Cobalt	**7440-48-4**	**0.274**		**0.0350**
Copper	**7440-50-8**	**31.9**		**2.11**
Lead	**7439-92-1**	**0.613**		**0.172**
Manganese	**7439-96-5**	**7.77**		**1.52**
Molybdenum	**7439-98-7**	**1.22**		**0.288**
Nickel	**7440-02-0**	**1.07**		**0.523**
Selenium	**7782-49-2**	**0.156**		**0.00718**
Thallium	**7440-28-0**	**0.00170**	QB-04	**4.72E-4**
Vanadium	**7440-62-2**	**0.800**		**0.0424**
Zinc	7440-66-6	10.4	U	61.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032324-HM
Matrix: Air
Lab ID: 4040126-13
Sample Volume: 1987.521 m³
Filter ID:
Sampled: 03/23/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 06:19

Comments: Q9516904 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0980**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.498**		**0.00767**
Barium	**7440-39-3**	**3.29**		**0.876**
Beryllium	**7440-41-7**	**0.00959**		**0.00262**
Cadmium	7440-43-9	0.0133	U	0.0607
Chromium	7440-47-3	1.51	U	1.81
Cobalt	**7440-48-4**	**0.236**		**0.0357**
Copper	**7440-50-8**	**28.0**		**2.15**
Lead	**7439-92-1**	**0.912**		**0.175**
Manganese	**7439-96-5**	**8.22**		**1.55**
Molybdenum	**7439-98-7**	**1.35**		**0.294**
Nickel	**7440-02-0**	**0.761**		**0.534**
Selenium	**7782-49-2**	**0.145**		**0.00733**
Thallium	**7440-28-0**	**0.00155**	QB-04	**4.82E-4**
Vanadium	**7440-62-2**	**0.723**		**0.0433**
Zinc	7440-66-6	11.3	U	62.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032424-HM
Matrix: Air
Lab ID: 4040126-14
Sample Volume: 2148.05 m³
Filter ID:
Sampled: 03/24/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 06:33

Comments: Q9516903 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0734**	SL	**0.0292**
Arsenic	**7440-38-2**	**0.621**		**0.00710**
Barium	**7440-39-3**	**2.42**		**0.810**
Beryllium	**7440-41-7**	**0.00760**		**0.00242**
Cadmium	7440-43-9	0.0102	U	0.0561
Chromium	7440-47-3	1.53	U	1.67
Cobalt	**7440-48-4**	**0.261**		**0.0330**
Copper	**7440-50-8**	**21.9**		**1.99**
Lead	**7439-92-1**	**0.443**		**0.162**
Manganese	**7439-96-5**	**7.44**		**1.43**
Molybdenum	**7439-98-7**	**1.34**		**0.272**
Nickel	**7440-02-0**	**0.636**		**0.494**
Selenium	**7782-49-2**	**0.167**		**0.00679**
Thallium	**7440-28-0**	**0.00165**	QB-04	**4.46E-4**
Vanadium	**7440-62-2**	**0.758**		**0.0401**
Zinc	7440-66-6	9.49	U	58.2

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032424-HM
Matrix: Air
Lab ID: 4040126-15
Sample Volume: 2162.541 m³
Filter ID:
Sampled: 03/24/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 06:46

Comments: Q9516901 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.137**	SL	**0.0290**
Arsenic	**7440-38-2**	**0.381**		**0.00705**
Barium	**7440-39-3**	**4.44**		**0.805**
Beryllium	**7440-41-7**	**0.0129**		**0.00241**
Cadmium	7440-43-9	0.0454	U	0.0557
Chromium	**7440-47-3**	**1.80**		**1.66**
Cobalt	**7440-48-4**	**0.354**		**0.0328**
Copper	**7440-50-8**	**26.7**		**1.98**
Lead	**7439-92-1**	**0.924**		**0.161**
Manganese	**7439-96-5**	**10.8**		**1.42**
Molybdenum	**7439-98-7**	**1.24**		**0.270**
Nickel	**7440-02-0**	**1.12**		**0.491**
Selenium	**7782-49-2**	**0.205**		**0.00674**
Thallium	**7440-28-0**	**0.00185**	QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0398**
Zinc	7440-66-6	12.6	U	57.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032424-HM
Matrix: Air
Lab ID: 4040126-16
Sample Volume: 2064.054 m³
Filter ID:
Sampled: 03/24/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 07:01

Comments: Q8507580 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0573**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.191**		**0.00739**
Barium	**7440-39-3**	**2.63**		**0.843**
Beryllium	**7440-41-7**	**0.0141**		**0.00252**
Cadmium	7440-43-9	0.0123	U	0.0584
Chromium	7440-47-3	1.58	U	1.74
Cobalt	**7440-48-4**	**0.224**		**0.0344**
Copper	**7440-50-8**	**32.8**		**2.07**
Lead	**7439-92-1**	**0.684**		**0.169**
Manganese	**7439-96-5**	**6.26**		**1.49**
Molybdenum	**7439-98-7**	**1.24**		**0.283**
Nickel	**7440-02-0**	**0.868**		**0.514**
Selenium	**7782-49-2**	**0.190**		**0.00706**
Thallium	**7440-28-0**	**0.00158**	QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**0.638**		**0.0417**
Zinc	7440-66-6	8.63	U	60.5

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032424-HM
Matrix: Air
Lab ID: 4040126-17
Sample Volume: 1859.18 m³
Filter ID:
Sampled: 03/24/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 07:16

Comments: Q8507597 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.612**		**0.00820**
Barium	**7440-39-3**	**4.38**		**0.936**
Beryllium	**7440-41-7**	**0.0127**		**0.00280**
Cadmium	7440-43-9	0.0179	U	0.0648
Chromium	**7440-47-3**	**2.36**		**1.93**
Cobalt	**7440-48-4**	**0.344**		**0.0382**
Copper	**7440-50-8**	**30.0**		**2.30**
Lead	**7439-92-1**	**1.86**		**0.187**
Manganese	**7439-96-5**	**10.7**		**1.65**
Molybdenum	**7439-98-7**	**1.50**		**0.314**
Nickel	**7440-02-0**	**1.21**		**0.571**
Selenium	**7782-49-2**	**0.219**		**0.00784**
Thallium	**7440-28-0**	**0.00185**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**0.973**		**0.0463**
Zinc	7440-66-6	14.0	U	67.2

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-032424-HM
Matrix: Air
Lab ID: 4040126-18
Sample Volume: 2148.05 m³
Filter ID:
Sampled: 03/24/24 00:00
Received: 04/01/24 11:42
Analysis Date: 04/04/24 07:32

Comments: Q8507588 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0172	SL, U	0.0292
Arsenic	**7440-38-2**	**0.00918**	FB-01	**0.00710**
Barium	7440-39-3	0.805	U	0.810
Beryllium	7440-41-7	7.49E-4	U	0.00242
Cadmium	7440-43-9	0.00115	U	0.0561
Chromium	7440-47-3	0.792	U	1.67
Cobalt	7440-48-4	0.0137	U	0.0330
Copper	**7440-50-8**	**2.23**	FB-01	**1.99**
Lead	7439-92-1	0.0687	U	0.162
Manganese	7439-96-5	0.268	U	1.43
Molybdenum	7439-98-7	0.133	U	0.272
Nickel	7440-02-0	0.395	U	0.494
Selenium	7782-49-2	0.00595	U	0.00679
Thallium	7440-28-0	1.07E-4	QB-04, U	4.46E-4
Vanadium	7440-62-2	0.0197	U	0.0401
Zinc	7440-66-6	3.91	U	58.2

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032524-HM
Matrix: Air
Lab ID: 4040126-19
Sample Volume: 2016.276 m³
Filter ID:
Sampled: 03/25/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 07:45

Comments: Q8507595 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.797**		**0.00756**
Barium	**7440-39-3**	**3.84**		**0.863**
Beryllium	**7440-41-7**	**0.00976**		**0.00258**
Cadmium	7440-43-9	0.0209	U	0.0598
Chromium	**7440-47-3**	**2.14**		**1.78**
Cobalt	**7440-48-4**	**0.327**		**0.0352**
Copper	**7440-50-8**	**25.1**		**2.12**
Lead	**7439-92-1**	**2.22**		**0.173**
Manganese	**7439-96-5**	**9.77**		**1.53**
Molybdenum	**7439-98-7**	**1.75**		**0.290**
Nickel	**7440-02-0**	**1.21**		**0.526**
Selenium	**7782-49-2**	**0.253**		**0.00723**
Thallium	**7440-28-0**	**0.00298**	QB-04	**4.75E-4**
Vanadium	**7440-62-2**	**0.962**		**0.0427**
Zinc	7440-66-6	11.1	U	62.0

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032524-HM
Matrix: Air
Lab ID: 4040126-20
Sample Volume: 2017.763 m³
Filter ID:
Sampled: 03/25/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 08:48

Comments: Q8507594 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.137**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.433**		**0.00756**
Barium	**7440-39-3**	**5.34**		**0.863**
Beryllium	**7440-41-7**	**0.0172**		**0.00258**
Cadmium	7440-43-9	0.0176	U	0.0597
Chromium	**7440-47-3**	**2.41**		**1.78**
Cobalt	**7440-48-4**	**0.454**		**0.0352**
Copper	**7440-50-8**	**22.3**		**2.12**
Lead	**7439-92-1**	**0.941**		**0.173**
Manganese	**7439-96-5**	**13.5**		**1.52**
Molybdenum	**7439-98-7**	**1.27**		**0.289**
Nickel	**7440-02-0**	**1.88**		**0.526**
Selenium	**7782-49-2**	**0.322**		**0.00722**
Thallium	**7440-28-0**	**0.00341**	QB-04	**4.75E-4**
Vanadium	**7440-62-2**	**1.54**		**0.0427**
Zinc	7440-66-6	12.6	U	61.9

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032524-HM
Matrix: Air
Lab ID: 4040126-21
Sample Volume: 2074.074 m³
Filter ID:
Sampled: 03/25/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 09:03

Comments: Q8507590 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0653**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.263**		**0.00735**
Barium	**7440-39-3**	**3.79**		**0.839**
Beryllium	**7440-41-7**	**0.0178**		**0.00251**
Cadmium	7440-43-9	0.0152	U	0.0581
Chromium	**7440-47-3**	**2.85**		**1.73**
Cobalt	**7440-48-4**	**0.401**		**0.0342**
Copper	**7440-50-8**	**27.8**		**2.06**
Lead	**7439-92-1**	**0.607**		**0.168**
Manganese	**7439-96-5**	**10.9**		**1.48**
Molybdenum	**7439-98-7**	**1.22**		**0.282**
Nickel	**7440-02-0**	**1.65**		**0.511**
Selenium	**7782-49-2**	**0.292**		**0.00703**
Thallium	**7440-28-0**	**0.00324**	QB-04	**4.62E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0415**
Zinc	7440-66-6	7.84	U	60.2

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032524-HM
Matrix: Air
Lab ID: 4040126-22
Sample Volume: 1883.316 m³
Filter ID:
Sampled: 03/25/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 09:17

Comments: Q8507589 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0982**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.512**		**0.00809**
Barium	**7440-39-3**	**4.36**		**0.924**
Beryllium	**7440-41-7**	**0.0120**		**0.00276**
Cadmium	7440-43-9	0.0182	U	0.0640
Chromium	**7440-47-3**	**1.94**		**1.91**
Cobalt	**7440-48-4**	**0.295**		**0.0377**
Copper	**7440-50-8**	**30.6**		**2.27**
Lead	**7439-92-1**	**1.10**		**0.185**
Manganese	**7439-96-5**	**10.2**		**1.63**
Molybdenum	**7439-98-7**	**1.70**		**0.310**
Nickel	**7440-02-0**	**1.14**		**0.563**
Selenium	**7782-49-2**	**0.284**		**0.00774**
Thallium	**7440-28-0**	**0.00321**	QB-04	**5.09E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0457**
Zinc	7440-66-6	13.4	U	66.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032624-HM/MS/MS **Lab ID:** 4040126-23 **Sampled:** 03/26/24 23:59
Matrix: Air **Sample Volume:** 2066.32 m³ **Received:** 04/01/24 11:42
Filter ID: **Analysis Date:** 04/03/24 23:57

Comments: Q8507586 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0814**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.401**		**0.00738**
Barium	**7440-39-3**	**3.63**		**0.843**
Beryllium	**7440-41-7**	**0.00839**		**0.00252**
Cadmium	7440-43-9	0.0154	U	0.0583
Chromium	7440-47-3	1.63	U	1.74
Cobalt	**7440-48-4**	**0.226**		**0.0343**
Copper	**7440-50-8**	**22.4**		**2.07**
Lead	**7439-92-1**	**0.710**		**0.169**
Manganese	**7439-96-5**	**7.58**		**1.49**
Molybdenum	**7439-98-7**	**1.67**		**0.283**
Nickel	**7440-02-0**	**1.00**		**0.513**
Selenium	**7782-49-2**	**0.288**		**0.00706**
Thallium	**7440-28-0**	**0.00324**	QB-04	**4.64E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0417**
Zinc	7440-66-6	9.45	U	60.5

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032624-HM
Matrix: Air
Lab ID: 4040126-24
Sample Volume: 2080.196 m³
Filter ID:
Sampled: 03/26/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 09:32

Comments: Q8507583 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.117**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.438**		**0.00733**
Barium	**7440-39-3**	**4.71**		**0.837**
Beryllium	**7440-41-7**	**0.0129**		**0.00250**
Cadmium	7440-43-9	0.0207	U	0.0580
Chromium	7440-47-3	1.63	U	1.73
Cobalt	**7440-48-4**	**0.271**		**0.0341**
Copper	**7440-50-8**	**23.5**		**2.06**
Lead	**7439-92-1**	**0.949**		**0.167**
Manganese	**7439-96-5**	**9.83**		**1.48**
Molybdenum	**7439-98-7**	**1.38**		**0.281**
Nickel	**7440-02-0**	**1.21**		**0.510**
Selenium	**7782-49-2**	**0.320**		**0.00701**
Thallium	**7440-28-0**	**0.00334**	QB-04	**4.61E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0414**
Zinc	7440-66-6	11.4	U	60.1

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032624-HM
Matrix: Air
Lab ID: 4040126-25
Sample Volume: 2060.6 m³
Filter ID:
Sampled: 03/26/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 09:47

Comments: Q8507582 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0788**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.259**		**0.00740**
Barium	**7440-39-3**	**3.82**		**0.845**
Beryllium	**7440-41-7**	**0.0163**		**0.00253**
Cadmium	7440-43-9	0.0183	U	0.0585
Chromium	**7440-47-3**	**1.93**		**1.74**
Cobalt	**7440-48-4**	**0.319**		**0.0344**
Copper	**7440-50-8**	**36.5**		**2.08**
Lead	**7439-92-1**	**0.865**		**0.169**
Manganese	**7439-96-5**	**9.23**		**1.49**
Molybdenum	**7439-98-7**	**1.25**		**0.283**
Nickel	**7440-02-0**	**1.42**		**0.515**
Selenium	**7782-49-2**	**0.333**		**0.00707**
Thallium	**7440-28-0**	**0.00352**	QB-04	**4.65E-4**
Vanadium	**7440-62-2**	**1.21**		**0.0418**
Zinc	7440-66-6	12.3	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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032624-HM
Matrix: Air
Lab ID: 4040126-26
Sample Volume: 1857.623 m³
Filter ID:
Sampled: 03/26/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 10:02

Comments: Q8507572 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.140**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.614**		**0.00821**
Barium	**7440-39-3**	**5.41**		**0.937**
Beryllium	**7440-41-7**	**0.0145**		**0.00280**
Cadmium	7440-43-9	0.0277	U	0.0649
Chromium	**7440-47-3**	**2.30**		**1.94**
Cobalt	**7440-48-4**	**0.373**		**0.0382**
Copper	**7440-50-8**	**24.7**		**2.30**
Lead	**7439-92-1**	**1.41**		**0.187**
Manganese	**7439-96-5**	**12.4**		**1.66**
Molybdenum	**7439-98-7**	**1.46**		**0.314**
Nickel	**7440-02-0**	**1.47**		**0.571**
Selenium	**7782-49-2**	**0.351**		**0.00785**
Thallium	**7440-28-0**	**0.00335**	QB-04	**5.16E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0463**
Zinc	7440-66-6	18.0	U	67.3

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-032624-HM
Matrix: Air
Lab ID: 4040126-27
Sample Volume: 2066.32 m³
Filter ID:
Sampled: 03/26/24 00:00
Received: 04/01/24 11:42
Analysis Date: 04/04/24 10:32

Comments: Q8507569 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0175	SL, U	0.0304
Arsenic	**7440-38-2**	**0.0139**	FB-01	**0.00738**
Barium	**7440-39-3**	**1.16**	FB-01	**0.843**
Beryllium	7440-41-7	6.64E-4	U	0.00252
Cadmium	7440-43-9	0.00199	U	0.0583
Chromium	7440-47-3	0.818	U	1.74
Cobalt	7440-48-4	0.0127	U	0.0343
Copper	7440-50-8	1.81	U	2.07
Lead	7439-92-1	0.0582	U	0.169
Manganese	7439-96-5	0.263	U	1.49
Molybdenum	7439-98-7	0.167	U	0.283
Nickel	7440-02-0	0.398	U	0.513
Selenium	7782-49-2	0.00118	U	0.00706
Thallium	7440-28-0	1.22E-4	QB-04, U	4.64E-4
Vanadium	7440-62-2	0.0191	U	0.0417
Zinc	7440-66-6	3.24	U	60.5

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032724-HM
Matrix: Air
Lab ID: 4040126-28
Sample Volume: 2034.714 m³
Filter ID:
Sampled: 03/27/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 10:46

Comments: Q8507570 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0628**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.507**		**0.00749**
Barium	**7440-39-3**	**4.30**		**0.856**
Beryllium	**7440-41-7**	**0.0125**		**0.00256**
Cadmium	7440-43-9	0.0153	U	0.0593
Chromium	**7440-47-3**	**2.23**		**1.77**
Cobalt	**7440-48-4**	**0.382**		**0.0349**
Copper	**7440-50-8**	**27.0**		**2.10**
Lead	**7439-92-1**	**0.930**		**0.171**
Manganese	**7439-96-5**	**12.1**		**1.51**
Molybdenum	**7439-98-7**	**1.59**		**0.287**
Nickel	**7440-02-0**	**1.27**		**0.521**
Selenium	**7782-49-2**	**0.225**		**0.00716**
Thallium	**7440-28-0**	**0.00214**	QB-04	**4.71E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0423**
Zinc	7440-66-6	11.6	U	61.4

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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: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032724-HM
Matrix: Air
Lab ID: 4040126-29
Sample Volume: 2009.261 m³
Filter ID:
Sampled: 03/27/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 11:00

Comments: Q8507566 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.199**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.585**		**0.00759**
Barium	**7440-39-3**	**8.34**		**0.866**
Beryllium	**7440-41-7**	**0.0192**		**0.00259**
Cadmium	7440-43-9	0.0262	U	0.0600
Chromium	**7440-47-3**	**4.24**		**1.79**
Cobalt	**7440-48-4**	**0.526**		**0.0353**
Copper	**7440-50-8**	**35.6**		**2.13**
Lead	**7439-92-1**	**1.52**		**0.173**
Manganese	**7439-96-5**	**17.2**		**1.53**
Molybdenum	**7439-98-7**	**1.86**		**0.291**
Nickel	**7440-02-0**	**2.33**		**0.528**
Selenium	**7782-49-2**	**0.291**		**0.00726**
Thallium	**7440-28-0**	**0.00262**	QB-04	**4.77E-4**
Vanadium	**7440-62-2**	**1.63**		**0.0428**
Zinc	7440-66-6	19.4	U	62.2

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032724-HM
Matrix: Air
Lab ID: 4040126-30
Sample Volume: 2048.515 m³
Filter ID:
Sampled: 03/27/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 12:06

Comments: Q8507579 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0908**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.260**		**0.00744**
Barium	**7440-39-3**	**4.35**		**0.850**
Beryllium	**7440-41-7**	**0.0254**		**0.00254**
Cadmium	7440-43-9	0.0142	U	0.0589
Chromium	**7440-47-3**	**2.40**		**1.76**
Cobalt	**7440-48-4**	**0.468**		**0.0346**
Copper	**7440-50-8**	**34.2**		**2.09**
Lead	**7439-92-1**	**0.797**		**0.170**
Manganese	**7439-96-5**	**12.0**		**1.50**
Molybdenum	**7439-98-7**	**1.11**		**0.285**
Nickel	**7440-02-0**	**1.46**		**0.518**
Selenium	**7782-49-2**	**0.261**		**0.00712**
Thallium	**7440-28-0**	**0.00228**	QB-04	**4.68E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0420**
Zinc	7440-66-6	17.9	U	61.0

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032724-HM
Matrix: Air
Lab ID: 4040126-31
Sample Volume: 1869.262 m³
Filter ID:
Sampled: 03/27/24 23:59
Received: 04/01/24 11:42
Analysis Date: 04/04/24 12:22

Comments: Q8507578 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.160**	SL	**0.0336**
Arsenic	**7440-38-2**	**0.701**		**0.00816**
Barium	**7440-39-3**	**5.09**		**0.931**
Beryllium	**7440-41-7**	**0.0103**		**0.00279**
Cadmium	7440-43-9	0.0188	U	0.0645
Chromium	7440-47-3	1.77	U	1.92
Cobalt	**7440-48-4**	**0.262**		**0.0379**
Copper	**7440-50-8**	**32.7**		**2.29**
Lead	**7439-92-1**	**1.15**		**0.186**
Manganese	**7439-96-5**	**8.86**		**1.65**
Molybdenum	**7439-98-7**	**1.98**		**0.312**
Nickel	**7440-02-0**	**1.29**		**0.567**
Selenium	**7782-49-2**	**0.227**		**0.00780**
Thallium	**7440-28-0**	**0.00208**	QB-04	**5.13E-4**
Vanadium	**7440-62-2**	**0.818**		**0.0460**
Zinc	7440-66-6	15.4	U	66.8

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Blank (2404007-CCB1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.283		ng/l							
Arsenic	3.17		ng/l							
Barium	4.08		ng/l							
Beryllium	0.202		ng/l							
Cadmium	0.181		ng/l							
Chromium	-4.32		ng/l							U
Cobalt	0.694		ng/l							
Copper	218		ng/l							
Lead	5.00		ng/l							
Manganese	13.0		ng/l							
Molybdenum	16.8		ng/l							
Nickel	0.285		ng/l							
Selenium	-2.70		ng/l							U
Thallium	1.78		ng/l							QB-04
Vanadium	-35.8		ng/l							U
Zinc	-11.5		ng/l							U
Calibration Blank (2404007-CCB2)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	-0.358		ng/l							U
Arsenic	10.2		ng/l							
Barium	1.24		ng/l							
Beryllium	2.13		ng/l							
Cadmium	-0.283		ng/l							U
Chromium	-7.49		ng/l							U
Cobalt	-0.0343		ng/l							U
Copper	88.5		ng/l							
Lead	2.35		ng/l							
Manganese	3.89		ng/l							
Molybdenum	0.787		ng/l							
Nickel	-1.09		ng/l							U
Selenium	1.26		ng/l							
Thallium	1.31		ng/l							
Vanadium	-37.0		ng/l							U
Zinc	-30.0		ng/l							U
Calibration Blank (2404007-CCB3)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.496		ng/l							U
Arsenic	3.12		ng/l							
Barium	0.223		ng/l							
Beryllium	1.24		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 2404007 - B4D0206										
Calibration Blank (2404007-CCB3) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Cadmium	-0.183		ng/l							U
Chromium	-7.02		ng/l							U
Cobalt	0.0715		ng/l							
Copper	67.7		ng/l							
Lead	1.38		ng/l							
Manganese	4.24		ng/l							
Molybdenum	0.439		ng/l							
Nickel	-0.907		ng/l							U
Selenium	-1.37		ng/l							U
Thallium	1.44		ng/l							QB-04
Vanadium	-37.1		ng/l							U
Zinc	-29.2		ng/l							U
Calibration Blank (2404007-CCB4)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.389		ng/l							U
Arsenic	10.3		ng/l							
Barium	-0.167		ng/l							U
Beryllium	0.163		ng/l							
Cadmium	-0.238		ng/l							U
Chromium	-6.59		ng/l							U
Cobalt	-0.0821		ng/l							U
Copper	48.2		ng/l							
Lead	0.733		ng/l							
Manganese	0.690		ng/l							
Molybdenum	1.81		ng/l							
Nickel	-1.01		ng/l							U
Selenium	-4.12		ng/l							U
Thallium	1.39		ng/l							QB-04
Vanadium	-39.3		ng/l							U
Zinc	-30.9		ng/l							U
Calibration Blank (2404007-CCB5)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.209		ng/l							U
Arsenic	8.43		ng/l							
Barium	0.0818		ng/l							
Beryllium	2.51		ng/l							
Cadmium	-0.332		ng/l							U
Chromium	-7.11		ng/l							U
Cobalt	-0.0816		ng/l							U
Copper	49.7		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 2404007 - B4D0206										
Calibration Blank (2404007-CCB5) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Lead	1.14		ng/l							
Manganese	2.08		ng/l							
Molybdenum	1.79		ng/l							
Nickel	-1.04		ng/l							U
Selenium	13.0		ng/l							
Thallium	1.25		ng/l							
Vanadium	-37.7		ng/l							U
Zinc	-25.9		ng/l							U
Calibration Blank (2404007-CCB6)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.252		ng/l							U
Arsenic	6.61		ng/l							
Barium	-0.744		ng/l							U
Beryllium	0.862		ng/l							
Cadmium	-0.366		ng/l							U
Chromium	-7.75		ng/l							U
Cobalt	-0.0277		ng/l							U
Copper	37.8		ng/l							
Lead	0.357		ng/l							
Manganese	0.800		ng/l							
Molybdenum	0.984		ng/l							
Nickel	-0.722		ng/l							U
Selenium	6.46		ng/l							
Thallium	1.39		ng/l							QB-04
Vanadium	-41.6		ng/l							U
Zinc	-31.1		ng/l							U
Calibration Blank (2404007-CCB7)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	-0.325		ng/l							U
Arsenic	5.92		ng/l							
Barium	0.191		ng/l							
Beryllium	0.170		ng/l							
Cadmium	-0.199		ng/l							U
Chromium	-9.51		ng/l							U
Cobalt	-0.0666		ng/l							U
Copper	38.2		ng/l							
Lead	0.658		ng/l							
Manganese	2.21		ng/l							
Molybdenum	0.781		ng/l							
Nickel	-0.271		ng/l							U

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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 2404007 - B4D0206										
Calibration Blank (2404007-CCB7) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Selenium	0.403		ng/l							
Thallium	1.33		ng/l							
Vanadium	-41.6		ng/l							U
Zinc	-32.7		ng/l							U
Calibration Check (2404007-CCV1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	19700		ng/l	20000		98.5	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	244000		ng/l	240000		101	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.3	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	19400		ng/l	20000		97.0	90-110			
Thallium	486		ng/l	500.00		97.1	90-110			
Vanadium	18900		ng/l	20000		94.6	90-110			
Zinc	501000		ng/l	500000		100	90-110			
Calibration Check (2404007-CCV2)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	19900		ng/l	20000		99.3	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	48800		ng/l	50000		97.6	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.4	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	47400		ng/l	50000		94.8	90-110			
Nickel	117000		ng/l	120000		97.4	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	486		ng/l	500.00		97.3	90-110			
Vanadium	19100		ng/l	20000		95.6	90-110			
Zinc	497000		ng/l	500000		99.4	90-110			

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REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Check (2404007-CCV3)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19600		ng/l	20000		97.9	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	19800		ng/l	20000		98.9	90-110			
Chromium	239000		ng/l	240000		99.4	90-110			
Cobalt	48200		ng/l	50000		96.3	90-110			
Copper	1.95E6		ng/l	2.0000E6		97.4	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	47400		ng/l	50000		94.8	90-110			
Nickel	115000		ng/l	120000		96.2	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	478		ng/l	500.00		95.7	90-110			
Vanadium	19100		ng/l	20000		95.5	90-110			
Zinc	495000		ng/l	500000		99.0	90-110			
Calibration Check (2404007-CCV4)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	4930		ng/l	5000.0		98.6	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	48900		ng/l	50000		97.7	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.7	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	522000		ng/l	500000		104	90-110			
Molybdenum	48700		ng/l	50000		97.4	90-110			
Nickel	117000		ng/l	120000		97.9	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	471		ng/l	500.00		94.3	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	500000		ng/l	500000		100	90-110			
Calibration Check (2404007-CCV5)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			

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REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Check (2404007-CCV5) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	49300		ng/l	50000		98.5	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	525000		ng/l	500000		105	90-110			
Molybdenum	49200		ng/l	50000		98.3	90-110			
Nickel	119000		ng/l	120000		99.0	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	476		ng/l	500.00		95.2	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	501000		ng/l	500000		100	90-110			
Calibration Check (2404007-CCV6)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	535000		ng/l	500000		107	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	476		ng/l	500.00		95.3	90-110			
Vanadium	19300		ng/l	20000		96.6	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Calibration Check (2404007-CCV7)				Prepared: 04/02/24 Analyzed: 04/04/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4950		ng/l	5000.0		99.0	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	50000		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 2404007 - B4D0206										
Calibration Check (2404007-CCV7) Contin				Prepared: 04/02/24 Analyzed: 04/04/24						
Lead	202000		ng/l	200000		101	90-110			
Manganese	527000		ng/l	500000		105	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	19400		ng/l	20000		97.0	90-110			
Zinc	512000		ng/l	500000		102	90-110			
High Cal Check (2404007-HCV1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	38600		ng/l	40000		96.5	95-105			
Arsenic	38800		ng/l	40000		97.0	95-105			
Barium	389000		ng/l	400000		97.3	95-105			
Beryllium	9620		ng/l	10000		96.2	95-105			
Cadmium	38400		ng/l	40000		96.1	95-105			
Chromium	460000		ng/l	480000		95.9	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.85E6		ng/l	4.0000E6		96.4	95-105			
Lead	390000		ng/l	400000		97.5	95-105			
Manganese	965000		ng/l	1.0000E6		96.5	95-105			
Molybdenum	96300		ng/l	100000		96.3	95-105			
Nickel	232000		ng/l	240000		96.6	95-105			
Selenium	39100		ng/l	40000		97.9	95-105			
Thallium	967		ng/l	1000.0		96.7	95-105			
Vanadium	38900		ng/l	40000		97.3	95-105			
Zinc	966000		ng/l	1.0000E6		96.6	95-105			
Initial Cal Blank (2404007-ICB1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.386		ng/l							
Arsenic	-2.16		ng/l							U
Barium	0.408		ng/l							
Beryllium	1.47		ng/l							
Cadmium	-0.259		ng/l							U
Chromium	8.35		ng/l							
Cobalt	0.269		ng/l							
Copper	158		ng/l							
Lead	2.44		ng/l							
Manganese	6.78		ng/l							
Molybdenum	3.58		ng/l							
Nickel	1.46		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404007 - B4D0206										
Initial Cal Blank (2404007-ICB1) Continu				Prepared: 04/02/24 Analyzed: 04/03/24						
Selenium	-1.45		ng/l							U
Thallium	1.06		ng/l							
Vanadium	-36.1		ng/l							U
Zinc	5.32		ng/l							
Initial Cal Check (2404007-ICV1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	19600		ng/l	20000		97.9	90-110			
Arsenic	19700		ng/l	20000		98.6	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	49300		ng/l	50000		98.6	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Lead	194000		ng/l	200000		96.9	90-110			
Manganese	495000		ng/l	500000		99.0	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	500000		ng/l	500000		99.9	90-110			
Interference Check A (2404007-IFA1)				Prepared: 04/02/24 Analyzed: 04/03/24						
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	305000		ng/l	300000		102	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 2404007 - B4D0206										
Interference Check B (2404007-IFB1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	20100		ng/l	20000		100	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	4930		ng/l	5000.0		98.6	80-120			
Cadmium	19500		ng/l	20000		97.3	80-120			
Chromium	236000		ng/l	240000		98.3	80-120			
Cobalt	50200		ng/l	50000		100	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.7	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	524000		ng/l	500000		105	80-120			
Molybdenum	357000		ng/l	350000		102	80-120			
Nickel	117000		ng/l	120000		97.5	80-120			
Selenium	18800		ng/l	20000		93.9	80-120			
Thallium	515		ng/l	500.00		103	80-120			
Vanadium	18200		ng/l	20000		91.1	80-120			
Zinc	461000		ng/l	500000		92.2	80-120			
Batch B4D0206 - ICP-MS Extraction										
Blank (B4D0206-BLK1)				Prepared: 04/02/24 Analyzed: 04/03/24						
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							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4D0206-BS1)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.556	0.0386	ng/m³ Air	1.3829		40.2	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		97.1	80-120			
Barium	27.8	1.07	ng/m³ Air	27.658		100	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 B4D0206 - ICP-MS Extraction										
LCS (B4D0206-BS1) Continued				Prepared: 04/02/24 Analyzed: 04/04/24						
Beryllium	1.41	0.00320	ng/m³ Air	1.3829		102	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		102	80-120			
Chromium	15.6	2.21	ng/m³ Air	13.829		113	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		99.3	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		98.9	80-120			
Manganese	8.66	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	3.02	0.652	ng/m³ Air	2.7658		109	80-120			
Selenium	2.73	0.00896	ng/m³ Air	2.7658		98.7	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.2	80-120			QB-04
Vanadium	2.68	0.0529	ng/m³ Air	2.7658		96.8	80-120			
Zinc	94.9	76.8	ng/m³ Air	82.975		114	80-120			
LCS (B4D0206-BS2)				Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.545	0.0386	ng/m³ Air	1.3829		39.4	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.2	80-120			
Barium	28.6	1.07	ng/m³ Air	27.658		103	80-120			
Beryllium	1.39	0.00320	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.33	0.0436	ng/m³ Air	1.3829		96.0	80-120			
Copper	28.2	2.63	ng/m³ Air	27.658		102	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		98.9	80-120			
Manganese	8.45	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.55	0.359	ng/m³ Air	1.3829		112	80-120			
Nickel	2.93	0.652	ng/m³ Air	2.7658		106	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		99.8	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.0	80-120			QB-04
Vanadium	2.62	0.0529	ng/m³ Air	2.7658		94.8	80-120			
Zinc	92.0	76.8	ng/m³ Air	82.975		111	80-120			
Duplicate (B4D0206-DUP1)		**Source: 4040126-03**		Prepared: 04/02/24 Analyzed: 04/03/24						
Antimony	0.0420	0.0291	ng/m³ Air		0.0413			1.59	10	SL
Arsenic	0.282	0.00707	ng/m³ Air		0.284			0.626	10	
Barium	4.87	0.807	ng/m³ Air		4.91			0.787	10	
Beryllium	0.0573	0.00241	ng/m³ Air		0.0579			0.962	10	
Cadmium	ND	0.0559	ng/m³ Air		ND				10	U
Chromium	3.16	1.67	ng/m³ Air		3.23			2.08	10	
Cobalt	0.830	0.0329	ng/m³ Air		0.872			5.02	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 B4D0206 - ICP-MS Extraction										
Duplicate (B4D0206-DUP1) Continued			**Source: 4040126-03**		Prepared: 04/02/24		Analyzed: 04/03/24			
Copper	34.9	1.98	ng/m³ Air		34.3			1.80	10	
Lead	0.610	0.161	ng/m³ Air		0.615			0.683	10	
Manganese	24.0	1.43	ng/m³ Air		24.9			3.88	10	
Molybdenum	1.07	0.271	ng/m³ Air		1.03			3.84	10	
Nickel	1.78	0.492	ng/m³ Air		1.81			1.81	10	
Selenium	0.354	0.00676	ng/m³ Air		0.362			2.50	10	
Thallium	0.00274	4.44E-4	ng/m³ Air		0.00284			3.69	10	QB-04
Vanadium	2.27	0.0399	ng/m³ Air		2.35			3.41	10	
Zinc	ND	57.9	ng/m³ Air		ND				10	U
Duplicate (B4D0206-DUP2)			**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24			
Antimony	0.0945	0.0304	ng/m³ Air		0.0814			14.8	10	SL
Arsenic	0.411	0.00738	ng/m³ Air		0.401			2.39	10	
Barium	4.20	0.843	ng/m³ Air		3.63			14.6	10	
Beryllium	0.00796	0.00252	ng/m³ Air		0.00839			5.30	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	1.96	1.74	ng/m³ Air		ND				10	
Cobalt	0.241	0.0343	ng/m³ Air		0.226			6.47	10	
Copper	25.1	2.07	ng/m³ Air		22.4			11.2	10	
Lead	0.883	0.169	ng/m³ Air		0.710			21.7	10	
Manganese	8.22	1.49	ng/m³ Air		7.58			8.09	10	
Molybdenum	1.79	0.283	ng/m³ Air		1.67			6.85	10	
Nickel	1.11	0.513	ng/m³ Air		1.00			10.0	10	
Selenium	0.301	0.00706	ng/m³ Air		0.288			4.31	10	
Thallium	0.00343	4.64E-4	ng/m³ Air		0.00324			5.66	10	QB-04
Vanadium	1.07	0.0417	ng/m³ Air		1.02			5.20	10	
Zinc	ND	60.5	ng/m³ Air		ND				10	U
Duplicate (B4D0206-DUP3)			**Source: 4040126-11**		Prepared: 04/02/24		Analyzed: 04/04/24			
Antimony	0.159	0.0315	ng/m³ Air		0.159			0.0179	10	SL
Arsenic	0.440	0.00763	ng/m³ Air		0.443			0.700	10	
Barium	4.14	0.872	ng/m³ Air		4.14			0.0362	10	
Beryllium	0.0128	0.00261	ng/m³ Air		0.0127			1.19	10	
Cadmium	ND	0.0604	ng/m³ Air		ND				10	U
Chromium	2.06	1.80	ng/m³ Air		2.07			0.791	10	
Cobalt	0.382	0.0355	ng/m³ Air		0.382			0.0265	10	
Copper	23.0	2.14	ng/m³ Air		23.2			0.537	10	
Lead	0.747	0.174	ng/m³ Air		0.746			0.124	10	
Manganese	11.0	1.54	ng/m³ Air		11.1			0.545	10	
Molybdenum	1.06	0.293	ng/m³ Air		1.07			0.322	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4D0206 - ICP-MS Extraction										
Duplicate (B4D0206-DUP3) Continued		**Source: 4040126-11**		Prepared: 04/02/24	Analyzed: 04/04/24					
Nickel	1.61	0.531	ng/m³ Air		1.62			0.506	10	
Selenium	0.177	0.00730	ng/m³ Air		0.173			2.19	10	
Thallium	0.00180	4.80E-4	ng/m³ Air		0.00185			3.08	10	QB-04
Vanadium	1.07	0.0431	ng/m³ Air		1.09			1.54	10	
Zinc	ND	62.6	ng/m³ Air		ND				10	U
Duplicate (B4D0206-DUP4)		**Source: 4040126-26**		Prepared: 04/02/24	Analyzed: 04/04/24					
Antimony	0.140	0.0338	ng/m³ Air		0.140			0.521	10	SL
Arsenic	0.612	0.00821	ng/m³ Air		0.614			0.333	10	
Barium	5.43	0.937	ng/m³ Air		5.41			0.363	10	
Beryllium	0.0144	0.00280	ng/m³ Air		0.0145			0.860	10	
Cadmium	ND	0.0649	ng/m³ Air		ND				10	U
Chromium	2.29	1.94	ng/m³ Air		2.30			0.269	10	
Cobalt	0.374	0.0382	ng/m³ Air		0.373			0.288	10	
Copper	24.7	2.30	ng/m³ Air		24.7			0.159	10	
Lead	1.42	0.187	ng/m³ Air		1.41			0.234	10	
Manganese	12.5	1.66	ng/m³ Air		12.4			0.655	10	
Molybdenum	1.47	0.314	ng/m³ Air		1.46			0.536	10	
Nickel	1.47	0.571	ng/m³ Air		1.47			0.228	10	
Selenium	0.348	0.00785	ng/m³ Air		0.351			0.818	10	
Thallium	0.00346	5.16E-4	ng/m³ Air		0.00335			3.12	10	QB-04
Vanadium	1.52	0.0463	ng/m³ Air		1.52			0.0525	10	
Zinc	ND	67.3	ng/m³ Air		ND				10	U
Matrix Spike (B4D0206-MS1)		**Source: 4040126-03**		Prepared: 04/02/24	Analyzed: 04/03/24					
Antimony	0.620	0.0291	ng/m³ Air	1.0428	0.0413	55.5	80-120			SL
Arsenic	2.14	0.00707	ng/m³ Air	2.0857	0.284	89.0	80-120			
Barium	26.1	0.807	ng/m³ Air	20.857	4.91	102	80-120			
Beryllium	1.12	0.00241	ng/m³ Air	1.0428	0.0579	101	80-120			
Cadmium	1.05	0.0559	ng/m³ Air	1.0428	ND	101	80-120			
Chromium	13.4	1.67	ng/m³ Air	10.428	3.23	97.4	80-120			
Cobalt	1.83	0.0329	ng/m³ Air	1.0428	0.872	92.1	80-120			
Copper	56.4	1.98	ng/m³ Air	20.857	34.3	106	80-120			
Lead	11.1	0.161	ng/m³ Air	10.428	0.615	100	80-120			
Manganese	30.4	1.43	ng/m³ Air	6.2571	24.9	87.8	80-120			
Molybdenum	2.02	0.271	ng/m³ Air	1.0428	1.03	95.1	80-120			
Nickel	3.80	0.492	ng/m³ Air	2.0857	1.81	95.2	80-120			
Selenium	2.34	0.00676	ng/m³ Air	2.0857	0.362	94.6	80-120			
Thallium	0.103	4.44E-4	ng/m³ Air	0.10428	0.00284	96.0	80-120			QB-04
Vanadium	4.23	0.0399	ng/m³ Air	2.0857	2.35	90.0	80-120			

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 B4D0206 - ICP-MS Extraction										
Matrix Spike (B4D0206-MS1) Continued Source: 4040126-03 Prepared: 04/02/24 Analyzed: 04/03/24										
Zinc	72.7	57.9	ng/m³ Air	62.571	ND	116	80-120			
Matrix Spike (B4D0206-MS2) Source: 4040126-23 Prepared: 04/02/24 Analyzed: 04/04/24										
Antimony	0.717	0.0304	ng/m³ Air	1.0889	0.0814	58.4	80-120			SL
Arsenic	2.51	0.00738	ng/m³ Air	2.1778	0.401	96.9	80-120			
Barium	25.9	0.843	ng/m³ Air	21.778	3.63	102	80-120			
Beryllium	1.16	0.00252	ng/m³ Air	1.0889	0.00839	105	80-120			
Cadmium	1.10	0.0583	ng/m³ Air	1.0889	ND	101	80-120			
Chromium	12.4	1.74	ng/m³ Air	10.889	ND	114	80-120			
Cobalt	1.27	0.0343	ng/m³ Air	1.0889	0.226	95.8	80-120			
Copper	46.1	2.07	ng/m³ Air	21.778	22.4	109	80-120			
Lead	11.8	0.169	ng/m³ Air	10.889	0.710	102	80-120			
Manganese	14.6	1.49	ng/m³ Air	6.5334	7.58	107	80-120			
Molybdenum	2.83	0.283	ng/m³ Air	1.0889	1.67	107	80-120			
Nickel	3.13	0.513	ng/m³ Air	2.1778	1.00	98.0	80-120			
Selenium	2.45	0.00706	ng/m³ Air	2.1778	0.288	99.1	80-120			
Thallium	0.110	4.64E-4	ng/m³ Air	0.10889	0.00324	98.4	80-120			QB-04
Vanadium	3.11	0.0417	ng/m³ Air	2.1778	1.02	96.0	80-120			
Zinc	75.7	60.5	ng/m³ Air	65.334	ND	116	80-120			
Matrix Spike Dup (B4D0206-MSD1) Source: 4040126-03 Prepared: 04/02/24 Analyzed: 04/03/24										
Antimony	0.620	0.0291	ng/m³ Air	1.0428	0.0413	55.5	80-120	0.0352	20	SL
Arsenic	2.12	0.00707	ng/m³ Air	2.0857	0.284	88.1	80-120	0.937	20	
Barium	25.6	0.807	ng/m³ Air	20.857	4.91	99.1	80-120	2.01	20	
Beryllium	1.12	0.00241	ng/m³ Air	1.0428	0.0579	102	80-120	0.191	20	
Cadmium	1.03	0.0559	ng/m³ Air	1.0428	ND	99.2	80-120	1.95	20	
Chromium	13.3	1.67	ng/m³ Air	10.428	3.23	96.4	80-120	0.802	20	
Cobalt	1.82	0.0329	ng/m³ Air	1.0428	0.872	90.7	80-120	0.776	20	
Copper	57.1	1.98	ng/m³ Air	20.857	34.3	109	80-120	1.33	20	
Lead	11.0	0.161	ng/m³ Air	10.428	0.615	99.6	80-120	0.680	20	
Manganese	30.2	1.43	ng/m³ Air	6.2571	24.9	84.6	80-120	0.659	20	
Molybdenum	1.98	0.271	ng/m³ Air	1.0428	1.03	91.3	80-120	1.99	20	
Nickel	3.86	0.492	ng/m³ Air	2.0857	1.81	98.1	80-120	1.59	20	
Selenium	2.30	0.00676	ng/m³ Air	2.0857	0.362	92.9	80-120	1.60	20	
Thallium	0.103	4.44E-4	ng/m³ Air	0.10428	0.00284	95.7	80-120	0.252	20	QB-04
Vanadium	4.16	0.0399	ng/m³ Air	2.0857	2.35	86.6	80-120	1.67	20	
Zinc	71.9	57.9	ng/m³ Air	62.571	ND	115	80-120	1.13	20	
Matrix Spike Dup (B4D0206-MSD2) Source: 4040126-23 Prepared: 04/02/24 Analyzed: 04/04/24										
Antimony	0.697	0.0304	ng/m³ Air	1.0889	0.0814	56.5	80-120	2.89	20	SL
Arsenic	2.45	0.00738	ng/m³ Air	2.1778	0.401	94.1	80-120	2.47	20	

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REPORTED: 04/10/24 07:36
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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 B4D0206 - ICP-MS Extraction										
Matrix Spike Dup (B4D0206-MSD2) Conti			**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24			
Barium	26.2	0.843	ng/m³ Air	21.778	3.63	104	80-120	1.30	20	
Beryllium	1.10	0.00252	ng/m³ Air	1.0889	0.00839	101	80-120	4.50	20	
Cadmium	1.08	0.0583	ng/m³ Air	1.0889	ND	99.4	80-120	1.77	20	
Chromium	12.2	1.74	ng/m³ Air	10.889	ND	112	80-120	0.973	20	
Cobalt	1.28	0.0343	ng/m³ Air	1.0889	0.226	97.2	80-120	1.17	20	
Copper	44.7	2.07	ng/m³ Air	21.778	22.4	102	80-120	3.17	20	
Lead	11.8	0.169	ng/m³ Air	10.889	0.710	102	80-120	0.0263	20	
Manganese	14.3	1.49	ng/m³ Air	6.5334	7.58	104	80-120	1.68	20	
Molybdenum	2.77	0.283	ng/m³ Air	1.0889	1.67	101	80-120	2.24	20	
Nickel	3.20	0.513	ng/m³ Air	2.1778	1.00	101	80-120	2.09	20	
Selenium	2.40	0.00706	ng/m³ Air	2.1778	0.288	96.9	80-120	2.00	20	
Thallium	0.109	4.64E-4	ng/m³ Air	0.10889	0.00324	97.5	80-120	0.942	20	QB-04
Vanadium	3.06	0.0417	ng/m³ Air	2.1778	1.02	93.9	80-120	1.48	20	
Zinc	73.7	60.5	ng/m³ Air	65.334	ND	113	80-120	2.61	20	
Post Spike (B4D0206-PS1)			**Source: 4040126-03**		Prepared: 04/02/24		Analyzed: 04/03/24			
Antimony	0.247	0.0291	ng/m³ Air	0.20857	0.0413	98.5	75-125			SL
Arsenic	1.26	0.00707	ng/m³ Air	1.0428	0.284	93.4	75-125			
Barium	7.02	0.807	ng/m³ Air	2.0857	4.91	101	75-125			
Beryllium	0.273	0.00241	ng/m³ Air	0.20857	0.0579	103	75-125			
Cadmium	0.117	0.0559	ng/m³ Air	0.10428	ND	113	75-125			
Chromium	4.17	1.67	ng/m³ Air	1.0428	3.23	90.3	75-125			
Cobalt	1.07	0.0329	ng/m³ Air	0.20857	0.872	92.6	75-125			
Copper	44.9	1.98	ng/m³ Air	10.428	34.3	101	75-125			
Lead	21.1	0.161	ng/m³ Air	20.857	0.615	98.3	75-125			
Manganese	27.2	1.43	ng/m³ Air	2.0857	24.9	107	75-125			
Molybdenum	1.92	0.271	ng/m³ Air	1.0428	1.03	84.7	75-125			
Nickel	3.78	0.492	ng/m³ Air	2.0857	1.81	94.2	75-125			
Selenium	1.30	0.00676	ng/m³ Air	1.0428	0.362	89.7	75-125			
Thallium	0.0542	4.44E-4	ng/m³ Air	5.2142E-2	0.00284	98.5	75-125			QB-04
Vanadium	3.25	0.0399	ng/m³ Air	1.0428	2.35	86.0	75-125			
Zinc	ND	57.9	ng/m³ Air	20.857	ND		75-125			U
Post Spike (B4D0206-PS2)			**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24			
Antimony	0.300	0.0304	ng/m³ Air	0.21778	0.0814	101	75-125			SL
Arsenic	1.44	0.00738	ng/m³ Air	1.0889	0.401	95.7	75-125			
Barium	5.72	0.843	ng/m³ Air	2.1778	3.63	96.0	75-125			
Beryllium	0.235	0.00252	ng/m³ Air	0.21778	0.00839	104	75-125			
Cadmium	0.123	0.0583	ng/m³ Air	0.10889	ND	113	75-125			
Chromium	2.67	1.74	ng/m³ Air	1.0889	ND	246	75-125			

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
SUBMITTED: 04/01/24
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 B4D0206 - ICP-MS Extraction										
Post Spike (B4D0206-PS2) Continued		**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24				
Cobalt	0.431	0.0343	ng/m³ Air	0.21778	0.226	94.2	75-125			
Copper	33.2	2.07	ng/m³ Air	10.889	22.4	98.9	75-125			
Lead	22.5	0.169	ng/m³ Air	21.778	0.710	100	75-125			
Manganese	9.62	1.49	ng/m³ Air	2.1778	7.58	93.7	75-125			
Molybdenum	2.63	0.283	ng/m³ Air	1.0889	1.67	88.0	75-125			
Nickel	3.05	0.513	ng/m³ Air	2.1778	1.00	93.9	75-125			
Selenium	1.34	0.00706	ng/m³ Air	1.0889	0.288	96.4	75-125			
Thallium	0.0574	4.64E-4	ng/m³ Air	5.4445E-2	0.00324	99.6	75-125			QB-04
Vanadium	2.02	0.0417	ng/m³ Air	1.0889	1.02	92.2	75-125			
Zinc	ND	60.5	ng/m³ Air	21.778	ND		75-125			U
Dilution Check (B4D0206-SRL1)		**Source: 4040126-03**		Prepared: 04/02/24		Analyzed: 04/03/24				
Antimony	ND	0.146	ng/m³ Air		ND				10	SL, U
Arsenic	0.297	0.0353	ng/m³ Air		0.284			4.64	10	
Barium	4.93	4.03	ng/m³ Air		4.91			0.512	10	
Beryllium	0.0592	0.00241	ng/m³ Air		0.0579			2.26	10	
Cadmium	ND	0.279	ng/m³ Air		ND				10	U
Chromium	ND	8.33	ng/m³ Air		ND				10	U
Cobalt	0.870	0.164	ng/m³ Air		0.872			0.212	10	
Copper	34.5	9.92	ng/m³ Air		34.3			0.473	10	
Lead	ND	0.807	ng/m³ Air		ND				10	U
Manganese	25.1	7.13	ng/m³ Air		24.9			0.655	10	
Molybdenum	ND	1.35	ng/m³ Air		ND				10	U
Nickel	ND	2.46	ng/m³ Air		ND				10	U
Selenium	0.408	0.0338	ng/m³ Air		0.362			11.7	10	SRD-01
Thallium	0.00476	0.00222	ng/m³ Air		0.00284			50.4	10	QB-04
Vanadium	2.29	0.199	ng/m³ Air		2.35			2.70	10	
Zinc	ND	290	ng/m³ Air		ND				10	U
Dilution Check (B4D0206-SRL2)		**Source: 4040126-23**		Prepared: 04/02/24		Analyzed: 04/04/24				
Antimony	ND	0.152	ng/m³ Air		ND				10	SL, U
Arsenic	0.390	0.0369	ng/m³ Air		0.401			2.69	10	
Barium	ND	4.21	ng/m³ Air		ND				10	U
Beryllium	0.00880	0.00252	ng/m³ Air		0.00839			4.69	10	
Cadmium	ND	0.292	ng/m³ Air		ND				10	U
Chromium	ND	8.70	ng/m³ Air		ND				10	U
Cobalt	0.227	0.172	ng/m³ Air		0.226			0.404	10	
Copper	22.7	10.4	ng/m³ Air		22.4			1.25	10	
Lead	ND	0.843	ng/m³ Air		ND				10	U
Manganese	7.72	7.44	ng/m³ Air		7.58			1.81	10	

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FILE #: 4205.00.003.001
REPORTED: 04/10/24 07:36
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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 B4D0206 - ICP-MS Extraction										
Dilution Check (B4D0206-SRL2) ContinueSource: 4040126-23 Prepared: 04/02/24 Analyzed: 04/04/24										
Molybdenum	1.64	1.41	ng/m³ Air		1.67			1.98	10	
Nickel	ND	2.57	ng/m³ Air		ND				10	U
Selenium	0.277	0.0353	ng/m³ Air		0.288			3.85	10	
Thallium	0.00461	0.00232	ng/m³ Air		0.00324			34.7	10	QB-04
Vanadium	0.992	0.208	ng/m³ Air		1.02			2.62	10	
Zinc	ND	302	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.
QB-04	Analyte exceeds continuing calibration blank criteria
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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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 4/10/2024 and Shanna Vasser 4/11/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 3/21/2024 – 3/27/2024
Report No: 4040126

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
X	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-032224-HM, for arsenic and copper in MFL-FB01-032424-HM, and for arsenic and barium in MFL-FB01-032624-HM.

Notes:

2. The laboratory stated that all samples were received in acceptable condition unless otherwise noted. Sample MFL-AM02-032224-HM filter was damaged during collection. There were no additional details; therefore, it is assumed the samples met method criteria for analysis.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

March 28 through April 3, 2024
[Report Updated: December 4, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from March 28 through April 3, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from March 28 through April 3 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 $\mu g/m^3$ screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter

(s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- WW Pump Station #4 on April 1
- Lahaina Intermediate School on April 1

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1 mile per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter

- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, “Recording of Notes in Field Logbook”.

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
March 28 through April 3, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
3/28/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	9.2
3/29/2024	Leialii Hawaiian Homelands (AM-01)	8.7
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	6.1
3/30/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	7.3
	Lahaina Boys & Girls Club (AM-04)	6.4
3/31/2024	Leialii Hawaiian Homelands (AM-01)	6.5
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	5.5
	Lahaina Boys & Girls Club (AM-04)	5.0
4/1/2024	Leialii Hawaiian Homelands (AM-01)	5.9
	WW Pump Station #4 (AM-02)	6.0
	Lahaina Intermediate School (AM-03)	5.8
	Lahaina Boys & Girls Club (AM-04)	4.7
4/2/2024	Leialii Hawaiian Homelands (AM-01)	6.7
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	6.8
4/3/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	8.5
	Lahaina Intermediate School (AM-03)	7.6
	Lahaina Boys & Girls Club (AM-04)	8.8

Notes:

µg/m3 = micrograms per cubic meter

24 hour TWA calculation results are shown in two significant figures

Results are based on 24 hour TWA calculation
Results for Lahaina Boys & Girls Club (AM-04) on 3/29 are based on a 14 hr TWA because of a power outage.
Results for Lahaina Boys & Girls Club (AM-04) on 3/30 are based on a 10 hr TWA because of a power outage.
Results from Leialii Hawaiian Homelands on 3/28 have been revised from previously submitted report.
Results from Leialii Hawaiian Homelands on 3/29 have been revised from previously submitted report.
Results from Lahaina Boys & Girls Club on 3/30 have been revised from previously submitted report.
Results from Lahaina Boys & Girls Club on 4/2 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
March 28 through April 3, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
3/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000622	0.000356	0.00403	0.00000918	ND	0.00198	0.000308	0.0312	0.000409	0.00980	0.00177	0.000968	0.000140	0.00000126	0.00107	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000173	0.000289	0.00584	0.0000122	ND	0.00198	0.000330	0.0307	0.000953	0.0107	0.00169	0.00137	0.000171	0.00000118	0.00128	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000885	0.000232	0.00442	0.0000409	ND	0.00278	0.000564	0.0332	0.000399	0.0147	0.00124	0.00163	0.000192	0.00000138	0.00165	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000108	0.000421	0.00357	0.00000786	ND	ND	0.000239	0.0251	0.000792	0.00761	0.00144	0.00102	0.000141	0.00000115	0.000857	ND
3/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000672	0.000895	0.00404	0.0000112	ND	0.00223	0.000291	0.0321	0.000574	0.0101	0.00191	0.00100	0.000198	0.00000244	0.000935	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000136	0.000395	0.00735	0.0000137	ND	0.00212	0.000355	0.0331	0.000873	0.0122	0.00200	0.00126	0.000247	0.00000264	0.00116	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000722	0.000277	0.00408	0.0000219	ND	0.00220	0.000397	0.0342	0.000571	0.0115	0.00126	0.00133	0.000230	0.00000250	0.00106	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000112	0.000372	0.00508	0.0000152	ND	ND	0.000393	0.0341	0.00111	0.0136	0.00214	0.00135	0.000224	0.00000269	0.00114	ND
3/30/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000687	0.000877	0.00381	0.0000131	ND	0.00267	0.000370	0.0320	0.000611	0.0126	0.00181	0.00108	0.000192	0.00000253	0.00122	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000248	0.00128	0.00695	0.0000125	ND	0.00249	0.000435	0.0379	0.00107	0.0135	0.00163	0.00159	0.000227	0.00000233	0.00137	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000621	0.000267	0.00396	0.0000181	ND	0.00206	0.000340	0.0382	0.000764	0.00966	0.00129	0.00108	0.000205	0.00000237	0.00103	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000119	0.000488	0.00545	0.0000123	ND	0.00247	0.000360	0.0332	0.00109	0.0126	0.00191	0.00137	0.000178	0.00000212	0.00111	ND
3/31/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000625	0.000450	0.00264	0.00000562	ND	ND	0.000184	0.0343	0.000295	0.00640	0.00207	0.000814	0.000133	0.00000105	0.000740	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000343	0.00395	0.00690	0.00000951	0.0000871	0.00324	0.000362	0.0424	0.00146	0.00991	0.00150	0.00125	0.000159	0.00000127	0.00115	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000511	0.000191	0.00176	0.00000715	ND	ND	0.000159	0.0324	0.000216	0.00452	0.00123	0.000833	0.000130	0.000000955	0.000609	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000815	0.000279	0.00262	0.00000430	ND	ND	0.000138	0.0279	0.000335	0.00451	0.00164	0.000753	0.000131	0.000000853	0.000578	ND
4/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000754	0.000642	0.00293	0.00000794	ND	0.00227	0.000329	0.0356	0.000393	0.00948	0.00219	0.00121	0.000135	0.000000848	0.00117	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000153	0.000938	0.00471	0.00000867	ND	0.00193	0.000319	0.0260	0.000957	0.00854	0.00156	0.00113	0.000145	0.000000832	0.00105	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000649	0.000173	0.00276	0.0000152	ND	0.00192	0.000325	0.0242	0.000228	0.00794	0.00149	0.00111	0.000146	0.000000795	0.000945	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000122	0.000421	0.00369	0.00000774	ND	0.00205	0.000299	0.0308	0.000681	0.00972	0.00186	0.00119	0.000131	0.000000919	0.000923	ND
4/2/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000767	0.000458	0.00329	0.00000748	ND	0.00209	0.000283	0.0443	0.000439	0.00834	0.00231	0.00121	0.000112	0.000000797	0.000806	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000159	0.00102	0.00659	0.0000134	ND	0.00273	0.000489	0.0360	0.00136	0.0139	0.00160	0.00177	0.000163	0.000000968	0.00141	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000893	0.000253	0.00362	0.0000214	ND	0.00240	0.000442	0.0316	0.000457	0.0102	0.00190	0.00140	0.000153	0.000000816	0.00109	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000128	0.000410	0.00382	0.0000116	ND	0.00212	0.000321	0.0262	0.00133	0.00963	0.00152	0.00126	0.000137	0.000000766	0.000866	ND
4/3/2024	Leialii Hawaiian Homelands (AM-01)	<0.0030	0.0000808	0.000671	0.00375	0.00000682	ND	0.00218	0.000302	0.0580	0.000409	0.00995	0.00295	0.00114	0.000169	0.000000906	0.00112	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000169	0.000795	0.00604	0.0000133	ND	0.00236	0.000432	0.0358	0.00124	0.0140	0.00163	0.00140	0.000229	0.00000113	0.00157	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000775	0.000261	0.00499	0.0000322	ND	0.00314	0.000621	0.0380	0.000581	0.0151	0.00170	0.00179	0.000209	0.00000114	0.00174	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000105	0.000388	0.00383	0.00000734	ND	0.00210	0.000325	0.0307	0.000937	0.0113	0.00214	0.00115	0.000176	0.00000111	0.00118	ND
95% Upper Confidence Limit[2]		NA	0.000130	0.000770	0.00494	0.0000160	NA	0.00246	0.000390	0.0360	0.000920	0.0113	0.00189	0.00132	0.000190	0.00000170	0.00121	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
March 28 through April 3, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
3/28/2024	AM-01	Leialii Hawaiian Homelands	0.8	SE	80	55	763.1
3/28/2024	AM-02	WW Pump Station #4	0.9	S	78	62	765.4
3/28/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	63	755.9
3/28/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	76	62	765.0
3/29/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	79	55	763.0
3/29/2024	AM-02	WW Pump Station #4	1.0	SSE	78	60	765.3
3/29/2024	AM-03	Lahaina Intermediate School	1.1	SE	74	63	755.8
3/29/2024	AM-04	Lahaina Boys & Girls Club	0.5	SE	72	66	765.1
3/30/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	78	57	762.2
3/30/2024	AM-02	WW Pump Station #4	1.0	SSE	77	62	764.4
3/30/2024	AM-03	Lahaina Intermediate School	1.1	SE	73	65	754.9
3/30/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	74	63	764.2
3/31/2024	AM-01	Leialii Hawaiian Homelands	0.9	ESE	79	59	761.4
3/31/2024	AM-02	WW Pump Station #4	1.0	SSE	77	65	763.7
3/31/2024	AM-03	Lahaina Intermediate School	1.1	SE	74	68	754.2
3/31/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	75	66	763.5
4/1/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	77	65	761.2
4/1/2024	AM-02	WW Pump Station #4	1.0	SSE	77	67	763.5
4/1/2024	AM-03	Lahaina Intermediate School	1.0	SE	74	70	754.0
4/1/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	75	67	763.2
4/2/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	80	58	761.5
4/2/2024	AM-02	WW Pump Station #4	1.1	S	78	64	763.8
4/2/2024	AM-03	Lahaina Intermediate School	1.1	SSE	75	67	754.3
4/2/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	76	64	763.5
4/3/2024	AM-01	Leialii Hawaiian Homelands	1.2	ESE	79	58	762.5
4/3/2024	AM-02	WW Pump Station #4	1.1	SSE	78	63	764.7
4/3/2024	AM-03	Lahaina Intermediate School	1.3	SE	75	65	755.2
4/3/2024	AM-04	Lahaina Boys & Girls Club	1.4	S	76	63	764.4

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/05/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-032824-AB**

EMSL Sample Number:	042406809-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7383.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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: 042406809
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: 042406809-0001 **Customer Sample:** MFL-AM01-032824-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					
A1	J8	None Detected									
A1	I5	None Detected									
A2	H6	None Detected									
A2	G4	None Detected									
A3	B9	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:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/05/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-032824-AB**

EMSL Sample Number:	042406809-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7203.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406809
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: 042406809-0002 **Customer Sample:** MFL-AM02-032824-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	J5	None Detected									
A5	I4	None Detected									
A6	C6	None Detected									
A6	D7	None Detected									
A7	G2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/05/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-032824-AB**

EMSL Sample Number:	042406809-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7243.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406809
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: 042406809-0003 **Customer Sample:** MFL-AM03-032824-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	A8	None Detected									
B1	C9	None Detected									
B2	I3	None Detected									
B2	H4	None Detected									
B3	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/05/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-032824-AB**

EMSL Sample Number:	042406809-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7233.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042406809
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: 042406809-0004 **Customer Sample:** MFL-AM04-032824-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	E7	None Detected									
B5	F9	None Detected									
B6	J8	None Detected									
B6	G7	None Detected									
B7	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/03/2024 09:30 AM
Analysis Date:	04/05/2024 & 04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-032824-AB**

EMSL Sample Number:	042406809-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0005 **Customer Sample:** MFL-FB01-032824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B7	None Detected									
C5	D6	None Detected									
C6	A4	None Detected									
C6	C3	None Detected									
C7	J9	None Detected									
C7	J7	None Detected									
C7	H8	None Detected									
C7	H6	None Detected									
C8	B3	None Detected									
C8	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Attn: **Chelsea Saber**
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Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	04/05/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-032924-AB**

EMSL Sample Number:	042406809-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6534.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0006 **Customer Sample:** MFL-AM01-032924-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	B4	None Detected									
D1	C6	None Detected									
D2	J9	None Detected									
D2	H10	None Detected									
D3	E5	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:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/05/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-032924-AB**

EMSL Sample Number:	042406809-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7018.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0007 **Customer Sample:** MFL-AM02-032924-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	J7	None Detected									
D5	H6	None Detected									
D6	A5	None Detected									
D6	B4	None Detected									
D7	F2	None Detected									

Abbreviations used:
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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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-032924-AB**

EMSL Sample Number:	042406809-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0008 **Customer Sample:** MFL-AM03-032924-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	H8	None Detected									
C1	H6	None Detected									
C2	B5	None Detected									
C2	C7	None Detected									
C3	A6	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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-032924-AB**

EMSL Sample Number:	042406809-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7146.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	15			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0009 **Customer Sample:** MFL-AM04-032924-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	B8	None Detected									
C5	E4	None Detected									
C5	H3	None Detected									
C6	J7	None Detected									
C6	I8	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:	042406809
Customer ID:	TTDC42
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Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-032924-AB**

EMSL Sample Number:	042406809-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0010 **Customer Sample:** MFL-FB01-032924-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	B4	None Detected									
D1	B6	None Detected									
D1	C5	None Detected									
D1	C7	None Detected									
D2	J4	None Detected									
D2	J2	None Detected									
D2	H3	None Detected									
D3	A7	None Detected									
D3	A9	None Detected									
D3	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-033024-AB**

EMSL Sample Number:	042406809-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7189.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042406809**
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: 042406809-0011 **Customer Sample:** MFL-AM01-033024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I4	None Detected									
D5	H3	None Detected									
D6	J8	None Detected									
D6	G10	None Detected									
D7	F7	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:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-033024-AB**

EMSL Sample Number:	042406809-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7245.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0012 **Customer Sample:** MFL-AM02-033024-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	F9	None Detected									
E1	D8	None Detected									
E2	A5	None Detected									
E2	B6	None Detected									
E3	I5	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:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-033024-AB**

EMSL Sample Number:	042406809-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7096.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406809
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: 042406809-0013 **Customer Sample:** MFL-AM03-033024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A4	None Detected									
G5	A6	None Detected									
G6	B9	None Detected									
G6	D8	None Detected									
G7	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-033024-AB**

EMSL Sample Number:	042406809-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406809
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: 042406809-0014 **Customer Sample:** MFL-AM04-033024-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	C2	None Detected									
H1	D3	None Detected									
H2	J9	None Detected									
H2	H8	None Detected									
H3	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-033024-AB**

EMSL Sample Number:	042406809-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0015 **Customer Sample:** MFL-FB01-033024-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	J7	None Detected									
H5	J5	None Detected									
H5	I6	None Detected									
H5	I4	None Detected									
H6	G9	None Detected									
H6	G7	None Detected									
H6	F8	None Detected									
H7	A6	None Detected									
H7	A8	None Detected									
H7	B7	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
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-033124-AB**

EMSL Sample Number:	042406809-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6641.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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: 042406809
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: 042406809-0016 **Customer Sample:** MFL-AM01-033124-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	J6	None Detected									
I1	H4	None Detected									
I2	F6	None Detected									
I2	B5	None Detected									
I3	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:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-033124-AB**

EMSL Sample Number:	042406809-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7185.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0017 **Customer Sample:** MFL-AM02-033124-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	J4	None Detected									
I5	J2	None Detected									
I5	H3	None Detected									
I5	H1	None Detected									
I6	G5	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:	042406809
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-033124-AB**

EMSL Sample Number:	042406809-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7122.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042406809
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: 042406809-0018 **Customer Sample:** MFL-AM03-033124-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	I7	None Detected									
J1	H6	None Detected									
J2	A4	None Detected									
J2	C5	None Detected									
J3	G6	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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-033124-AB**

EMSL Sample Number:	042406809-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7083.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042406809
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: 042406809-0019 **Customer Sample:** MFL-AM04-033124-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	I3	None Detected									
J5	H2	None Detected									
J6	F4	None Detected									
J6	D5	None Detected									
J7	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/08/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-033124-AB**

EMSL Sample Number:	042406809-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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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: 042406809
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: 042406809-0020 **Customer Sample:** MFL-FB01-033124-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	J6	None Detected									
E5	J4	None Detected									
E5	H5	None Detected									
E5	H3	None Detected									
E6	I4	None Detected									
E6	I2	None Detected									
E6	G3	None Detected									
E7	F9	None Detected									
E7	F7	None Detected									
E7	D8	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:	042406809
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:	04/03/2024 09:30 AM
Analysis Date:	04/04/2024
Report Date:	04/08/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042406809-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	S. Richey
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042406809
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: 042406809-0021 **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	C5	None Detected									
A1	C7	None Detected									
A1	D4	None Detected									
A1	D6	None Detected									
A2	B6	None Detected									
A2	B8	None Detected									
A2	E10	None Detected									
A3	J9	None Detected									
A3	J7	None Detected									
A3	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042406809

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406809

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsbLab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 24 APR -3 AM 10:08

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 Suber	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.suber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Elsa Kenyon Saldana	Sampled By Signature:	
No. of Samples in Shipment	20		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-032824-AB		7,383.881	03/28/24 1101
MFL-AM02-032824-AB		7,203.875	03/28/24 1122
MFL-AM03-032824-AB		7,243.629	03/28/24 1309
MFL-AM04-032824-AB		7,233.633	03/28/24 1331
MFL-FB01-032824-AB		0	03/28/24 1200
MFL-AM01-032924-AB		6,533.957	03/29/24 1059
MFL-AM02-032924-AB		7,018.249	03/29/24 1120
MFL-AM03-032924-AB		7,197.789	03/29/24 1313

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

20

Method of Shipment:	FedEx		Sample Condition Upon Receipt:		
Relinquished by:		Date/Time: 04/01/24 1100	Received by:	Date/Time	4/3/24 9:30A
Relinquished by:		Date/Time:	Received by:	Date/Time	

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042406809

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042406809

RECEIVED EMSL CINNAMINSON, NJ 24 APR -3 AM 10:36

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-AM04-032924-AB		7,146.720	03/29/24 1335
MFL-FB01-032924-AB		0	03/29/24 1200
MFL-AM01-033024-AB		7,189.356	03/30/24 1059
MFL-AM02-033024-AB		7,245.792	03/30/24 1131
MFL-AM03-033024-AB		7,096.489	03/30/24 1304
MFL-AM04-033024-AB		7,197.406	03/30/24 1339
MFL-FB01-033024-AB		0	03/30/24 1200
MFL-AM01-033124-AB		6,641.449	03/31/24 1101
MFL-AM02-033124-AB		7,185.674	03/31/24 1119
MFL-AM03-033124-AB		7,122.678	03/31/24 1303
MFL-AM04-033124-AB		7,083.619	03/31/24 1325
MFL-FB01-033124-AB		0	03/31/24 1200

Method of Shipment: FedEx			Sample Condition Upon Receipt:		
Relinquished by:	Date/Time: 04/01/24 1100		Received by: FedEx	Date/Time 4/3/24 9:30A	
Relinquished by:	Date/Time:		Received by:	Date/Time	

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

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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 4/9/2024 and Shanna Vasser 4/9/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/28/2024 – 3/31/2024
Report No: 42406809

√	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.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042407088
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:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-040124-AB**

EMSL Sample Number:	042407088-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6758.6
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):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407088
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: 042407088-0001 **Customer Sample:** MFL-AM01-040124-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	A8	None Detected									
A5	C8	None Detected									
A5	E4	None Detected									
A6	I6	None Detected									
A6	C9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042407088
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:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040124-AB**

EMSL Sample Number:	042407088-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7157.8
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):	0.0127
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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

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.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407088
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: 042407088-0002 **Customer Sample:** MFL-AM02-040124-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	B6	None Detected									
B1	E9	None Detected									
B1	H5	None Detected									
B2	C4	None Detected									
B2	G5	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:	042407088
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:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040124-AB**

EMSL Sample Number:	042407088-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.0
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):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0003 **Customer Sample:** MFL-AM03-040124-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	J6	None Detected									
B5	G3	None Detected									
B5	D4	None Detected									
B6	J2	None Detected									
B6	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 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:	04/08/2024 09:00 AM
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Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040124-AB**

EMSL Sample Number:	042407088-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7256.7
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):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0004 **Customer Sample:** MFL-AM04-040124-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	D9	None Detected									
C1	F7	None Detected									
C2	H2	None Detected									
C2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040124-AB**

EMSL Sample Number:	042407088-0005		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):	0.0127
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**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0005 **Customer Sample:** MFL-FB01-040124-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	H2	None Detected									
C5	F7	None Detected									
C5	D8	None Detected									
C5	B6	None Detected									
C6	A3	None Detected									
C6	C5	None Detected									
C6	E7	None Detected									
C6	G9	None Detected									
C6	I10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407088
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-040224-AB**

EMSL Sample Number:	042407088-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6748.9
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):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 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: 042407088-0006 **Customer Sample:** MFL-AM01-040224-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	H3	None Detected									
D1	F7	None Detected									
D1	D5	None Detected									
D2	B7	None Detected									
D2	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407088
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:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040224-AB**

EMSL Sample Number:	042407088-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7265.4
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):	0.0127
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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407088
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: 042407088-0007 **Customer Sample:** MFL-AM02-040224-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	A6	None Detected									
D5	D8	None Detected									
D5	G10	None Detected									
D6	D10	None Detected									
D6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407088
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:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040224-AB**

EMSL Sample Number:	042407088-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7304.9
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):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0008 **Customer Sample:** MFL-AM03-040224-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	A6	None Detected									
E1	D5	None Detected									
E1	G7	None Detected									
E2	B7	None Detected									
E2	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040224-AB**

EMSL Sample Number:	042407088-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7181.9
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):	0.0127
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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0009 **Customer Sample:** MFL-AM04-040224-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					
E6	I6	None Detected									
E6	G5	None Detected									
E6	C2	None Detected									
E8	B8	None Detected									
E8	G6	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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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040224-AB**

EMSL Sample Number:	042407088-0010		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):	0.0127
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**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0010 **Customer Sample:** MFL-FB01-040224-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	J4	None Detected									
F2	H3	None Detected									
F2	F1	None Detected									
F2	D4	None Detected									
F2	B2	None Detected									
F3	J4	None Detected									
F3	H7	None Detected									
F3	F9	None Detected									
F3	D7	None Detected									
F3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-040324-AB**

EMSL Sample Number:	042407088-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6113.9
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):	0.0127
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):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

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**	**< 47.09**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0030**	**Not Applicable**	**0.0030**

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**	**< 47.09**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 47.09	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0011 **Customer Sample:** MFL-AM01-040324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	I5	None Detected									
F5	G3	None Detected									
F5	D7	None Detected									
F6	I8	None Detected									
F6	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040324-AB**

EMSL Sample Number:	042407088-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6942.4
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):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 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: 042407088
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: 042407088-0012 **Customer Sample:** MFL-AM02-040324-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	H1	None Detected									
G1	F7	None Detected									
G1	C10	None Detected									
G2	C4	None Detected									
G2	H4	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:	042407088
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:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040324-AB**

EMSL Sample Number:	042407088-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7091.7
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):	0.0127
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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EMSL Order ID: 042407088
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: 042407088-0013 **Customer Sample:** MFL-AM03-040324-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	J6	None Detected									
G5	G7	None Detected									
G5	C9	None Detected									
G6	H9	None Detected									
G6	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407088
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040324-AB**

EMSL Sample Number:	042407088-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7078.3
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):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0014 **Customer Sample:** MFL-AM04-040324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	I6	None Detected									
H1	G7	None Detected									
H1	C5	None Detected									
H2	G6	None Detected									
H2	A7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040324-AB**

EMSL Sample Number:	042407088-0015		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):	0.0127
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**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0015 **Customer Sample:** MFL-FB01-040324-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	A5	None Detected									
H5	C3	None Detected									
H5	E4	None Detected									
H5	G6	None Detected									
H5	I1	None Detected									
H6	J1	None Detected									
H6	H2	None Detected									
H6	F3	None Detected									
H6	D4	None Detected									
H6	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407088
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:	04/08/2024 09:00 AM
Analysis Date:	04/11/2024
Report Date:	04/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042407088-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
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**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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EMSL Order ID: 042407088
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: 042407088-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	A9	None Detected									
A2	C8	None Detected									
A2	E7	None Detected									
A2	G5	None Detected									
A2	I6	None Detected									
A3	J5	None Detected									
A3	H3	None Detected									
A3	F2	None Detected									
A3	D4	None Detected									
A3	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042407088

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042407088

RECEIVED EMSL CINNAMINSON, NJ 2024 APR -8 A 9:05

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable. EMSL will provide)		US State where samples collected:	HI (EK3)
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Elia Georgia Saliba	Sampled By Signature:	
No. of Samples in Shipment	15		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-040124-AB		6,758.567	04/01/24 1109
MFL-AM02-040124-AB		7,157.808	04/01/24 1121
MFL-AM03-040124-AB		7,219.008	04/01/24 1306
MFL-AM04-040124-AB		7,256.736	04/01/24 1328
MFL-FB01-040124-AB		0	04/01/24 1200
MFL-AM01-040224-AB		6,748.911	04/02/24 1105
MFL-AM02-040224-AB		7,265.395	04/02/24 1138
MFL-AM03-040224-AB		7,304.860	04/02/24 1319

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:		Received by: FX	Date/Time: 4/8/24 9:00am
Date/Time:	04/04/24 1100		
Relinquished by:		Received by:	
Date/Time:		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.

15

OrderID: 042407088

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042407088

RECEIVED EMSL CINNAMINSON, N.J. 2024 APR -8 A 9:05

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-AM04-040224-AB		7,181.888	04/02/24 1344
MFL-FB01-040224-AB		0	~~04/02/24 04/03~~ (EH) 1200
MFL-AM01-040324-AB		6,113.855	04/03/24 1100
MFL-AM02-040324-AB		6,942.361	04/03/24 1123
MFL-AM03-040324-AB		7,091.655	04/03/24 1311
MFL-AM04-040324-AB		7,078.285	04/03/24 1330
MFL-FB01-040324-AB		0	04/03/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 04/04/24 1100	Received by: FX	Date/Time: 4/8/24 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.)

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 4/15/2024 and Shanna Vasser 4/16/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 4/1/2024 – 4/3/2024
Report No: 42407088

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

April 16, 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 04/08/24 15:38.

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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-032824-HM	4040832-01	Air	03/28/24 23:59	04/08/24 15:38
MFL-AM02-032824-HM	4040832-02	Air	03/28/24 23:59	04/08/24 15:38
MFL-AM03-032824-HM	4040832-03	Air	03/28/24 23:59	04/08/24 15:38
MFL-AM04-032824-HM	4040832-04	Air	03/28/24 23:59	04/08/24 15:38
MFL-FB01-032824-HM	4040832-05	Air	03/28/24 00:00	04/08/24 15:38
MFL-AM01-032924-HM	4040832-06	Air	03/29/24 23:59	04/08/24 15:38
MFL-AM02-032924-HM	4040832-07	Air	03/29/24 23:59	04/08/24 15:38
MFL-AM03-032924-HM	4040832-08	Air	03/29/24 23:59	04/08/24 15:38
MFL-AM04-032924-HM	4040832-09	Air	03/29/24 23:59	04/08/24 15:38
MFL-AM01-033024-HM	4040832-10	Air	03/30/24 23:59	04/08/24 15:38
MFL-AM02-033024-HM	4040832-11	Air	03/30/24 23:59	04/08/24 15:38
MFL-AM03-033024-HM/MS/I	4040832-12	Air	03/30/24 23:59	04/08/24 15:38
MFL-AM04-033024-HM	4040832-13	Air	03/30/24 23:59	04/08/24 15:38
MFL-FB01-033024-HM	4040832-14	Air	03/30/24 00:00	04/08/24 15:38
MFL-AM01-033124-HM	4040832-15	Air	03/31/24 23:59	04/08/24 15:38
MFL-AM02-033124-HM	4040832-16	Air	03/31/24 23:59	04/08/24 15:38
MFL-AM03-033124-HM	4040832-17	Air	03/31/24 23:59	04/08/24 15:38
MFL-AM04-033124-HM	4040832-18	Air	03/31/24 23:59	04/08/24 15:38
MFL-AM01-040124-HM	4040832-19	Air	04/01/24 23:59	04/08/24 15:38
MFL-AM02-040124-HM	4040832-20	Air	04/01/24 23:59	04/08/24 15:38
MFL-AM03-040124-HM	4040832-21	Air	04/01/24 23:59	04/08/24 15:38

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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-040124-HM	4040832-22	Air	04/01/24 23:59	04/08/24 15:38
MFL-FB01-040124-HM	4040832-23	Air	04/01/24 00:00	04/08/24 15:38
MFL-AM01-040224-HM	4040832-24	Air	04/02/24 23:59	04/08/24 15:38
MFL-AM02-040224-HM	4040832-25	Air	04/02/24 23:59	04/08/24 15:38
MFL-AM03-040224-HM	4040832-26	Air	04/02/24 23:59	04/08/24 15:38
MFL-AM04-040224-HM	4040832-27	Air	04/02/24 23:59	04/08/24 15:38
MFL-AM01-040324-HM	4040832-28	Air	04/03/24 23:59	04/08/24 15:38
MFL-AM02-040324-HM	4040832-29	Air	04/03/24 23:59	04/08/24 15:38
MFL-AM03-040324-HM	4040832-30	Air	04/03/24 23:59	04/08/24 15:38
MFL-AM04-040324-HM	4040832-31	Air	04/03/24 23:59	04/08/24 15:38
MFL-FB01-040324-HM	4040832-32	Air	04/03/24 00:00	04/08/24 15:38

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032824-HM
Matrix: Air
Lab ID: 4040832-01
Sample Volume: 2022.854 m³
Filter ID:
Sampled: 03/28/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 00:59

Comments: Q8507577 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0622**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.356**		**0.00754**
Barium	**7440-39-3**	**4.03**		**0.861**
Beryllium	**7440-41-7**	**0.00918**		**0.00257**
Cadmium	7440-43-9	0.00937	U	0.0596
Chromium	**7440-47-3**	**1.98**		**1.78**
Cobalt	**7440-48-4**	**0.308**		**0.0351**
Copper	**7440-50-8**	**31.2**		**2.12**
Lead	**7439-92-1**	**0.409**		**0.172**
Manganese	**7439-96-5**	**9.80**		**1.52**
Molybdenum	**7439-98-7**	**1.77**		**0.289**
Nickel	**7440-02-0**	**0.968**		**0.524**
Selenium	**7782-49-2**	**0.140**	LJ, QX	**0.00721**
Thallium	**7440-28-0**	**0.00126**		**4.74E-4**
Vanadium	**7440-62-2**	**1.07**		**0.0425**
Zinc	7440-66-6	11.6	U	61.8

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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032824-HM
Matrix: Air
Lab ID: 4040832-02
Sample Volume: 2007.773 m³
Filter ID:
Sampled: 03/28/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/09/24 22:00

Comments: Q8507575 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.173**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.289**		**0.00759**
Barium	**7440-39-3**	**5.84**		**0.867**
Beryllium	**7440-41-7**	**0.0122**		**0.00259**
Cadmium	7440-43-9	0.0119	U	0.0600
Chromium	**7440-47-3**	**1.98**		**1.79**
Cobalt	**7440-48-4**	**0.330**		**0.0353**
Copper	**7440-50-8**	**30.7**		**2.13**
Lead	**7439-92-1**	**0.953**		**0.173**
Manganese	**7439-96-5**	**10.7**		**1.53**
Molybdenum	**7439-98-7**	**1.69**		**0.291**
Nickel	**7440-02-0**	**1.37**		**0.528**
Selenium	**7782-49-2**	**0.171**	LJ, QX	**0.00726**
Thallium	**7440-28-0**	**0.00118**		**4.77E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0429**
Zinc	7440-66-6	16.9	U	62.2

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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032824-HM
Matrix: Air
Lab ID: 4040832-03
Sample Volume: 2036.752 m³
Filter ID:
Sampled: 03/28/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 01:19

Comments: Q8507574 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0885**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.232**		**0.00748**
Barium	**7440-39-3**	**4.42**		**0.855**
Beryllium	**7440-41-7**	**0.0409**		**0.00256**
Cadmium	7440-43-9	0.00852	U	0.0592
Chromium	**7440-47-3**	**2.78**		**1.77**
Cobalt	**7440-48-4**	**0.564**		**0.0348**
Copper	**7440-50-8**	**33.2**		**2.10**
Lead	**7439-92-1**	**0.399**		**0.171**
Manganese	**7439-96-5**	**14.7**		**1.51**
Molybdenum	**7439-98-7**	**1.24**		**0.287**
Nickel	**7440-02-0**	**1.63**		**0.521**
Selenium	**7782-49-2**	**0.192**	LJ, QX	**0.00716**
Thallium	**7440-28-0**	**0.00138**		**4.71E-4**
Vanadium	**7440-62-2**	**1.65**		**0.0423**
Zinc	7440-66-6	10.4	U	61.3

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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032824-HM
Matrix: Air
Lab ID: 4040832-04
Sample Volume: 1897.368 m³
Filter ID:
Sampled: 03/28/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 01:37

Comments: Q8507573 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.108**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.421**		**0.00803**
Barium	**7440-39-3**	**3.57**		**0.918**
Beryllium	**7440-41-7**	**0.00786**		**0.00274**
Cadmium	7440-43-9	0.0128	U	0.0635
Chromium	7440-47-3	1.76	U	1.90
Cobalt	**7440-48-4**	**0.239**		**0.0374**
Copper	**7440-50-8**	**25.1**		**2.26**
Lead	**7439-92-1**	**0.792**		**0.184**
Manganese	**7439-96-5**	**7.61**		**1.62**
Molybdenum	**7439-98-7**	**1.44**		**0.308**
Nickel	**7440-02-0**	**1.02**		**0.559**
Selenium	**7782-49-2**	**0.141**	LJ, QX	**0.00768**
Thallium	**7440-28-0**	**0.00115**		**5.05E-4**
Vanadium	**7440-62-2**	**0.857**		**0.0454**
Zinc	7440-66-6	13.4	U	65.9

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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-032824-HM
Matrix: Air
Lab ID: 4040832-05
Sample Volume: 2022.854 m³
Filter ID:
Sampled: 03/28/24 00:00
Received: 04/08/24 15:38
Analysis Date: 04/10/24 01:57

Comments: Q8507565 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0181	U, SL	0.0310
Arsenic	7440-38-2	0.00601	U	0.00754
Barium	7440-39-3	0.792	U	0.861
Beryllium	7440-41-7	7.06E-4	U	0.00257
Cadmium	7440-43-9	0.00420	U	0.0596
Chromium	7440-47-3	0.975	U	1.78
Cobalt	7440-48-4	0.0108	U	0.0351
Copper	7440-50-8	1.14	U	2.12
Lead	7439-92-1	0.0388	U	0.172
Manganese	7439-96-5	0.161	U	1.52
Molybdenum	7439-98-7	0.159	U	0.289
Nickel	7440-02-0	0.446	U	0.524
Selenium	7782-49-2	ND	LJ, QX, U	0.00721
Thallium	7440-28-0	1.08E-4	U	4.74E-4
Vanadium	7440-62-2	0.0252	U	0.0425
Zinc	7440-66-6	4.66	U	61.8

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-032924-HM
Matrix: Air
Lab ID: 4040832-06
Sample Volume: 1999.466 m³
Filter ID:
Sampled: 03/29/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 02:13

Comments: Q8507548 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0672**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.895**		**0.00762**
Barium	**7440-39-3**	**4.04**		**0.871**
Beryllium	**7440-41-7**	**0.0112**		**0.00260**
Cadmium	7440-43-9	0.0154	U	0.0603
Chromium	**7440-47-3**	**2.23**		**1.80**
Cobalt	**7440-48-4**	**0.291**		**0.0355**
Copper	**7440-50-8**	**32.1**		**2.14**
Lead	**7439-92-1**	**0.574**		**0.174**
Manganese	**7439-96-5**	**10.1**		**1.54**
Molybdenum	**7439-98-7**	**1.91**		**0.292**
Nickel	**7440-02-0**	**1.00**		**0.531**
Selenium	**7782-49-2**	**0.198**	LJ, QX	**0.00729**
Thallium	**7440-28-0**	**0.00244**		**4.79E-4**
Vanadium	**7440-62-2**	**0.935**		**0.0430**
Zinc	7440-66-6	10.8	U	62.5

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-032924-HM
Matrix: Air
Lab ID: 4040832-07
Sample Volume: 2010.301 m³
Filter ID:
Sampled: 03/29/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 02:32

Comments: Q8507547 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.136**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.395**		**0.00758**
Barium	**7440-39-3**	**7.35**		**0.866**
Beryllium	**7440-41-7**	**0.0137**		**0.00259**
Cadmium	7440-43-9	0.0161	U	0.0600
Chromium	**7440-47-3**	**2.12**		**1.79**
Cobalt	**7440-48-4**	**0.355**		**0.0353**
Copper	**7440-50-8**	**33.1**		**2.13**
Lead	**7439-92-1**	**0.873**		**0.173**
Manganese	**7439-96-5**	**12.2**		**1.53**
Molybdenum	**7439-98-7**	**2.00**		**0.291**
Nickel	**7440-02-0**	**1.26**		**0.528**
Selenium	**7782-49-2**	**0.247**	LJ, QX	**0.00725**
Thallium	**7440-28-0**	**0.00264**		**4.77E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0428**
Zinc	7440-66-6	14.8	U	62.2

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-032924-HM
Matrix: Air
Lab ID: 4040832-08
Sample Volume: 2066.643 m³
Filter ID:
Sampled: 03/29/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 02:48

Comments: Q8507563 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0722**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.277**		**0.00738**
Barium	**7440-39-3**	**4.08**		**0.842**
Beryllium	**7440-41-7**	**0.0219**		**0.00252**
Cadmium	7440-43-9	0.0137	U	0.0583
Chromium	**7440-47-3**	**2.20**		**1.74**
Cobalt	**7440-48-4**	**0.397**		**0.0343**
Copper	**7440-50-8**	**34.2**		**2.07**
Lead	**7439-92-1**	**0.571**		**0.168**
Manganese	**7439-96-5**	**11.5**		**1.49**
Molybdenum	**7439-98-7**	**1.26**		**0.283**
Nickel	**7440-02-0**	**1.33**		**0.513**
Selenium	**7782-49-2**	**0.230**	LJ, QX	**0.00705**
Thallium	**7440-28-0**	**0.00250**		**4.64E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0416**
Zinc	7440-66-6	9.69	U	60.5

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-032924-HM
Matrix: Air
Lab ID: 4040832-09
Sample Volume: 1414.364 m³
Filter ID:
Sampled: 03/29/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 03:03

Comments: Q8507562 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0444**
Arsenic	**7440-38-2**	**0.372**		**0.0108**
Barium	**7440-39-3**	**5.08**		**1.23**
Beryllium	**7440-41-7**	**0.0152**		**0.00368**
Cadmium	7440-43-9	0.0218	U	0.0852
Chromium	7440-47-3	2.50	U	2.54
Cobalt	**7440-48-4**	**0.393**		**0.0502**
Copper	**7440-50-8**	**34.1**		**3.03**
Lead	**7439-92-1**	**1.11**		**0.246**
Manganese	**7439-96-5**	**13.6**		**2.17**
Molybdenum	**7439-98-7**	**2.14**		**0.413**
Nickel	**7440-02-0**	**1.35**		**0.750**
Selenium	**7782-49-2**	**0.224**	LJ, QX	**0.0103**
Thallium	**7440-28-0**	**0.00269**		**6.78E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0609**
Zinc	7440-66-6	14.9	U	88.3

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-033024-HM
Matrix: Air
Lab ID: 4040832-10
Sample Volume: 2001.147 m³
Filter ID:
Sampled: 03/30/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 03:20

Comments: Q8507561 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0687**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.877**		**0.00762**
Barium	**7440-39-3**	**3.81**		**0.870**
Beryllium	**7440-41-7**	**0.0131**		**0.00260**
Cadmium	7440-43-9	0.0165	U	0.0602
Chromium	**7440-47-3**	**2.67**		**1.80**
Cobalt	**7440-48-4**	**0.370**		**0.0354**
Copper	**7440-50-8**	**32.0**		**2.14**
Lead	**7439-92-1**	**0.611**		**0.174**
Manganese	**7439-96-5**	**12.6**		**1.54**
Molybdenum	**7439-98-7**	**1.81**		**0.292**
Nickel	**7440-02-0**	**1.08**		**0.530**
Selenium	**7782-49-2**	**0.192**	LJ, QX	**0.00728**
Thallium	**7440-28-0**	**0.00253**		**4.79E-4**
Vanadium	**7440-62-2**	**1.22**		**0.0430**
Zinc	7440-66-6	9.40	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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-033024-HM
Matrix: Air
Lab ID: 4040832-11
Sample Volume: 2032.216 m³
Filter ID:
Sampled: 03/30/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 03:37

Comments: Q8507560 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.248**	SL	**0.0309**
Arsenic	**7440-38-2**	**1.28**		**0.00750**
Barium	**7440-39-3**	**6.95**		**0.857**
Beryllium	**7440-41-7**	**0.0125**		**0.00256**
Cadmium	7440-43-9	0.0253	U	0.0593
Chromium	**7440-47-3**	**2.49**		**1.77**
Cobalt	**7440-48-4**	**0.435**		**0.0349**
Copper	**7440-50-8**	**37.9**		**2.11**
Lead	**7439-92-1**	**1.07**		**0.171**
Manganese	**7439-96-5**	**13.5**		**1.51**
Molybdenum	**7439-98-7**	**1.63**		**0.287**
Nickel	**7440-02-0**	**1.59**		**0.522**
Selenium	**7782-49-2**	**0.227**	LJ, QX	**0.00717**
Thallium	**7440-28-0**	**0.00233**		**4.72E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0424**
Zinc	7440-66-6	20.4	U	61.5

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-033024-HM/MS/MS
Matrix: Air
Lab ID: 4040832-12
Sample Volume: 2027.346 m³
Filter ID:
Sampled: 03/30/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/09/24 17:47

Comments: Q8507558 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0621**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.267**		**0.00752**
Barium	**7440-39-3**	**3.96**		**0.859**
Beryllium	**7440-41-7**	**0.0181**		**0.00257**
Cadmium	7440-43-9	0.0140	U	0.0595
Chromium	**7440-47-3**	**2.06**		**1.77**
Cobalt	**7440-48-4**	**0.340**		**0.0350**
Copper	**7440-50-8**	**38.2**		**2.11**
Lead	**7439-92-1**	**0.764**		**0.172**
Manganese	**7439-96-5**	**9.66**		**1.52**
Molybdenum	**7439-98-7**	**1.29**		**0.288**
Nickel	**7440-02-0**	**1.08**		**0.523**
Selenium	**7782-49-2**	**0.205**	LJ, QX	**0.00719**
Thallium	**7440-28-0**	**0.00237**		**4.73E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0425**
Zinc	7440-66-6	10.9	U	61.6

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-033024-HM
Matrix: Air
Lab ID: 4040832-13
Sample Volume: 1524.599 m³
Filter ID:
Sampled: 03/30/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 04:54

Comments: Q8507557 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0412**
Arsenic	**7440-38-2**	**0.488**		**0.0100**
Barium	**7440-39-3**	**5.45**		**1.14**
Beryllium	**7440-41-7**	**0.0123**		**0.00341**
Cadmium	7440-43-9	0.0258	U	0.0791
Chromium	**7440-47-3**	**2.47**		**2.36**
Cobalt	**7440-48-4**	**0.360**		**0.0465**
Copper	**7440-50-8**	**33.2**		**2.81**
Lead	**7439-92-1**	**1.09**		**0.228**
Manganese	**7439-96-5**	**12.6**		**2.02**
Molybdenum	**7439-98-7**	**1.91**		**0.383**
Nickel	**7440-02-0**	**1.37**		**0.696**
Selenium	**7782-49-2**	**0.178**	LJ, QX	**0.00956**
Thallium	**7440-28-0**	**0.00212**	QB-04	**6.29E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0565**
Zinc	7440-66-6	16.9	U	82.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-033024-HM
Matrix: Air
Lab ID: 4040832-14
Sample Volume: 2001.147 m³
Filter ID:
Sampled: 03/30/24 00:00
Received: 04/08/24 15:38
Analysis Date: 04/10/24 05:14

Comments: Q8508564 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0168	SL, U	0.0314
Arsenic	7440-38-2	0.00497	U	0.00762
Barium	7440-39-3	0.653	U	0.870
Beryllium	7440-41-7	6.73E-4	U	0.00260
Cadmium	7440-43-9	5.38E-4	U	0.0602
Chromium	7440-47-3	0.910	U	1.80
Cobalt	7440-48-4	0.0105	U	0.0354
Copper	7440-50-8	1.01	U	2.14
Lead	7439-92-1	0.0426	U	0.174
Manganese	7439-96-5	0.175	U	1.54
Molybdenum	7439-98-7	0.124	U	0.292
Nickel	7440-02-0	0.371	U	0.530
Selenium	7782-49-2	0.00106	LJ, QX, U	0.00728
Thallium	7440-28-0	1.39E-4	QB-04, U	4.79E-4
Vanadium	7440-62-2	0.0252	U	0.0430
Zinc	7440-66-6	5.40	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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-033124-HM
Matrix: Air
Lab ID: 4040832-15
Sample Volume: 1965.201 m³
Filter ID:
Sampled: 03/31/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 05:34

Comments: Q8507556 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0625**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.450**		**0.00776**
Barium	**7440-39-3**	**2.64**		**0.886**
Beryllium	**7440-41-7**	**0.00562**		**0.00265**
Cadmium	7440-43-9	0.00800	U	0.0613
Chromium	7440-47-3	1.71	U	1.83
Cobalt	**7440-48-4**	**0.184**		**0.0361**
Copper	**7440-50-8**	**34.3**		**2.18**
Lead	**7439-92-1**	**0.295**		**0.177**
Manganese	**7439-96-5**	**6.40**		**1.56**
Molybdenum	**7439-98-7**	**2.07**		**0.297**
Nickel	**7440-02-0**	**0.814**		**0.540**
Selenium	**7782-49-2**	**0.133**	LJ, QX	**0.00742**
Thallium	**7440-28-0**	**0.00105**	QB-04	**4.88E-4**
Vanadium	**7440-62-2**	**0.740**		**0.0438**
Zinc	7440-66-6	7.80	U	63.6

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-033124-HM
Matrix: Air
Lab ID: 4040832-16
Sample Volume: 1964.833 m³
Filter ID:
Sampled: 03/31/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 05:54

Comments: Q8508566 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.343**	SL	**0.0320**
Arsenic	**7440-38-2**	**3.95**		**0.00776**
Barium	**7440-39-3**	**6.90**		**0.886**
Beryllium	**7440-41-7**	**0.00951**		**0.00265**
Cadmium	**7440-43-9**	**0.0871**		**0.0614**
Chromium	**7440-47-3**	**3.24**		**1.83**
Cobalt	**7440-48-4**	**0.362**		**0.0361**
Copper	**7440-50-8**	**42.4**		**2.18**
Lead	**7439-92-1**	**1.46**		**0.177**
Manganese	**7439-96-5**	**9.91**		**1.57**
Molybdenum	**7439-98-7**	**1.50**		**0.297**
Nickel	**7440-02-0**	**1.25**		**0.540**
Selenium	**7782-49-2**	**0.159**	LJ, QX	**0.00742**
Thallium	**7440-28-0**	**0.00127**	QB-04	**4.88E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0438**
Zinc	7440-66-6	21.5	U	63.6

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-033124-HM
Matrix: Air
Lab ID: 4040832-17
Sample Volume: 2016.442 m³
Filter ID:
Sampled: 03/31/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 06:13

Comments: Q8508563 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0511**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.191**		**0.00756**
Barium	**7440-39-3**	**1.76**		**0.863**
Beryllium	**7440-41-7**	**0.00715**		**0.00258**
Cadmium	7440-43-9	0.00562	U	0.0598
Chromium	7440-47-3	1.44	U	1.78
Cobalt	**7440-48-4**	**0.159**		**0.0352**
Copper	**7440-50-8**	**32.4**		**2.12**
Lead	**7439-92-1**	**0.216**		**0.173**
Manganese	**7439-96-5**	**4.52**		**1.52**
Molybdenum	**7439-98-7**	**1.23**		**0.290**
Nickel	**7440-02-0**	**0.833**		**0.526**
Selenium	**7782-49-2**	**0.130**	LJ, QX	**0.00723**
Thallium	**7440-28-0**	**9.55E-4**	QB-04	**4.75E-4**
Vanadium	**7440-62-2**	**0.609**		**0.0427**
Zinc	7440-66-6	6.82	U	62.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-033124-HM
Matrix: Air
Lab ID: 4040832-18
Sample Volume: 1845.379 m³
Filter ID:
Sampled: 03/31/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 06:29

Comments: Q8508561 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0815**	SL	**0.0340**
Arsenic	**7440-38-2**	**0.279**		**0.00826**
Barium	**7440-39-3**	**2.62**		**0.943**
Beryllium	**7440-41-7**	**0.00430**		**0.00282**
Cadmium	7440-43-9	0.00787	U	0.0653
Chromium	7440-47-3	1.69	U	1.95
Cobalt	**7440-48-4**	**0.138**		**0.0384**
Copper	**7440-50-8**	**27.9**		**2.32**
Lead	**7439-92-1**	**0.335**		**0.189**
Manganese	**7439-96-5**	**4.51**		**1.67**
Molybdenum	**7439-98-7**	**1.64**		**0.317**
Nickel	**7440-02-0**	**0.753**		**0.575**
Selenium	**7782-49-2**	**0.131**	LJ, QX	**0.00790**
Thallium	**7440-28-0**	**8.53E-4**	QB-04	**5.19E-4**
Vanadium	**7440-62-2**	**0.578**		**0.0466**
Zinc	7440-66-6	9.34	U	67.7

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040124-HM
Matrix: Air
Lab ID: 4040832-19
Sample Volume: 1919.709 m³
Filter ID:
Sampled: 04/01/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 06:44

Comments: Q8508559 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0754**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.642**		**0.00794**
Barium	**7440-39-3**	**2.93**		**0.907**
Beryllium	**7440-41-7**	**0.00794**		**0.00271**
Cadmium	7440-43-9	0.0138	U	0.0628
Chromium	**7440-47-3**	**2.27**		**1.87**
Cobalt	**7440-48-4**	**0.329**		**0.0370**
Copper	**7440-50-8**	**35.6**		**2.23**
Lead	**7439-92-1**	**0.393**		**0.181**
Manganese	**7439-96-5**	**9.48**		**1.60**
Molybdenum	**7439-98-7**	**2.19**		**0.304**
Nickel	**7440-02-0**	**1.21**		**0.553**
Selenium	**7782-49-2**	**0.135**	LJ, QX	**0.00759**
Thallium	**7440-28-0**	**8.48E-4**	QB-04	**4.99E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0448**
Zinc	7440-66-6	8.09	U	65.1

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040124-HM
Matrix: Air
Lab ID: 4040832-20
Sample Volume: 2101.965 m³
Filter ID:
Sampled: 04/01/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 07:21

Comments: Q8508556 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.153**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.938**		**0.00725**
Barium	**7440-39-3**	**4.71**		**0.828**
Beryllium	**7440-41-7**	**0.00867**		**0.00248**
Cadmium	7440-43-9	0.0400	U	0.0574
Chromium	**7440-47-3**	**1.93**		**1.71**
Cobalt	**7440-48-4**	**0.319**		**0.0337**
Copper	**7440-50-8**	**26.0**		**2.04**
Lead	**7439-92-1**	**0.957**		**0.166**
Manganese	**7439-96-5**	**8.54**		**1.46**
Molybdenum	**7439-98-7**	**1.56**		**0.278**
Nickel	**7440-02-0**	**1.13**		**0.505**
Selenium	**7782-49-2**	**0.145**	LJ, QX	**0.00694**
Thallium	**7440-28-0**	**8.32E-4**	QB-04	**4.56E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0409**
Zinc	7440-66-6	18.6	U	59.4

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040124-HM
Matrix: Air
Lab ID: 4040832-21
Sample Volume: 2034.459 m³
Filter ID:
Sampled: 04/01/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 07:39

Comments: Q8508554 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0649**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.173**		**0.00749**
Barium	**7440-39-3**	**2.76**		**0.856**
Beryllium	**7440-41-7**	**0.0152**		**0.00256**
Cadmium	7440-43-9	0.00606	U	0.0593
Chromium	**7440-47-3**	**1.92**		**1.77**
Cobalt	**7440-48-4**	**0.325**		**0.0349**
Copper	**7440-50-8**	**24.2**		**2.10**
Lead	**7439-92-1**	**0.228**		**0.171**
Manganese	**7439-96-5**	**7.94**		**1.51**
Molybdenum	**7439-98-7**	**1.49**		**0.287**
Nickel	**7440-02-0**	**1.11**		**0.521**
Selenium	**7782-49-2**	**0.146**	LJ, QX	**0.00717**
Thallium	**7440-28-0**	**7.95E-4**	QB-04	**4.71E-4**
Vanadium	**7440-62-2**	**0.945**		**0.0423**
Zinc	7440-66-6	7.42	U	61.4

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040124-HM
Matrix: Air
Lab ID: 4040832-22
Sample Volume: 1862.059 m³
Filter ID:
Sampled: 04/01/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 09:19

Comments: Q8508553 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.421**		**0.00819**
Barium	**7440-39-3**	**3.69**		**0.935**
Beryllium	**7440-41-7**	**0.00774**		**0.00280**
Cadmium	7440-43-9	0.00988	U	0.0647
Chromium	**7440-47-3**	**2.05**		**1.93**
Cobalt	**7440-48-4**	**0.299**		**0.0381**
Copper	**7440-50-8**	**30.8**		**2.30**
Lead	**7439-92-1**	**0.681**		**0.187**
Manganese	**7439-96-5**	**9.72**		**1.65**
Molybdenum	**7439-98-7**	**1.86**		**0.314**
Nickel	**7440-02-0**	**1.19**		**0.570**
Selenium	**7782-49-2**	**0.131**	LJ, QX	**0.00783**
Thallium	**7440-28-0**	**9.19E-4**	QB-04	**5.15E-4**
Vanadium	**7440-62-2**	**0.923**		**0.0462**
Zinc	7440-66-6	13.2	U	67.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-040124-HM
Matrix: Air
Lab ID: 4040832-23
Sample Volume: 1919.709 m³
Filter ID:
Sampled: 04/01/24 00:00
Received: 04/08/24 15:38
Analysis Date: 04/10/24 09:39

Comments: Q8508578 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0190	SL, U	0.0327
Arsenic	**7440-38-2**	**0.00804**	FB-01	**0.00794**
Barium	7440-39-3	0.705	U	0.907
Beryllium	7440-41-7	9.57E-4	U	0.00271
Cadmium	7440-43-9	7.51E-4	U	0.0628
Chromium	7440-47-3	0.981	U	1.87
Cobalt	7440-48-4	0.0129	U	0.0370
Copper	7440-50-8	0.441	U	2.23
Lead	7439-92-1	0.0290	U	0.181
Manganese	7439-96-5	0.217	U	1.60
Molybdenum	7439-98-7	0.173	U	0.304
Nickel	7440-02-0	0.420	U	0.553
Selenium	7782-49-2	0.00325	LJ, QX, U	0.00759
Thallium	7440-28-0	1.71E-4	QB-04, U	4.99E-4
Vanadium	7440-62-2	0.0230	U	0.0448
Zinc	7440-66-6	3.82	U	65.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040224-HM
Matrix: Air
Lab ID: 4040832-24
Sample Volume: 1890.113 m³
Filter ID:
Sampled: 04/02/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 09:58

Comments: Q8508551 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0767**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.458**		**0.00807**
Barium	**7440-39-3**	**3.29**		**0.921**
Beryllium	**7440-41-7**	**0.00748**		**0.00275**
Cadmium	7440-43-9	0.00691	U	0.0638
Chromium	**7440-47-3**	**2.09**		**1.90**
Cobalt	**7440-48-4**	**0.283**		**0.0375**
Copper	**7440-50-8**	**44.3**		**2.26**
Lead	**7439-92-1**	**0.439**		**0.184**
Manganese	**7439-96-5**	**8.34**		**1.63**
Molybdenum	**7439-98-7**	**2.31**		**0.309**
Nickel	**7440-02-0**	**1.21**		**0.561**
Selenium	**7782-49-2**	**0.112**	LJ, QX	**0.00771**
Thallium	**7440-28-0**	**7.97E-4**	QB-04	**5.07E-4**
Vanadium	**7440-62-2**	**0.806**		**0.0455**
Zinc	7440-66-6	9.26	U	66.1

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040224-HM
Matrix: Air
Lab ID: 4040832-25
Sample Volume: 2019.438 m³
Filter ID:
Sampled: 04/02/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 10:18

Comments: Q8508550 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.159**	SL	**0.0311**
Arsenic	**7440-38-2**	**1.02**		**0.00755**
Barium	**7440-39-3**	**6.59**		**0.862**
Beryllium	**7440-41-7**	**0.0134**		**0.00258**
Cadmium	7440-43-9	0.0497	U	0.0597
Chromium	**7440-47-3**	**2.73**		**1.78**
Cobalt	**7440-48-4**	**0.489**		**0.0351**
Copper	**7440-50-8**	**36.0**		**2.12**
Lead	**7439-92-1**	**1.36**		**0.172**
Manganese	**7439-96-5**	**13.9**		**1.52**
Molybdenum	**7439-98-7**	**1.60**		**0.289**
Nickel	**7440-02-0**	**1.77**		**0.525**
Selenium	**7782-49-2**	**0.163**	LJ, QX	**0.00722**
Thallium	**7440-28-0**	**9.68E-4**	QB-04	**4.75E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0426**
Zinc	7440-66-6	18.4	U	61.9

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040224-HM
Matrix: Air
Lab ID: 4040832-26
Sample Volume: 2030.055 m³
Filter ID:
Sampled: 04/02/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 10:38

Comments: Q8508579 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0893**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.253**		**0.00751**
Barium	**7440-39-3**	**3.62**		**0.858**
Beryllium	**7440-41-7**	**0.0214**		**0.00256**
Cadmium	7440-43-9	0.00727	U	0.0594
Chromium	**7440-47-3**	**2.40**		**1.77**
Cobalt	**7440-48-4**	**0.442**		**0.0349**
Copper	**7440-50-8**	**31.6**		**2.11**
Lead	**7439-92-1**	**0.457**		**0.172**
Manganese	**7439-96-5**	**10.2**		**1.51**
Molybdenum	**7439-98-7**	**1.90**		**0.288**
Nickel	**7440-02-0**	**1.40**		**0.523**
Selenium	**7782-49-2**	**0.153**	LJ, QX	**0.00718**
Thallium	**7440-28-0**	**8.16E-4**	QB-04	**4.72E-4**
Vanadium	**7440-62-2**	**1.09**		**0.0424**
Zinc	7440-66-6	8.60	U	61.6

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040224-HM
Matrix: Air
Lab ID: 4040832-27
Sample Volume: 1850.569 m³
Filter ID:
Sampled: 04/02/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 10:57

Comments: Q8508577 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.410**		**0.00824**
Barium	**7440-39-3**	**3.82**		**0.941**
Beryllium	**7440-41-7**	**0.0116**		**0.00281**
Cadmium	7440-43-9	0.0140	U	0.0651
Chromium	**7440-47-3**	**2.12**		**1.94**
Cobalt	**7440-48-4**	**0.321**		**0.0383**
Copper	**7440-50-8**	**26.2**		**2.31**
Lead	**7439-92-1**	**1.33**		**0.188**
Manganese	**7439-96-5**	**9.63**		**1.66**
Molybdenum	**7439-98-7**	**1.52**		**0.316**
Nickel	**7440-02-0**	**1.26**		**0.573**
Selenium	**7782-49-2**	**0.137**	LJ, QX	**0.00788**
Thallium	**7440-28-0**	**7.66E-4**	QB-04	**5.18E-4**
Vanadium	**7440-62-2**	**0.866**		**0.0465**
Zinc	7440-66-6	15.9	U	67.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040324-HM
Matrix: Air
Lab ID: 4040832-28
Sample Volume: 1898.912 m³
Filter ID:
Sampled: 04/03/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 11:17

Comments: Q8508576 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0808**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.671**		**0.00803**
Barium	**7440-39-3**	**3.75**		**0.917**
Beryllium	**7440-41-7**	**0.00682**		**0.00274**
Cadmium	7440-43-9	0.00773	U	0.0635
Chromium	**7440-47-3**	**2.18**		**1.89**
Cobalt	**7440-48-4**	**0.302**		**0.0374**
Copper	**7440-50-8**	**58.0**		**2.25**
Lead	**7439-92-1**	**0.409**		**0.183**
Manganese	**7439-96-5**	**9.95**		**1.62**
Molybdenum	**7439-98-7**	**2.95**		**0.308**
Nickel	**7440-02-0**	**1.14**		**0.559**
Selenium	**7782-49-2**	**0.169**	LJ, QX	**0.00768**
Thallium	**7440-28-0**	**9.06E-4**	QB-04	**5.05E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0453**
Zinc	7440-66-6	9.92	U	65.8

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040324-HM
Matrix: Air
Lab ID: 4040832-29
Sample Volume: 1968.153 m³
Filter ID:
Sampled: 04/03/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 11:35

Comments: Q8508573 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.169**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.795**		**0.00775**
Barium	**7440-39-3**	**6.04**		**0.885**
Beryllium	**7440-41-7**	**0.0133**		**0.00265**
Cadmium	7440-43-9	0.0313	U	0.0613
Chromium	**7440-47-3**	**2.36**		**1.83**
Cobalt	**7440-48-4**	**0.432**		**0.0360**
Copper	**7440-50-8**	**35.8**		**2.17**
Lead	**7439-92-1**	**1.24**		**0.177**
Manganese	**7439-96-5**	**14.0**		**1.56**
Molybdenum	**7439-98-7**	**1.63**		**0.297**
Nickel	**7440-02-0**	**1.40**		**0.539**
Selenium	**7782-49-2**	**0.229**	LJ, QX	**0.00741**
Thallium	**7440-28-0**	**0.00113**	QB-04	**4.87E-4**
Vanadium	**7440-62-2**	**1.57**		**0.0437**
Zinc	7440-66-6	15.3	U	63.5

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040324-HM
Matrix: Air
Lab ID: 4040832-30
Sample Volume: 2021.546 m³
Filter ID:
Sampled: 04/03/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 11:54

Comments: Q8508571 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0775**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.261**		**0.00754**
Barium	**7440-39-3**	**4.99**		**0.861**
Beryllium	**7440-41-7**	**0.0322**		**0.00258**
Cadmium	7440-43-9	0.00935	U	0.0596
Chromium	**7440-47-3**	**3.14**		**1.78**
Cobalt	**7440-48-4**	**0.621**		**0.0351**
Copper	**7440-50-8**	**38.0**		**2.12**
Lead	**7439-92-1**	**0.581**		**0.172**
Manganese	**7439-96-5**	**15.1**		**1.52**
Molybdenum	**7439-98-7**	**1.70**		**0.289**
Nickel	**7440-02-0**	**1.79**		**0.525**
Selenium	**7782-49-2**	**0.209**	LJ, QX	**0.00721**
Thallium	**7440-28-0**	**0.00114**	QB-04	**4.74E-4**
Vanadium	**7440-62-2**	**1.74**		**0.0426**
Zinc	7440-66-6	10.3	U	61.8

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040324-HM
Matrix: Air
Lab ID: 4040832-31
Sample Volume: 1839.683 m³
Filter ID:
Sampled: 04/03/24 23:59
Received: 04/08/24 15:38
Analysis Date: 04/10/24 14:24

Comments: Q8508570 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.105**	SL	**0.0341**
Arsenic	**7440-38-2**	**0.388**		**0.00829**
Barium	**7440-39-3**	**3.83**		**0.946**
Beryllium	**7440-41-7**	**0.00734**		**0.00283**
Cadmium	7440-43-9	0.0148	U	0.0655
Chromium	**7440-47-3**	**2.10**		**1.95**
Cobalt	**7440-48-4**	**0.325**		**0.0386**
Copper	**7440-50-8**	**30.7**		**2.33**
Lead	**7439-92-1**	**0.937**		**0.189**
Manganese	**7439-96-5**	**11.3**		**1.67**
Molybdenum	**7439-98-7**	**2.14**		**0.317**
Nickel	**7440-02-0**	**1.15**		**0.577**
Selenium	**7782-49-2**	**0.176**	LJ, QX	**0.00792**
Thallium	**7440-28-0**	**0.00111**		**5.21E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0468**
Zinc	7440-66-6	13.5	U	67.9

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-040324-HM
Matrix: Air
Lab ID: 4040832-32
Sample Volume: 1898.912 m³
Filter ID:
Sampled: 04/03/24 00:00
Received: 04/08/24 15:38
Analysis Date: 04/10/24 15:04

Comments: Q8508569 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0194	SL, U	0.0331
Arsenic	7440-38-2	0.00782	U	0.00803
Barium	7440-39-3	0.747	U	0.917
Beryllium	7440-41-7	7.48E-4	U	0.00274
Cadmium	7440-43-9	9.59E-4	U	0.0635
Chromium	7440-47-3	1.01	U	1.89
Cobalt	7440-48-4	0.0140	U	0.0374
Copper	7440-50-8	1.86	U	2.25
Lead	7439-92-1	0.0845	U	0.183
Manganese	7439-96-5	0.234	U	1.62
Molybdenum	7439-98-7	0.159	U	0.308
Nickel	**7440-02-0**	**1.61**	FB-01	**0.559**
Selenium	7782-49-2	0.00389	LJ, QX, U	0.00768
Thallium	7440-28-0	1.39E-4	U	5.05E-4
Vanadium	7440-62-2	0.0264	U	0.0453
Zinc	7440-66-6	3.53	U	65.8

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
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 2404027 - B4D0902										
Calibration Blank (2404027-CCB1)				Prepared & Analyzed: 04/09/24						
Antimony	0.673		ng/l							
Arsenic	8.42		ng/l							
Barium	0.405		ng/l							
Beryllium	0.371		ng/l							
Cadmium	0.116		ng/l							
Chromium	-0.117		ng/l							U
Cobalt	0.557		ng/l							
Copper	183		ng/l							
Lead	3.75		ng/l							
Manganese	8.01		ng/l							
Molybdenum	20.1		ng/l							
Nickel	1.25		ng/l							
Selenium	-11.6		ng/l							LJ, QX, U
Thallium	1.13		ng/l							
Vanadium	33.9		ng/l							
Zinc	-34.9		ng/l							U
Calibration Blank (2404027-CCB2)				Prepared & Analyzed: 04/09/24						
Antimony	0.442		ng/l							
Arsenic	7.83		ng/l							
Barium	7.42		ng/l							
Beryllium	0.484		ng/l							
Cadmium	0.564		ng/l							
Chromium	6.20		ng/l							
Cobalt	1.13		ng/l							
Copper	148		ng/l							
Lead	4.86		ng/l							
Manganese	12.6		ng/l							
Molybdenum	7.02		ng/l							
Nickel	3.43		ng/l							
Selenium	3.70		ng/l							LJ, QX
Thallium	1.01		ng/l							
Vanadium	35.6		ng/l							
Zinc	-1.83		ng/l							U
Calibration Blank (2404027-CCB3)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	0.724		ng/l							
Arsenic	10.5		ng/l							
Barium	9.00		ng/l							
Beryllium	0.421		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
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 2404027 - B4D0902										
Calibration Blank (2404027-CCB3) Contin				Prepared: 04/09/24 Analyzed: 04/10/24						
Cadmium	0.595		ng/l							
Chromium	6.59		ng/l							
Cobalt	1.26		ng/l							
Copper	125		ng/l							
Lead	6.17		ng/l							
Manganese	13.2		ng/l							
Molybdenum	5.92		ng/l							
Nickel	3.27		ng/l							
Selenium	3.07		ng/l							LJ, QX
Thallium	1.09		ng/l							
Vanadium	16.8		ng/l							
Zinc	-51.1		ng/l							U
Calibration Blank (2404027-CCB4)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	0.798		ng/l							
Arsenic	14.2		ng/l							
Barium	10.7		ng/l							
Beryllium	0.403		ng/l							
Cadmium	0.506		ng/l							
Chromium	7.31		ng/l							
Cobalt	1.64		ng/l							
Copper	133		ng/l							
Lead	6.36		ng/l							
Manganese	19.5		ng/l							
Molybdenum	6.77		ng/l							
Nickel	4.14		ng/l							
Selenium	11.5		ng/l							LJ, QX
Thallium	0.938		ng/l							
Vanadium	9.46		ng/l							
Zinc	-37.7		ng/l							U
Calibration Blank (2404027-CCB5)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	0.0864		ng/l							
Arsenic	9.47		ng/l							
Barium	3.57		ng/l							
Beryllium	0.148		ng/l							
Cadmium	0.234		ng/l							
Chromium	3.93		ng/l							
Cobalt	0.797		ng/l							
Copper	122		ng/l							

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SUBMITTED: 04/08/24
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 2404027 - B4D0902										
Calibration Blank (2404027-CCB5) Contin				Prepared: 04/09/24 Analyzed: 04/10/24						
Lead	3.39		ng/l							
Manganese	12.0		ng/l							
Molybdenum	7.25		ng/l							
Nickel	2.10		ng/l							
Selenium	14.2		ng/l							LJ, QX
Thallium	1.37		ng/l							QB-04
Vanadium	-0.886		ng/l							U
Zinc	-74.8		ng/l							U
Calibration Blank (2404027-CCB6)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	0.932		ng/l							
Arsenic	10.7		ng/l							
Barium	18.6		ng/l							
Beryllium	0.513		ng/l							
Cadmium	1.43		ng/l							
Chromium	13.9		ng/l							
Cobalt	2.95		ng/l							
Copper	218		ng/l							
Lead	12.1		ng/l							
Manganese	36.2		ng/l							
Molybdenum	9.77		ng/l							
Nickel	6.73		ng/l							
Selenium	-2.01		ng/l							LJ, QX, U
Thallium	1.08		ng/l							
Vanadium	-1.52		ng/l							U
Zinc	-5.87		ng/l							U
Calibration Blank (2404027-CCB7)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	1.42		ng/l							
Arsenic	12.6		ng/l							
Barium	27.2		ng/l							
Beryllium	0.622		ng/l							
Cadmium	2.14		ng/l							
Chromium	21.7		ng/l							
Cobalt	4.11		ng/l							
Copper	265		ng/l							
Lead	18.4		ng/l							
Manganese	52.3		ng/l							
Molybdenum	12.9		ng/l							
Nickel	11.1		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
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 2404027 - B4D0902										
Calibration Blank (2404027-CCB7) Contin				Prepared: 04/09/24 Analyzed: 04/10/24						
Selenium	-2.88		ng/l							LJ, QX, U
Thallium	0.757		ng/l							
Vanadium	1.77		ng/l							
Zinc	-12.0		ng/l							U
Calibration Check (2404027-CCV1)				Prepared & Analyzed: 04/09/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5350		ng/l	5000.0		107	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	490000		ng/l	500000		98.1	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	19600		ng/l	20000		97.9	90-110			LJ, QX
Thallium	494		ng/l	500.00		98.7	90-110			
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2404027-CCV2)				Prepared & Analyzed: 04/09/24						
Antimony	19800		ng/l	20000		99.2	90-110			
Arsenic	19700		ng/l	20000		98.6	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	4890		ng/l	5000.0		97.9	90-110			
Cadmium	19900		ng/l	20000		99.3	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	49300		ng/l	50000		98.6	90-110			
Copper	2.00E6		ng/l	2.0000E6		100	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	483000		ng/l	500000		96.6	90-110			
Molybdenum	48900		ng/l	50000		97.7	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			LJ, QX
Thallium	476		ng/l	500.00		95.2	90-110			
Vanadium	19600		ng/l	20000		98.1	90-110			
Zinc	505000		ng/l	500000		101	90-110			

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
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 2404027 - B4D0902										
Calibration Check (2404027-CCV3)				Prepared & Analyzed: 04/09/24						
Antimony	19900		ng/l	20000		99.4	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	4750		ng/l	5000.0		95.0	90-110			
Cadmium	19800		ng/l	20000		99.0	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	48700		ng/l	50000		97.3	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.3	90-110			
Lead	195000		ng/l	200000		97.3	90-110			
Manganese	478000		ng/l	500000		95.5	90-110			
Molybdenum	48800		ng/l	50000		97.5	90-110			
Nickel	117000		ng/l	120000		97.7	90-110			
Selenium	19600		ng/l	20000		98.1	90-110			LJ, QX
Thallium	468		ng/l	500.00		93.7	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	499000		ng/l	500000		99.9	90-110			
Calibration Check (2404027-CCV4)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4660		ng/l	5000.0		93.1	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	49900		ng/l	50000		99.8	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	486000		ng/l	500000		97.3	90-110			
Molybdenum	49700		ng/l	50000		99.5	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20000		ng/l	20000		100	90-110			LJ, QX
Thallium	468		ng/l	500.00		93.7	90-110			
Vanadium	19500		ng/l	20000		97.6	90-110			
Zinc	498000		ng/l	500000		99.7	90-110			
Calibration Check (2404027-CCV5)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	208000		ng/l	200000		104	90-110			
Beryllium	4500		ng/l	5000.0		90.0	90-110			

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
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 2404027 - B4D0902										
Calibration Check (2404027-CCV5) Contin				Prepared: 04/09/24 Analyzed: 04/10/24						
Cadmium	19700		ng/l	20000		98.7	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	49300		ng/l	50000		98.5	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.5	90-110			
Lead	195000		ng/l	200000		97.4	90-110			
Manganese	480000		ng/l	500000		96.0	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			
Selenium	19600		ng/l	20000		97.9	90-110			LJ, QX
Thallium	468		ng/l	500.00		93.6	90-110			
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	494000		ng/l	500000		98.8	90-110			
Calibration Check (2404027-CCV6)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	19100		ng/l	20000		95.7	90-110			
Arsenic	19200		ng/l	20000		95.9	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	19300		ng/l	20000		96.7	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	48300		ng/l	50000		96.7	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.5	90-110			
Lead	188000		ng/l	200000		93.8	90-110			
Manganese	464000		ng/l	500000		92.7	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	116000		ng/l	120000		96.9	90-110			
Selenium	18700		ng/l	20000		93.4	90-110			LJ, QX
Thallium	459		ng/l	500.00		91.8	90-110			
Vanadium	19100		ng/l	20000		95.3	90-110			
Zinc	482000		ng/l	500000		96.4	90-110			
Calibration Check (2404027-CCV7)				Prepared: 04/09/24 Analyzed: 04/10/24						
Antimony	18800		ng/l	20000		94.2	90-110			
Arsenic	19200		ng/l	20000		95.8	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	4770		ng/l	5000.0		95.3	90-110			
Cadmium	19200		ng/l	20000		96.0	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	48400		ng/l	50000		96.9	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.3	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 2404027 - B4D0902										
Calibration Check (2404027-CCV7) Contin				Prepared: 04/09/24 Analyzed: 04/10/24						
Lead	188000		ng/l	200000		94.1	90-110			
Manganese	470000		ng/l	500000		94.1	90-110			
Molybdenum	49700		ng/l	50000		99.4	90-110			
Nickel	116000		ng/l	120000		96.7	90-110			
Selenium	18600		ng/l	20000		93.0	90-110			LJ, QX
Thallium	463		ng/l	500.00		92.5	90-110			
Vanadium	19100		ng/l	20000		95.3	90-110			
Zinc	481000		ng/l	500000		96.2	90-110			
High Cal Check (2404027-HCV1)				Prepared & Analyzed: 04/09/24						
Antimony	39700		ng/l	40000		99.2	95-105			
Arsenic	39800		ng/l	40000		99.4	95-105			
Barium	400000		ng/l	400000		100	95-105			
Beryllium	10300		ng/l	10000		103	95-105			
Cadmium	39500		ng/l	40000		98.8	95-105			
Chromium	465000		ng/l	480000		96.9	95-105			
Cobalt	99100		ng/l	100000		99.1	95-105			
Copper	3.92E6		ng/l	4.0000E6		98.0	95-105			
Lead	396000		ng/l	400000		99.0	95-105			
Manganese	979000		ng/l	1.0000E6		97.9	95-105			
Molybdenum	99800		ng/l	100000		99.8	95-105			
Nickel	237000		ng/l	240000		98.6	95-105			
Selenium	39200		ng/l	40000		98.0	95-105			LJ, QX
Thallium	986		ng/l	1000.0		98.6	95-105			
Vanadium	39700		ng/l	40000		99.3	95-105			
Zinc	983000		ng/l	1.0000E6		98.3	95-105			
Initial Cal Blank (2404027-ICB1)				Prepared & Analyzed: 04/09/24						
Antimony	0.657		ng/l							
Arsenic	8.75		ng/l							
Barium	0.0995		ng/l							
Beryllium	0.328		ng/l							
Cadmium	0.158		ng/l							
Chromium	1.15		ng/l							
Cobalt	0.610		ng/l							
Copper	218		ng/l							
Lead	4.07		ng/l							
Manganese	10.6		ng/l							
Molybdenum	8.25		ng/l							
Nickel	1.50		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404027 - B4D0902										
Initial Cal Blank (2404027-ICB1) Continu				Prepared & Analyzed: 04/09/24						
Selenium	-20.3		ng/l							LJ, QX, U
Thallium	0.777		ng/l							
Vanadium	56.1		ng/l							
Zinc	-48.8		ng/l							U
Initial Cal Check (2404027-ICV1)				Prepared & Analyzed: 04/09/24						
Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4590		ng/l	5000.0		91.8	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	248000		ng/l	240000		104	90-110			
Cobalt	49400		ng/l	50000		98.8	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.8	90-110			
Lead	195000		ng/l	200000		97.3	90-110			
Manganese	483000		ng/l	500000		96.7	90-110			
Molybdenum	49800		ng/l	50000		99.5	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	506		ng/l	500.00		101	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Interference Check A (2404027-IFA1)				Prepared & Analyzed: 04/09/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	306000		ng/l	300000		102	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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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 2404027 - B4D0902										
Interference Check B (2404027-IFB1)				Prepared & Analyzed: 04/09/24						
Antimony	20500		ng/l	20000		102	80-120			
Arsenic	20700		ng/l	20000		103	80-120			
Barium	204000		ng/l	200000		102	80-120			
Beryllium	5020		ng/l	5000.0		100	80-120			
Cadmium	19800		ng/l	20000		98.8	80-120			
Chromium	248000		ng/l	240000		103	80-120			
Cobalt	49900		ng/l	50000		99.8	80-120			
Copper	1.92E6		ng/l	2.0000E6		95.8	80-120			
Lead	210000		ng/l	200000		105	80-120			
Manganese	505000		ng/l	500000		101	80-120			
Molybdenum	365000		ng/l	350000		104	80-120			
Nickel	116000		ng/l	120000		96.8	80-120			
Selenium	18800		ng/l	20000		94.1	80-120			LJ, QX
Thallium	516		ng/l	500.00		103	80-120			
Vanadium	19500		ng/l	20000		97.5	80-120			
Zinc	462000		ng/l	500000		92.5	80-120			
Batch B4D0902 - ICP-MS Extraction										
Blank (B4D0902-BLK1)				Prepared & Analyzed: 04/09/24						
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							LJ, QX, 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 (B4D0902-BS1)				Prepared & Analyzed: 04/09/24						
Antimony	0.943	0.0386	ng/m³ Air	1.3829		68.2	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.6	80-120			
Barium	28.0	1.07	ng/m³ Air	27.658		101	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 B4D0902 - ICP-MS Extraction										
LCS (B4D0902-BS1) Continued				Prepared & Analyzed: 04/09/24						
Beryllium	1.43	0.00320	ng/m³ Air	1.3829		104	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.7	80-120			
Copper	29.9	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		97.8	80-120			
Manganese	8.17	1.89	ng/m³ Air	8.2975		98.5	80-120			
Molybdenum	1.42	0.359	ng/m³ Air	1.3829		103	80-120			
Nickel	2.97	0.652	ng/m³ Air	2.7658		107	80-120			
Selenium	2.75	0.00896	ng/m³ Air	2.7658		99.4	80-120			LJ, QX
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.9	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.8	80-120			
Zinc	100	76.8	ng/m³ Air	82.975		121	80-120			
Duplicate (B4D0902-DUP1)		**Source: 4040832-12**		Prepared & Analyzed: 04/09/24						
Antimony	0.0587	0.0310	ng/m³ Air		0.0621			5.63	10	SL
Arsenic	0.253	0.00752	ng/m³ Air		0.267			5.47	10	
Barium	3.03	0.859	ng/m³ Air		3.96			26.6	10	
Beryllium	0.0188	0.00257	ng/m³ Air		0.0181			3.78	10	
Cadmium	ND	0.0595	ng/m³ Air		ND				10	U
Chromium	1.96	1.77	ng/m³ Air		2.06			5.10	10	
Cobalt	0.337	0.0350	ng/m³ Air		0.340			0.703	10	
Copper	36.9	2.11	ng/m³ Air		38.2			3.67	10	
Lead	0.630	0.172	ng/m³ Air		0.764			19.1	10	
Manganese	9.55	1.52	ng/m³ Air		9.66			1.15	10	
Molybdenum	1.25	0.288	ng/m³ Air		1.29			3.78	10	
Nickel	1.11	0.523	ng/m³ Air		1.08			2.71	10	
Selenium	0.207	0.00719	ng/m³ Air		0.205			0.762	10	LJ, QX
Thallium	0.00225	4.73E-4	ng/m³ Air		0.00237			5.35	10	
Vanadium	1.01	0.0425	ng/m³ Air		1.03			1.99	10	
Zinc	ND	61.6	ng/m³ Air		ND				10	U
Duplicate (B4D0902-DUP2)		**Source: 4040832-02**		Prepared & Analyzed: 04/09/24						
Antimony	0.188	0.0313	ng/m³ Air		0.173			8.62	10	SL
Arsenic	0.272	0.00759	ng/m³ Air		0.289			6.13	10	
Barium	5.84	0.867	ng/m³ Air		5.84			0.120	10	
Beryllium	0.0130	0.00259	ng/m³ Air		0.0122			6.46	10	
Cadmium	ND	0.0600	ng/m³ Air		ND				10	U
Chromium	2.01	1.79	ng/m³ Air		1.98			1.34	10	
Cobalt	0.329	0.0353	ng/m³ Air		0.330			0.304	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 B4D0902 - ICP-MS Extraction										
Duplicate (B4D0902-DUP2) Continued			**Source: 4040832-02**		Prepared & Analyzed: 04/09/24					
Copper	32.1	2.13	ng/m³ Air		30.7			4.36	10	
Lead	0.902	0.173	ng/m³ Air		0.953			5.48	10	
Manganese	10.5	1.53	ng/m³ Air		10.7			1.42	10	
Molybdenum	1.67	0.291	ng/m³ Air		1.69			1.23	10	
Nickel	1.29	0.528	ng/m³ Air		1.37			6.17	10	
Selenium	0.164	0.00726	ng/m³ Air		0.171			4.09	10	LJ, QX
Thallium	0.00118	4.77E-4	ng/m³ Air		0.00118			0.180	10	
Vanadium	1.26	0.0429	ng/m³ Air		1.28			1.63	10	
Zinc	ND	62.2	ng/m³ Air		ND				10	U
Duplicate (B4D0902-DUP3)			**Source: 4040832-19**		Prepared: 04/09/24 Analyzed: 04/10/24					
Antimony	0.0759	0.0327	ng/m³ Air		0.0754			0.730	10	SL
Arsenic	0.644	0.00794	ng/m³ Air		0.642			0.191	10	
Barium	2.92	0.907	ng/m³ Air		2.93			0.411	10	
Beryllium	0.00678	0.00271	ng/m³ Air		0.00794			15.7	10	
Cadmium	ND	0.0628	ng/m³ Air		ND				10	U
Chromium	2.28	1.87	ng/m³ Air		2.27			0.380	10	
Cobalt	0.330	0.0370	ng/m³ Air		0.329			0.372	10	
Copper	36.4	2.23	ng/m³ Air		35.6			2.24	10	
Lead	0.395	0.181	ng/m³ Air		0.393			0.695	10	
Manganese	9.47	1.60	ng/m³ Air		9.48			0.0857	10	
Molybdenum	2.18	0.304	ng/m³ Air		2.19			0.535	10	
Nickel	1.21	0.553	ng/m³ Air		1.21			0.156	10	
Selenium	0.136	0.00759	ng/m³ Air		0.135			1.05	10	LJ, QX
Thallium	8.72E-4	4.99E-4	ng/m³ Air		8.48E-4			2.77	10	QB-04
Vanadium	1.16	0.0448	ng/m³ Air		1.17			0.571	10	
Zinc	ND	65.1	ng/m³ Air		ND				10	U
Duplicate (B4D0902-DUP4)			**Source: 4040832-31**		Prepared: 04/09/24 Analyzed: 04/10/24					
Antimony	0.105	0.0341	ng/m³ Air		0.105			0.574	10	SL
Arsenic	0.383	0.00829	ng/m³ Air		0.388			1.32	10	
Barium	3.86	0.946	ng/m³ Air		3.83			0.727	10	
Beryllium	0.00913	0.00283	ng/m³ Air		0.00734			21.8	10	
Cadmium	ND	0.0655	ng/m³ Air		ND				10	U
Chromium	2.11	1.95	ng/m³ Air		2.10			0.553	10	
Cobalt	0.328	0.0386	ng/m³ Air		0.325			0.731	10	
Copper	30.9	2.33	ng/m³ Air		30.7			0.935	10	
Lead	0.944	0.189	ng/m³ Air		0.937			0.790	10	
Manganese	11.4	1.67	ng/m³ Air		11.3			0.915	10	
Molybdenum	2.14	0.317	ng/m³ Air		2.14			0.0215	10	

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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: 04/16/24 10:24
SUBMITTED: 04/08/24
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 B4D0902 - ICP-MS Extraction										
Duplicate (B4D0902-DUP4) Continued	**Source: 4040832-31**			Prepared: 04/09/24 Analyzed: 04/10/24						
Nickel	1.17	0.577	ng/m³ Air		1.15			1.68	10	
Selenium	0.190	0.00792	ng/m³ Air		0.176			7.94	10	LJ, QX
Thallium	0.00101	5.21E-4	ng/m³ Air		0.00111			9.70	10	
Vanadium	1.19	0.0468	ng/m³ Air		1.18			0.487	10	
Zinc	ND	67.9	ng/m³ Air		ND				10	U
Matrix Spike (B4D0902-MS1)	**Source: 4040832-12**			Prepared & Analyzed: 04/09/24						
Antimony	0.654	0.0310	ng/m³ Air	1.1098	0.0621	53.3	80-120			SL
Arsenic	2.35	0.00752	ng/m³ Air	2.2197	0.267	93.8	80-120			
Barium	24.9	0.859	ng/m³ Air	22.197	3.96	94.3	80-120			
Beryllium	1.10	0.00257	ng/m³ Air	1.1098	0.0181	97.2	80-120			
Cadmium	1.10	0.0595	ng/m³ Air	1.1098	ND	99.5	80-120			
Chromium	13.3	1.77	ng/m³ Air	11.098	2.06	102	80-120			
Cobalt	1.43	0.0350	ng/m³ Air	1.1098	0.340	98.2	80-120			
Copper	62.5	2.11	ng/m³ Air	22.197	38.2	109	80-120			
Lead	11.6	0.172	ng/m³ Air	11.098	0.764	97.8	80-120			
Manganese	16.0	1.52	ng/m³ Air	6.6590	9.66	94.6	80-120			
Molybdenum	2.31	0.288	ng/m³ Air	1.1098	1.29	91.4	80-120			
Nickel	3.30	0.523	ng/m³ Air	2.2197	1.08	100	80-120			
Selenium	2.34	0.00719	ng/m³ Air	2.2197	0.205	96.3	80-120			LJ, QX
Thallium	0.108	4.73E-4	ng/m³ Air	0.11098	0.00237	95.2	80-120			
Vanadium	3.15	0.0425	ng/m³ Air	2.2197	1.03	95.4	80-120			
Zinc	77.1	61.6	ng/m³ Air	66.590	ND	116	80-120			
Matrix Spike (B4D0902-MS2)	**Source: 4040832-02**			Prepared & Analyzed: 04/09/24						
Antimony	0.806	0.0313	ng/m³ Air	1.1206	0.173	56.6	80-120			SL
Arsenic	2.39	0.00759	ng/m³ Air	2.2413	0.289	94.0	80-120			
Barium	27.6	0.867	ng/m³ Air	22.413	5.84	97.1	80-120			
Beryllium	1.09	0.00259	ng/m³ Air	1.1206	0.0122	96.3	80-120			
Cadmium	1.11	0.0600	ng/m³ Air	1.1206	ND	99.1	80-120			
Chromium	13.1	1.79	ng/m³ Air	11.206	1.98	99.4	80-120			
Cobalt	1.41	0.0353	ng/m³ Air	1.1206	0.330	96.4	80-120			
Copper	54.9	2.13	ng/m³ Air	22.413	30.7	108	80-120			
Lead	11.8	0.173	ng/m³ Air	11.206	0.953	96.7	80-120			
Manganese	16.8	1.53	ng/m³ Air	6.7239	10.7	90.4	80-120			
Molybdenum	2.81	0.291	ng/m³ Air	1.1206	1.69	100	80-120			
Nickel	3.37	0.528	ng/m³ Air	2.2413	1.37	89.4	80-120			
Selenium	2.32	0.00726	ng/m³ Air	2.2413	0.171	95.9	80-120			LJ, QX
Thallium	0.107	4.77E-4	ng/m³ Air	0.11206	0.00118	94.2	80-120			
Vanadium	3.34	0.0429	ng/m³ Air	2.2413	1.28	92.1	80-120			

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REPORTED: 04/16/24 10:24
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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 B4D0902 - ICP-MS Extraction										
Matrix Spike (B4D0902-MS2) Continued Source: 4040832-02 Prepared & Analyzed: 04/09/24										
Zinc	83.1	62.2	ng/m³ Air	67.239	ND	124	80-120			
Matrix Spike Dup (B4D0902-MSD1) Source: 4040832-12 Prepared & Analyzed: 04/09/24										
Antimony	0.646	0.0310	ng/m³ Air	1.1098	0.0621	52.6	80-120	1.29	20	SL
Arsenic	2.34	0.00752	ng/m³ Air	2.2197	0.267	93.4	80-120	0.347	20	
Barium	24.7	0.859	ng/m³ Air	22.197	3.96	93.5	80-120	0.723	20	
Beryllium	1.19	0.00257	ng/m³ Air	1.1098	0.0181	106	80-120	8.27	20	
Cadmium	1.10	0.0595	ng/m³ Air	1.1098	ND	99.4	80-120	0.0982	20	
Chromium	13.1	1.77	ng/m³ Air	11.098	2.06	99.4	80-120	1.77	20	
Cobalt	1.40	0.0350	ng/m³ Air	1.1098	0.340	95.2	80-120	2.35	20	
Copper	59.9	2.11	ng/m³ Air	22.197	38.2	97.4	80-120	4.27	20	
Lead	11.4	0.172	ng/m³ Air	11.098	0.764	96.3	80-120	1.43	20	
Manganese	15.4	1.52	ng/m³ Air	6.6590	9.66	85.8	80-120	3.73	20	
Molybdenum	2.31	0.288	ng/m³ Air	1.1098	1.29	91.4	80-120	0.0109	20	
Nickel	3.21	0.523	ng/m³ Air	2.2197	1.08	96.0	80-120	2.75	20	
Selenium	2.29	0.00719	ng/m³ Air	2.2197	0.205	94.1	80-120	2.05	20	LJ, QX
Thallium	0.107	4.73E-4	ng/m³ Air	0.11098	0.00237	94.5	80-120	0.702	20	
Vanadium	3.10	0.0425	ng/m³ Air	2.2197	1.03	93.2	80-120	1.59	20	
Zinc	75.2	61.6	ng/m³ Air	66.590	ND	113	80-120	2.53	20	
Matrix Spike Dup (B4D0902-MSD2) Source: 4040832-02 Prepared & Analyzed: 04/09/24										
Antimony	0.786	0.0313	ng/m³ Air	1.1206	0.173	54.8	80-120	2.51	20	SL
Arsenic	2.39	0.00759	ng/m³ Air	2.2413	0.289	93.8	80-120	0.122	20	
Barium	27.7	0.867	ng/m³ Air	22.413	5.84	97.5	80-120	0.316	20	
Beryllium	0.944	0.00259	ng/m³ Air	1.1206	0.0122	83.1	80-120	14.5	20	
Cadmium	1.11	0.0600	ng/m³ Air	1.1206	ND	99.2	80-120	0.0186	20	
Chromium	13.2	1.79	ng/m³ Air	11.206	1.98	100	80-120	0.880	20	
Cobalt	1.41	0.0353	ng/m³ Air	1.1206	0.330	96.8	80-120	0.325	20	
Copper	57.2	2.13	ng/m³ Air	22.413	30.7	118	80-120	4.15	20	
Lead	11.8	0.173	ng/m³ Air	11.206	0.953	96.8	80-120	0.0927	20	
Manganese	16.6	1.53	ng/m³ Air	6.7239	10.7	88.0	80-120	0.946	20	
Molybdenum	2.82	0.291	ng/m³ Air	1.1206	1.69	101	80-120	0.447	20	
Nickel	3.37	0.528	ng/m³ Air	2.2413	1.37	89.0	80-120	0.247	20	
Selenium	2.30	0.00726	ng/m³ Air	2.2413	0.171	95.1	80-120	0.811	20	LJ, QX
Thallium	0.107	4.77E-4	ng/m³ Air	0.11206	0.00118	94.8	80-120	0.655	20	
Vanadium	3.35	0.0429	ng/m³ Air	2.2413	1.28	92.3	80-120	0.163	20	
Zinc	81.4	62.2	ng/m³ Air	67.239	ND	121	80-120	1.95	20	
Post Spike (B4D0902-PS1) Source: 4040832-12 Prepared & Analyzed: 04/09/24										
Antimony	0.272	0.0310	ng/m³ Air	0.22197	0.0621	94.8	75-125			SL
Arsenic	1.30	0.00752	ng/m³ Air	1.1098	0.267	92.9	75-125			

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
SUBMITTED: 04/08/24
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 B4D0902 - ICP-MS Extraction										
Post Spike (B4D0902-PS1) Continued		**Source: 4040832-12**		Prepared & Analyzed: 04/09/24						
Barium	6.09	0.859	ng/m³ Air	2.2197	3.96	95.9	75-125			
Beryllium	0.236	0.00257	ng/m³ Air	0.22197	0.0181	98.3	75-125			
Cadmium	0.122	0.0595	ng/m³ Air	0.11098	ND	110	75-125			
Chromium	3.09	1.77	ng/m³ Air	1.1098	2.06	93.0	75-125			
Cobalt	0.548	0.0350	ng/m³ Air	0.22197	0.340	93.7	75-125			
Copper	49.7	2.11	ng/m³ Air	11.098	38.2	103	75-125			
Lead	22.1	0.172	ng/m³ Air	22.197	0.764	96.1	75-125			
Manganese	11.7	1.52	ng/m³ Air	2.2197	9.66	90.1	75-125			
Molybdenum	2.32	0.288	ng/m³ Air	1.1098	1.29	92.3	75-125			
Nickel	3.18	0.523	ng/m³ Air	2.2197	1.08	94.9	75-125			
Selenium	1.26	0.00719	ng/m³ Air	1.1098	0.205	95.2	75-125			LJ, QX
Thallium	0.0550	4.73E-4	ng/m³ Air	5.5491E-2	0.00237	94.9	75-125			
Vanadium	2.04	0.0425	ng/m³ Air	1.1098	1.03	91.7	75-125			
Zinc	ND	61.6	ng/m³ Air	22.197	ND		75-125			U
Post Spike (B4D0902-PS2)		**Source: 4040832-02**		Prepared & Analyzed: 04/09/24						
Antimony	0.385	0.0313	ng/m³ Air	0.22413	0.173	94.7	75-125			SL
Arsenic	1.34	0.00759	ng/m³ Air	1.1206	0.289	94.2	75-125			
Barium	8.04	0.867	ng/m³ Air	2.2413	5.84	98.3	75-125			
Beryllium	0.217	0.00259	ng/m³ Air	0.22413	0.0122	91.4	75-125			
Cadmium	0.120	0.0600	ng/m³ Air	0.11206	ND	107	75-125			
Chromium	3.04	1.79	ng/m³ Air	1.1206	1.98	94.5	75-125			
Cobalt	0.545	0.0353	ng/m³ Air	0.22413	0.330	95.9	75-125			
Copper	42.5	2.13	ng/m³ Air	11.206	30.7	105	75-125			
Lead	22.4	0.173	ng/m³ Air	22.413	0.953	95.8	75-125			
Manganese	12.8	1.53	ng/m³ Air	2.2413	10.7	94.5	75-125			
Molybdenum	2.71	0.291	ng/m³ Air	1.1206	1.69	91.3	75-125			
Nickel	3.47	0.528	ng/m³ Air	2.2413	1.37	93.5	75-125			
Selenium	1.24	0.00726	ng/m³ Air	1.1206	0.171	95.3	75-125			LJ, QX
Thallium	0.0546	4.77E-4	ng/m³ Air	5.6032E-2	0.00118	95.4	75-125			
Vanadium	2.30	0.0429	ng/m³ Air	1.1206	1.28	91.3	75-125			
Zinc	ND	62.2	ng/m³ Air	22.413	ND		75-125			U
Dilution Check (B4D0902-SRL1)		**Source: 4040832-12**		Prepared & Analyzed: 04/09/24						
Antimony	ND	0.155	ng/m³ Air		ND				10	SL, U
Arsenic	0.279	0.0376	ng/m³ Air		0.267			4.08	10	
Barium	ND	4.29	ng/m³ Air		ND				10	U
Beryllium	0.0229	0.0128	ng/m³ Air		0.0181			23.2	10	
Cadmium	ND	0.297	ng/m³ Air		ND				10	U
Chromium	ND	8.87	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 04/16/24 10:24
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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 B4D0902 - ICP-MS Extraction										
Dilution Check (B4D0902-SRL1) ContinueSource: 4040832-12 Prepared & Analyzed: 04/09/24										
Cobalt	0.346	0.175	ng/m³ Air		0.340			1.78	10	
Copper	38.7	10.6	ng/m³ Air		38.2			1.31	10	
Lead	ND	0.859	ng/m³ Air		ND				10	U
Manganese	9.71	7.58	ng/m³ Air		9.66			0.552	10	
Molybdenum	ND	1.44	ng/m³ Air		ND				10	U
Nickel	ND	2.62	ng/m³ Air		ND				10	U
Selenium	0.204	0.0360	ng/m³ Air		0.205			0.343	10	LJ, QX
Thallium	0.00377	0.00236	ng/m³ Air		0.00237			45.5	10	
Vanadium	1.07	0.212	ng/m³ Air		1.03			3.94	10	
Zinc	ND	308	ng/m³ Air		ND				10	U
Dilution Check (B4D0902-SRL2) Source: 4040832-02 Prepared & Analyzed: 04/09/24										
Antimony	0.170	0.156	ng/m³ Air		0.173			1.70	10	SL
Arsenic	0.297	0.0380	ng/m³ Air		0.289			2.91	10	
Barium	5.94	4.34	ng/m³ Air		5.84			1.72	10	
Beryllium	0.0133	0.0130	ng/m³ Air		ND			8.49	10	
Cadmium	ND	0.300	ng/m³ Air		ND				10	U
Chromium	ND	8.95	ng/m³ Air		ND				10	U
Cobalt	0.337	0.177	ng/m³ Air		0.330			1.95	10	
Copper	31.6	10.7	ng/m³ Air		30.7			2.72	10	
Lead	0.942	0.867	ng/m³ Air		0.953			1.07	10	
Manganese	10.8	7.66	ng/m³ Air		10.7			1.21	10	
Molybdenum	1.71	1.45	ng/m³ Air		1.69			1.37	10	
Nickel	ND	2.64	ng/m³ Air		ND				10	U
Selenium	0.173	0.0363	ng/m³ Air		0.171			1.10	10	LJ, QX
Thallium	0.00261	0.00239	ng/m³ Air		ND			75.7	10	
Vanadium	1.35	0.214	ng/m³ Air		1.28			4.96	10	
Zinc	ND	311	ng/m³ Air		ND				10	U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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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 4/16/2024 and Shanna Vasser 4/17/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 3/28/2024 – 4/3/2024
Report No: 4040832

√	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.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-040124-HM and for nickel in MFL-FB01-040324-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

April 4 through April 10, 2024
[Report Updated: December 4, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from April 4 through April 10, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from April 4 through April 10 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 $\mu g/m^3$ screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. Of the 28 samples collected, one sample collected at Leialii Hawaiian Homelands on April 5 was voided due to a greater than 10% discrepancy between the pre and post calibration flow rate values, as stated in the asbestos

sampling SOP. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on April 6 and 9
- WW Pump Station #4 on April 4, 9, and 10
- Lahaina Intermediate School on April 8 and 9
- Lahaina Boys & Girls Club on April 9

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler

- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
April 4 through April 10, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
4/4/2024	Leialii Hawaiian Homelands (AM-01)	5.5
	WW Pump Station #4 (AM-02)	8.2
	Lahaina Intermediate School (AM-03)	8.2
	Lahaina Boys & Girls Club (AM-04)	6.7
4/5/2024	Leialii Hawaiian Homelands (AM-01)	8.2
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Boys & Girls Club (AM-04)	7.9
4/6/2024	Leialii Hawaiian Homelands (AM-01)	8.9
	WW Pump Station #4 (AM-02)	6.3
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	6.1
4/7/2024	Leialii Hawaiian Homelands (AM-01)	5.4
	WW Pump Station #4 (AM-02)	6.6
	Lahaina Intermediate School (AM-03)	5.9
	Lahaina Boys & Girls Club (AM-04)	5.9
4/8/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	9.1
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	7.7
4/9/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	9.7
	Lahaina Intermediate School (AM-03)	9.5
	Lahaina Boys & Girls Club (AM-04)	9.2
4/10/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	11

Notes:

µg/m3 = micrograms per cubic meter

24 hour TWA calculation results are shown in two significant figures

Results are based on 24 hour TWA calculation

Results forLeialii Hawaiian Homelands (AM-01) on 4/10 are based on a 22 hr TWA because of a power outage.

Results from Lahaina Boys & Girls Club on 4/6 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
April 4 through April 10, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
4/4/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000209	0.00178	0.00685	0.0000216	ND	0.00451	0.000780	0.0584	0.000930	0.0237	0.00225	0.00226	0.000202	0.00000183	0.00271	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.00245	0.00373	0.0382	0.0000357	0.0000859	0.00562	0.00141	0.102	0.0118	0.0446	0.00214	0.00458	0.000292	0.00000372	0.00344	0.194
	Lahaina Intermediate School (AM-03)	<0.0024	0.000102	0.000424	0.00509	0.0000528	ND	0.00547	0.000916	0.0359	0.000791	0.0210	0.00157	0.00245	0.000218	0.00000134	0.00233	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000108	0.000565	0.00323	0.0000131	ND	0.00273	0.000457	0.0213	0.000943	0.0132	0.00111	0.00133	0.000162	0.00000105	0.00132	ND
4/5/2024	Leialii Hawaiian Homelands (AM-01)		0.0000822	0.000705	0.00467	0.0000159	ND	0.00373	0.000815	0.0381	0.000895	0.0222	0.00172	0.00194	0.000186	0.00000180	0.00231	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000507	0.00106	0.0117	0.0000282	0.0000692	0.00350	0.000943	0.0542	0.00332	0.0333	0.00196	0.00264	0.000259	0.00000272	0.00279	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000837	0.000389	0.00575	0.0000718	ND	0.00536	0.00125	0.0346	0.000751	0.0278	0.00161	0.00292	0.000318	0.00000210	0.00295	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000168	0.00213	0.00460	0.0000189	ND	0.00373	0.000692	0.0249	0.00242	0.0204	0.00100	0.00226	0.000207	0.00000174	0.00174	ND
4/6/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.000133	0.00126	0.00569	0.0000171	ND	0.00356	0.000785	0.0816	0.00121	0.0214	0.00233	0.00171	0.000198	0.00000210	0.00199	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000174	0.000611	0.00534	0.0000201	0.000130	0.00296	0.000642	0.0719	0.00226	0.0192	0.00122	0.00187	0.000242	0.00000245	0.00183	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000880	0.000371	0.00492	0.0000619	ND	0.00482	0.00103	0.0459	0.000878	0.0226	0.00238	0.00270	0.000279	0.00000261	0.00235	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000135	0.00239	0.00415	0.0000131	ND	0.00287	0.000469	0.0394	0.00214	0.0142	0.00128	0.00140	0.000184	0.00000216	0.00116	ND
4/7/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000650	0.000489	0.00336	0.00000864	ND	0.00239	0.000383	0.0929	0.000891	0.0111	0.00501	0.000999	0.000126	0.00000114	0.00105	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000150	0.000531	0.00468	0.0000153	ND	0.00215	0.000492	0.0320	0.00131	0.0146	0.00136	0.00139	0.000152	0.00000127	0.00137	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000550	0.000120	0.00206	0.00000547	ND	ND	0.000138	0.0691	0.00206	0.00364	0.00125	0.000660	0.0000604	0.000000584	0.000331	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000720	0.000304	0.00229	0.00000626	ND	0.00171	0.000236	0.0232	0.000821	0.00705	0.00103	0.000768	0.0000933	0.000000687	0.000556	ND
4/8/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000881	0.000770	0.00390	0.0000104	ND	0.00364	0.000512	0.0990	0.000592	0.0148	0.00544	0.00145	0.000177	0.00000142	0.00146	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000172	0.000525	0.00638	0.0000150	0.0000649	0.00236	0.000515	0.0259	0.00143	0.0156	0.00122	0.00152	0.000205	0.00000152	0.00151	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000857	0.000428	0.00330	0.0000285	ND	0.00261	0.000512	0.0414	0.000969	0.0125	0.00235	0.00149	0.000211	0.00000165	0.00136	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000104	0.000639	0.00435	0.0000163	ND	0.00274	0.000516	0.0305	0.00106	0.0161	0.00184	0.00130	0.000210	0.00000185	0.00152	ND
4/9/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000885	0.000423	0.00292	0.00000843	ND	0.00203	0.000335	0.104	0.000354	0.00994	0.00666	0.000914	0.000189	0.00000145	0.00114	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000140	0.000369	0.00467	0.0000105	ND	0.00191	0.000381	0.0249	0.000673	0.0113	0.00146	0.00113	0.000205	0.00000152	0.00126	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000115	0.000352	0.00369	0.0000226	ND	0.00238	0.000456	0.0407	0.000696	0.0128	0.00250	0.00128	0.000225	0.00000156	0.00140	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000105	0.000372	0.00326	0.00000948	ND	ND	0.000298	0.0259	0.000729	0.00968	0.00184	0.000893	0.000183	0.00000132	0.00104	ND
4/10/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000757	0.000434	0.00300	0.00000768	ND	ND	0.000275	0.0792	0.000491	0.00940	0.00534	0.000947	0.000219	0.00000180	0.00131	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000191	0.000269	0.00614	0.0000124	ND	0.00196	0.000410	0.0239	0.000805	0.0129	0.00146	0.00136	0.000229	0.00000173	0.00164	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000162	0.000483	0.00461	0.0000293	ND	0.00271	0.000610	0.0409	0.00104	0.0175	0.00229	0.00154	0.000287	0.00000218	0.00200	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000125	0.000309	0.00398	0.0000109	ND	0.00193	0.000336	0.0281	0.000909	0.0115	0.00214	0.00104	0.000242	0.00000213	0.00139	ND
95% Upper Confidence Limit[2]		NA	0.000230	0.00104	0.00663	0.0000270	0.000147	0.00363	0.000730	0.0600	0.00184	0.0205	0.00271	0.00196	0.000230	0.00000200	0.00206	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs
The asbestos sample was voided at Leialii Hawaiian Homelands on 4/5 due to a greater than 10% discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling SOP.

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
April 4 through April 10, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
4/4/2024	AM-01	Leialii Hawaiian Homelands	1.3	SSE	79	55	762.2
4/4/2024	AM-02	WW Pump Station #4	1.2	S	79	61	764.4
4/4/2024	AM-03	Lahaina Intermediate School	1.5	S	75	63	754.9
4/4/2024	AM-04	Lahaina Boys & Girls Club	2.0	SSW	77	60	764.1
4/5/2024	AM-01	Leialii Hawaiian Homelands	1.7	S	78	52	762.1
4/5/2024	AM-02	WW Pump Station #4	1.2	S	78	56	764.3
4/5/2024	AM-03	Lahaina Intermediate School	1.6	S	74	60	754.8
4/5/2024	AM-04	Lahaina Boys & Girls Club	1.7	SSW	76	56	764.0
4/6/2024	AM-01	Leialii Hawaiian Homelands	2.1	ESE	78	52	762.3
4/6/2024	AM-02	WW Pump Station #4	1.3	SSE	78	56	764.5
4/6/2024	AM-03	Lahaina Intermediate School	1.5	S	75	58	755.0
4/6/2024	AM-04	Lahaina Boys & Girls Club	1.7	SSW	76	56	764.0
4/7/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	78	54	762.2
4/7/2024	AM-02	WW Pump Station #4	1.0	S	77	59	764.4
4/7/2024	AM-03	Lahaina Intermediate School	1.2	SSE	74	62	754.9
4/7/2024	AM-04	Lahaina Boys & Girls Club	1.5	S	76	59	764.1
4/8/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	78	56	761.5
4/8/2024	AM-02	WW Pump Station #4	1.0	SSE	77	60	763.8
4/8/2024	AM-03	Lahaina Intermediate School	1.1	SSE	73	63	754.3
4/8/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	75	61	763.5
4/9/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	78	61	760.1
4/9/2024	AM-02	WW Pump Station #4	1.1	SE	77	66	762.4
4/9/2024	AM-03	Lahaina Intermediate School	1.2	SE	73	69	753.0
4/9/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	66	762.1
4/10/2024	AM-01	Leialii Hawaiian Homelands	1.1	SSE	78	64	758.8
4/10/2024	AM-02	WW Pump Station #4	1.1	SSE	77	67	761.0
4/10/2024	AM-03	Lahaina Intermediate School	1.2	SE	74	68	751.6
4/10/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	75	68	760.7

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/12/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-040424-AB**

EMSL Sample Number:	042407332-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6887.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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: 042407332
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: 042407332-0001 **Customer Sample:** MFL-AM01-040424-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	J6	None Detected									
A5	G3	None Detected									
A5	D2	None Detected									
A6	D9	None Detected									
A6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/12/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040424-AB**

EMSL Sample Number:	042407332-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7222.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407332
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: 042407332-0002 **Customer Sample:** MFL-AM02-040424-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	A8	None Detected									
B2	D5	None Detected									
B2	F4	None Detected									
B3	A3	None Detected									
B3	G2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/12/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040424-AB**

EMSL Sample Number:	042407332-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7147.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407332
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: 042407332-0003 **Customer Sample:** MFL-AM03-040424-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	A2	None Detected									
B5	C5	None Detected									
B5	G6	None Detected									
B6	D7	None Detected									
B6	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	04/10/2024 09:30 AM
Analysis Date:	04/12/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040424-AB**

EMSL Sample Number:	042407332-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407332
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: 042407332-0004 **Customer Sample:** MFL-AM04-040424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	I8	None Detected									
C2	F8	None Detected									
C2	C9	None Detected									
C3	D3	None Detected									
C3	I2	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:	04/10/2024 09:30 AM
Analysis Date:	04/12/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040424-AB**

EMSL Sample Number:	042407332-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407332
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: 042407332-0005 **Customer Sample:** MFL-FB01-040424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J9	None Detected									
C5	H8	None Detected									
C5	F7	None Detected									
C5	D5	None Detected									
C5	B4	None Detected									
C6	A7	None Detected									
C6	C8	None Detected									
C6	E9	None Detected									
C6	G7	None Detected									
C6	I5	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:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/12/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040524-AB**

EMSL Sample Number:	042407332-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407332
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: 042407332-0006 **Customer Sample:** MFL-AM02-040524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	B3	None Detected									
D2	E9	None Detected									
D2	H8	None Detected									
D3	B7	None Detected									
D3	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:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/12/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040524-AB**

EMSL Sample Number:	042407332-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7266.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042407332
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: 042407332-0007 **Customer Sample:** MFL-AM03-040524-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	B5	None Detected									
D5	E7	None Detected									
D5	I9	None Detected									
D6	B10	None Detected									
D6	I9	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:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040524-AB**

EMSL Sample Number:	042407332-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7288.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407332
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: 042407332-0008 **Customer Sample:** MFL-AM04-040524-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	B6	None Detected									
E2	E7	None Detected									
E2	I10	None Detected									
E4	I4	None Detected									
E4	C2	None Detected									

Abbreviations used:
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040524-AB**

EMSL Sample Number:	042407332-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042407332
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: 042407332-0009 **Customer Sample:** MFL-FB01-040524-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	G1	None Detected									
E5	E3	None Detected									
E5	G8	None Detected									
E5	B8	None Detected									
E5	A4	None Detected									
E6	A10	None Detected									
E6	B8	None Detected									
E6	C9	None Detected									
E6	D7	None Detected									
E6	E10	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-040624-AB**

EMSL Sample Number:	042407332-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6773.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
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EMSL Order ID: 042407332
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: 042407332-0010 **Customer Sample:** MFL-AM01-040624-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	A10	None Detected									
F2	D8	None Detected									
F2	F7	None Detected									
F3	B5	None Detected									
F3	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
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Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040624-AB**

EMSL Sample Number:	042407332-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6991.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407332
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: 042407332-0011 **Customer Sample:** MFL-AM02-040624-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					
F7	A8	None Detected									
F7	C6	None Detected									
F7	H10	None Detected									
F8	H7	None Detected									
F8	E5	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:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040624-AB**

EMSL Sample Number:	042407332-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7146.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042407332
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: 042407332-0012 **Customer Sample:** MFL-AM03-040624-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	F1	None Detected									
G1	D4	None Detected									
G1	B1	None Detected									
G2	J1	None Detected									
G2	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407332
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040624-AB**

EMSL Sample Number:	042407332-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7037.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Approved Signatory

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EMSL Order ID: 042407332
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: 042407332-0013 **Customer Sample:** MFL-AM04-040624-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	J2	None Detected									
G5	F3	None Detected									
G5	B2	None Detected									
G6	A10	None Detected									
G6	C8	None Detected									

Abbreviations used:
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Project ID:	N/A

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Fax:	N/A
Received Date:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040624-AB**

EMSL Sample Number:	042407332-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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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: 042407332-0014 **Customer Sample:** MFL-FB01-040624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J5	None Detected									
H2	H3	None Detected									
H2	F1	None Detected									
H2	D3	None Detected									
H2	B4	None Detected									
H3	J8	None Detected									
H3	H10	None Detected									
H3	F9	None Detected									
H3	D7	None Detected									
H3	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-040724-AB**

EMSL Sample Number:	042407332-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7430.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042407332
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: 042407332-0015 **Customer Sample:** MFL-AM01-040724-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	A7	None Detected									
H5	C9	None Detected									
H5	F10	None Detected									
H6	H1	None Detected									
H6	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040724-AB**

EMSL Sample Number:	042407332-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7148.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407332
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: 042407332-0016 **Customer Sample:** MFL-AM02-040724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I3	I3	None Detected									
I3	F4	None Detected									
I3	B5	None Detected									
I4	J6	None Detected									
I4	A8	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:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040724-AB**

EMSL Sample Number:	042407332-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7313.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407332
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: 042407332-0017 **Customer Sample:** MFL-AM03-040724-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	J6	None Detected									
I5	G7	None Detected									
I5	C5	None Detected									
I6	A3	None Detected									
I6	G1	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:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040724-AB**

EMSL Sample Number:	042407332-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7153.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042407332
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: 042407332-0018 **Customer Sample:** MFL-AM04-040724-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					
J3	C3	None Detected									
J3	F4	None Detected									
J3	H3	None Detected									
J4	C4	None Detected									
J4	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/15/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040724-AB**

EMSL Sample Number:	042407332-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042407332**
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: 042407332-0019 **Customer Sample:** MFL-FB01-040724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	J5	None Detected									
J5	I6	None Detected									
J5	F8	None Detected									
J5	D10	None Detected									
J5	B8	None Detected									
J6	J10	None Detected									
J6	H8	None Detected									
J6	F7	None Detected									
J6	D9	None Detected									
J6	B7	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:	042407332
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:	04/10/2024 09:30 AM
Analysis Date:	04/12/2024
Report Date:	04/18/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042407332-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407332
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: 042407332-0020 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A2	J3	None Detected									
A2	H4	None Detected									
A2	F3	None Detected									
A2	D5	None Detected									
A2	B7	None Detected									
A3	A5	None Detected									
A3	C6	None Detected									
A3	E4	None Detected									
A3	G5	None Detected									
A3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042407332

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042407332

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway Ste 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	Chelsea.Saber@tetratech.com	Email(s) for Invoice:	

RECEIVED EMSL CINNAMINSON, NJ 2024 APR 10 A 8:

Project Information

Project Name/No:	Maui Fires - Lahaina	Purchase Order:	12070085
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:	Sean Daniel Hallahan	Sampled By Signature:	Sean Hallahan
No. of Samples in Shipment	19		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-040424-AB		6887.401	04/04/24 (1059)
MFL-AM02-040424-AB		7222.198	04/04/24 (1122)
MFL-AM03-040424-AB		7147.853	04/04/24 (1314)
MFL-AM04-040424-AB		7196.759	04/04/24 (1333)
MFL-FB01-040424-AB		0	04/04/24 (1200)
~~MFL-AM01-040524-AB~~	VOID	~~6038.201~~	~~04/05/24 (1054)~~ SH
MFL-AM02-040524-AB		7161.552	04/05/24 (1125)
MFL-AM03-040524-AB		7266.688	04/05/24 (1308)

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

MFL-AM01-040524-AB voided because post-cal value was greater than 10% deviation from pre-cal value.

19 AP

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:	Sean Hallahan	Date/Time: 04/08/24 (1100)	Received by: FedEx
Date/Time: 4/10/24 9:30A			
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

All samples received acceptable for analysis.

OrderID: 042407332

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042407332

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-AM04-040524-AB		7288.416	04/05/24 (1336)
MFL-FB01-040524-AB		0	04/05/24 (1200)
MFL-AM01-040624-AB		6773.421	04/06/24 (1058)
MFL-AM02-040624-AB		6991.590	04/06/24 (1115)
MFL-AM03-040624-AB		7146.798	04/06/24 (1306)
MFL-AM04-040624-AB		7037.786	04/06/24 (1330)
MFL-FB01-040624-AB		0	04/06/24 (1200)
MFL-AM01-040724-AB		7430.861	04/07/24 (1058)
MFL-AM02-040724-AB		7148.695	04/07/24 (1115)
MFL-AM03-040724-AB		7313.367	04/07/24 (1303)
MFL-AM04-040724-AB		7152.983	04/07/24 (1325)
MFL-FB01-040724-AB		0	04/07/24 (1200)

RECEIVED
EMSL
CINNAMINSON, NJ
2024 APR 10 A 11:15

Method of Shipment: FedEx

Relinquished by: Sam Callahan — Date/Time: 04/08/2024 (1100)

Relinquished by: — Date/Time:

Sample Condition Upon Receipt:

Received by: FedEx — Date/Time 4/10/24 9:30A

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 4/18/2024 and Shanna Vasser 4/19/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 4/4/2024 – 4/7/2024
Report No: 42407332

√	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:

4. MFL-AM01-040524-AB was listed on the CoC as void because the post-cal value deviated from the pre-cal valve by more than 10%. It was not shipped to the laboratory.

Notes: None.

EMSL Analytical, Inc.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/17/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-040824-AB**

EMSL Sample Number:	042407595-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7301.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407595
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: 042407595-0001 **Customer Sample:** MFL-AM01-040824-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	G9	None Detected									
B1	C5	None Detected									
B2	A7	None Detected									
B2	G5	None Detected									
B3	H8	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:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/17/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040824-AB**

EMSL Sample Number:	042407595-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7275.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407595
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: 042407595-0002 **Customer Sample:** MFL-AM02-040824-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	F7	None Detected									
B5	D4	None Detected									
B6	B7	None Detected									
B6	E3	None Detected									
B6	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/17/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040824-AB**

EMSL Sample Number:	042407595-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7259.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407595
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: 042407595-0003 **Customer Sample:** MFL-AM03-040824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J4	None Detected									
C2	E3	None Detected									
C2	B7	None Detected									
C3	D3	None Detected									
C3	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/17/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040824-AB**

EMSL Sample Number:	042407595-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7244.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G. Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042407595
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: 042407595-0004 **Customer Sample:** MFL-AM04-040824-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	G4	None Detected									
C5	D7	None Detected									
C5	A9	None Detected									
C6	J7	None Detected									
C6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/17/2024 & 04/20/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040824-AB**

EMSL Sample Number:	042407595-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042407595
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: 042407595-0005 **Customer Sample:** MFL-FB01-040824-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	C8	None Detected									
D1	C4	None Detected									
D1	G7	None Detected									
D2	A5	None Detected									
D2	F8	None Detected									
D1	J3	None Detected									
D1	H6	None Detected									
D1	I9	None Detected									
D2	D9	None Detected									
D2	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/15/2024 10:00 AM
Analysis Date:	04/17/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-040924-AB**

EMSL Sample Number:	042407595-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6996.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

numerous gypsum fibers present

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042407595-0006 **Customer Sample:** MFL-AM01-040924-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	H5	None Detected									
D5	E4	None Detected									
D5	A6	None Detected									
D6	G6	None Detected									
D6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/15/2024 10:00 AM
Analysis Date:	04/17/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-040924-AB**

EMSL Sample Number:	042407595-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7286.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

numerous gypsum fibers present

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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: 042407595-0007 **Customer Sample:** MFL-AM02-040924-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	E3	None Detected									
E1	I6	None Detected									
E2	A7	None Detected									
E2	D4	None Detected									
E2	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/15/2024 10:00 AM
Analysis Date:	04/20/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-040924-AB**

EMSL Sample Number:	042407595-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7233.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042407595
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: 042407595-0008 **Customer Sample:** MFL-AM03-040924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I4	None Detected									
E5	F7	None Detected									
E5	A5	None Detected									
E6	D5	None Detected									
E6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/20/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-040924-AB**

EMSL Sample Number:	042407595-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7197.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Nuerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407595
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: 042407595-0009 **Customer Sample:** MFL-AM04-040924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I7	None Detected									
F1	F3	None Detected									
F1	B6	None Detected									
F2	G6	None Detected									
F2	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/18/2024 & 04/20/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-040924-AB**

EMSL Sample Number:	042407595-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407595
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: 042407595-0010 **Customer Sample:** MFL-FB01-040924-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	B6	None Detected									
F5	E3	None Detected									
F5	J7	None Detected									
F6	C8	None Detected									
F6	G5	None Detected									
F6	I3	None Detected									
F7	B2	None Detected									
F7	E5	None Detected									
F7	H7	None Detected									
F7	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/18/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-041024-AB**

EMSL Sample Number:	042407595-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6850.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407595
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: 042407595-0011 **Customer Sample:** MFL-AM01-041024-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	C2	None Detected									
G1	E5	None Detected									
G1	J8	None Detected									
G2	F4	None Detected									
G2	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407595
Customer ID:	TTDC42
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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:	04/15/2024 10:00 AM
Analysis Date:	04/18/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-041024-AB**

EMSL Sample Number:	042407595-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7252.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407595
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: 042407595-0012 **Customer Sample:** MFL-AM02-041024-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	A2	None Detected									
G5	D4	None Detected									
G5	J3	None Detected									
G6	G8	None Detected									
G6	C5	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:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/18/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-041024-AB**

EMSL Sample Number:	042407595-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7241.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042407595
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: 042407595-0013 **Customer Sample:** MFL-AM03-041024-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	G7	None Detected									
H1	D6	None Detected									
H2	J6	None Detected									
H2	E4	None Detected									
H2	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/18/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-041024-AB**

EMSL Sample Number:	042407595-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7234.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407595
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: 042407595-0014 **Customer Sample:** MFL-AM04-041024-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	C2	None Detected									
H5	D6	None Detected									
H5	J5	None Detected									
H6	I7	None Detected									
H6	E7	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:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/18/2024 & 04/20/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-041024-AB**

EMSL Sample Number:	042407595-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407595
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: 042407595-0015 **Customer Sample:** MFL-FB01-041024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I2	B4	None Detected									
I2	D7	None Detected									
I2	H6	None Detected									
I3	G5	None Detected									
I3	C2	None Detected									
I2	C7	None Detected									
I2	J5	None Detected									
I3	E4	None Detected									
I4	G7	None Detected									
I4	C8	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:	042407595
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:	04/15/2024 10:00 AM
Analysis Date:	04/18/2024 & 04/20/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-LB01-041024-AB**

EMSL Sample Number:	042407595-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407595
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: 042407595-0016 **Customer Sample:** MFL-LB01-041024-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	J6	None Detected									
I5	F9	None Detected									
I5	A5	None Detected									
I6	B4	None Detected									
I6	H3	None Detected									
I5	J2	None Detected									
I5	D3	None Detected									
I7	A3	None Detected									
I7	A7	None Detected									
I7	G7	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

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:	04/15/2024 10:00 AM
Analysis Date:	04/18/2024 & 04/20/2024
Report Date:	04/23/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank**

EMSL Sample Number:	042407595-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042407595
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: 042407595-0017 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	I7	None Detected									
A1	F4	None Detected									
A1	A7	None Detected									
A2	D6	None Detected									
A2	H5	None Detected									
A1	J3	None Detected									
A1	C3	None Detected									
A2	B9	None Detected									
A2	E8	None Detected									
A2	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042407595

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only: 042407595

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 APR 15 A 9:30

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway Ste 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: Chelsea.Saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Sean Daniel Hallahan
Sampled By Signature: Sean Daniel Hallahan
No. of Samples in Shipment: 16

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ 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)
~~04/08/~~ SH			
MFL-AM01-040824-AB		7301.664	04/08/24 1102
MFL-AM02-040824-AB		7275.744	04/08/24 1117
MFL-AM03-040824-AB		7259.112	04/08/24 1306
MFL-AM04-040824-AB		7244.496	04/08/24 1329
MFL-FB01-040824-AB		0	04/08/24 1200
MFL-AM01-040924-AB		6996.146	04/09/24 1103
MFL-AM02-040924-AB		7286.930	04/09/24 1121

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis. 16

Method of Shipment: FedEx

Relinquished by:	Date/Time:	Received by:	Date/Time:
Sean Daniel Hallahan	04/11/24 1100	FX	4/15/24 850
Relinquished by:	Date/Time:	Received by:	Date/Time

Sample Condition Upon Receipt:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042407595

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042407595

RECEIVED
EMSL
CINNAMINSON, N.J.
2024 APR 15 A 9:30

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-AM03-040924-AB		7233.347	04/09/24 1308
MFL-AM04-040924-AB		7196.977	04/09/24 1327
MFL-FB01-040924-AB		0	04/09/24 1200
MFL-AM01-041024-AB		6850.555	04/10/24 1059
MFL-AM02-041024-AB		7252.507	04/10/24 1116
MFL-AM03-041024-AB		7241.085	04/10/24 1258
MFL-AM04-041024-AB		7234.741	04/10/24 1319
MFL-FB01-041024-AB		0	04/10/24 1200
MFL-LB01-041024-AB		0	04/10/24 1201

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by: Sam Callahan	Date/Time: 04/11/24 1100	Received by: Charles FX	Date/Time: 4/15/24 850
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 04/25/2024 and Shanna Vasser 4/25/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 04/08/2024-04/10/2024
Report No: 42407595

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

April 23, 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 04/15/24 14:36.

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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-040424-HM/MS/I	4041535-01	Air	04/04/24 23:59	04/15/24 14:36
MFL-AM02-040424-HM	4041535-02	Air	04/04/24 23:59	04/15/24 14:36
MFL-AM03-040424-HM	4041535-03	Air	04/04/24 23:59	04/15/24 14:36
MFL-AM04-040424-HM	4041535-04	Air	04/04/24 23:59	04/15/24 14:36
MFL-AM01-040524-HM	4041535-05	Air	04/05/24 23:59	04/15/24 14:36
MFL-AM02-040524-HM	4041535-06	Air	04/05/24 23:59	04/15/24 14:36
MFL-AM03-040524-HM	4041535-07	Air	04/05/24 23:59	04/15/24 14:36
MFL-AM04-040524-HM	4041535-08	Air	04/05/24 23:59	04/15/24 14:36
MFL-FB01-040524-HM	4041535-09	Air	04/05/24 00:00	04/15/24 14:36
MFL-AM01-040624-HM	4041535-10	Air	04/06/24 23:59	04/15/24 14:36
MFL-AM02-040624-HM	4041535-11	Air	04/06/24 23:59	04/15/24 14:36
MFL-AM03-040624-HM	4041535-12	Air	04/06/24 23:59	04/15/24 14:36
MFL-AM04-040624-HM	4041535-13	Air	04/06/24 23:59	04/15/24 14:36
MFL-AM01-040724-HM	4041535-14	Air	04/07/24 23:59	04/15/24 14:36
MFL-AM02-040724-HM	4041535-15	Air	04/07/24 23:59	04/15/24 14:36
MFL-AM03-040724-HM	4041535-16	Air	04/07/24 23:59	04/15/24 14:36
MFL-AM04-040724-HM	4041535-17	Air	04/07/24 23:59	04/15/24 14:36
MFL-FB01-040724-HM	4041535-18	Air	04/07/24 00:00	04/15/24 14:36
MFL-AM01-040824-HM	4041535-19	Air	04/08/24 23:59	04/15/24 14:36
MFL-AM02-040824-HM	4041535-20	Air	04/08/24 23:59	04/15/24 14:36
MFL-AM03-040824-HM/MS/I	4041535-21	Air	04/08/24 23:59	04/15/24 14:36

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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-040824-HM	4041535-22	Air	04/08/24 23:59	04/15/24 14:36
MFL-AM01-040924-HM	4041535-23	Air	04/09/24 23:59	04/15/24 14:36
MFL-AM02-040924-HM	4041535-24	Air	04/09/24 23:59	04/15/24 14:36
MFL-AM03-040924-HM	4041535-25	Air	04/09/24 23:59	04/15/24 14:36
MFL-AM04-040924-HM	4041535-26	Air	04/09/24 23:59	04/15/24 14:36
MFL-FB01-040924-HM	4041535-27	Air	04/09/24 00:00	04/15/24 14:36
MFL-AM01-041024-HM	4041535-28	Air	04/10/24 23:59	04/15/24 14:36
MFL-AM02-041024-HM	4041535-29	Air	04/10/24 23:59	04/15/24 14:36
MFL-AM03-041024-HM	4041535-30	Air	04/10/24 23:59	04/15/24 14:36
MFL-AM04-041024-HM	4041535-31	Air	04/10/24 23:59	04/15/24 14:36

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040424-HM/MS/MS **Lab ID:** 4041535-01 **Sampled:** 04/04/24 23:59
Matrix: Air **Sample Volume:** 1905.311 m³ **Received:** 04/15/24 14:36
Filter ID: **Analysis Date:** 04/16/24 20:39

Comments: Q8508568 - Received in good condition. - Nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.209**	SL	**0.0330**
Arsenic	**7440-38-2**	**1.78**		**0.00800**
Barium	**7440-39-3**	**6.85**	QB-01	**0.914**
Beryllium	**7440-41-7**	**0.0216**		**0.00273**
Cadmium	7440-43-9	0.0196	U	0.0633
Chromium	**7440-47-3**	**4.51**		**1.89**
Cobalt	**7440-48-4**	**0.780**		**0.0372**
Copper	**7440-50-8**	**58.4**		**2.25**
Lead	**7439-92-1**	**0.930**		**0.183**
Manganese	**7439-96-5**	**23.7**	A-01	**1.61**
Molybdenum	**7439-98-7**	**2.25**		**0.307**
Nickel	**7440-02-0**	**2.26**	GC-BS	**0.557**
Selenium	**7782-49-2**	**0.202**		**0.00765**
Thallium	**7440-28-0**	**0.00183**	QB-01, QB-04	**5.03E-4**
Vanadium	**7440-62-2**	**2.71**		**0.0452**
Zinc	7440-66-6	52.0	U	65.6

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040424-HM
Matrix: Air
Lab ID: 4041535-02
Sample Volume: 2018.661 m³
Filter ID:
Sampled: 04/04/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 03:23

Comments: Q8508567 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	2.45	SL	0.0311
Barium	7440-39-3	38.2	QB-01	0.862
Beryllium	7440-41-7	0.0357		0.00258
Cadmium	7440-43-9	0.0859		0.0597
Chromium	7440-47-3	5.62		1.78
Cobalt	7440-48-4	1.41		0.0351
Copper	7440-50-8	102		2.12
Lead	7439-92-1	11.8		0.172
Manganese	7439-96-5	44.6		1.52
Molybdenum	7439-98-7	2.14		0.289
Nickel	7440-02-0	4.58	GC-BS	0.525
Selenium	7782-49-2	0.292		0.00722
Thallium	7440-28-0	0.00372	QB-01, QB-04	4.75E-4
Vanadium	7440-62-2	3.44		0.0426
Zinc	7440-66-6	194		61.9

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040424-HM
Matrix: Air
Lab ID: 4041535-02RE1
Sample Volume: 2018.661 m³
Filter ID:
Sampled: 04/04/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 16:40

Comments: Q8508567 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	3.73		0.00755

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040424-HM
Matrix: Air
Lab ID: 4041535-03
Sample Volume: 2184.23 m³
Filter ID:
Sampled: 04/04/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 03:41

Comments: Q9516864 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0288**
Barium	**7440-39-3**	**5.09**	QB-01	**0.797**
Beryllium	**7440-41-7**	**0.0528**		**0.00238**
Cadmium	7440-43-9	0.0177	U	0.0552
Chromium	**7440-47-3**	**5.47**		**1.65**
Cobalt	**7440-48-4**	**0.916**		**0.0325**
Copper	**7440-50-8**	**35.9**		**1.96**
Lead	**7439-92-1**	**0.791**		**0.159**
Manganese	**7439-96-5**	**21.0**		**1.41**
Molybdenum	**7439-98-7**	**1.57**		**0.267**
Nickel	**7440-02-0**	**2.45**	GC-BS	**0.486**
Selenium	**7782-49-2**	**0.218**		**0.00667**
Thallium	**7440-28-0**	**0.00134**	QB-01, QB-04	**4.39E-4**
Vanadium	**7440-62-2**	**2.33**		**0.0394**
Zinc	7440-66-6	30.6	U	57.2

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040424-HM
Matrix: Air
Lab ID: 4041535-03RE1
Sample Volume: 2184.23 m³
Filter ID:
Sampled: 04/04/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 17:00

Comments: Q9516864 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.424		0.00698

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040424-HM
Matrix: Air
Lab ID: 4041535-04
Sample Volume: 1926.499 m³
Filter ID:
Sampled: 04/04/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 04:01

Comments: Q9516863 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.108**	SL	**0.0326**
Barium	**7440-39-3**	**3.23**	QB-01	**0.904**
Beryllium	**7440-41-7**	**0.0131**		**0.00270**
Cadmium	7440-43-9	0.0201	U	0.0626
Chromium	**7440-47-3**	**2.73**		**1.87**
Cobalt	**7440-48-4**	**0.457**		**0.0368**
Copper	**7440-50-8**	**21.3**		**2.22**
Lead	**7439-92-1**	**0.943**		**0.181**
Manganese	**7439-96-5**	**13.2**		**1.60**
Molybdenum	**7439-98-7**	**1.11**		**0.303**
Nickel	**7440-02-0**	**1.33**	GC-BS	**0.551**
Selenium	**7782-49-2**	**0.162**		**0.00757**
Thallium	**7440-28-0**	**0.00105**	QB-01, QB-04	**4.97E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0447**
Zinc	7440-66-6	45.1	U	64.9

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040424-HM
Matrix: Air
Lab ID: 4041535-04RE1
Sample Volume: 1926.499 m³
Filter ID:
Sampled: 04/04/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 17:20

Comments: Q9516863 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.565		0.00791

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040524-HM
Matrix: Air
Lab ID: 4041535-05
Sample Volume: 2039.946 m³
Filter ID:
Sampled: 04/05/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 04:17

Comments: Q9516862 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0822**	SL	**0.0308**
Barium	**7440-39-3**	**4.67**	QB-01	**0.853**
Beryllium	**7440-41-7**	**0.0159**		**0.00255**
Cadmium	7440-43-9	0.0162	U	0.0591
Chromium	**7440-47-3**	**3.73**		**1.76**
Cobalt	**7440-48-4**	**0.815**		**0.0348**
Copper	**7440-50-8**	**38.1**		**2.10**
Lead	**7439-92-1**	**0.895**		**0.171**
Manganese	**7439-96-5**	**22.2**		**1.51**
Molybdenum	**7439-98-7**	**1.72**		**0.286**
Nickel	**7440-02-0**	**1.94**	GC-BS	**0.520**
Selenium	**7782-49-2**	**0.186**		**0.00715**
Thallium	**7440-28-0**	**0.00180**	QB-01, QB-04	**4.70E-4**
Vanadium	**7440-62-2**	**2.31**		**0.0422**
Zinc	7440-66-6	33.6	U	61.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040524-HM
Matrix: Air
Lab ID: 4041535-05RE1
Sample Volume: 2039.946 m³
Filter ID:
Sampled: 04/05/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 17:39

Comments: Q9516862 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.705		0.00747

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040524-HM
Matrix: Air
Lab ID: 4041535-06
Sample Volume: 2098.788 m³
Filter ID:
Sampled: 04/05/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 04:33

Comments: Q9516861 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.507**	SL	**0.0299**
Barium	**7440-39-3**	**11.7**	QB-01	**0.829**
Beryllium	**7440-41-7**	**0.0282**		**0.00248**
Cadmium	**7440-43-9**	**0.0692**		**0.0574**
Chromium	**7440-47-3**	**3.50**		**1.71**
Cobalt	**7440-48-4**	**0.943**		**0.0338**
Copper	**7440-50-8**	**54.2**		**2.04**
Lead	**7439-92-1**	**3.32**		**0.166**
Manganese	**7439-96-5**	**33.3**		**1.47**
Molybdenum	**7439-98-7**	**1.96**		**0.278**
Nickel	**7440-02-0**	**2.64**	GC-BS	**0.505**
Selenium	**7782-49-2**	**0.259**		**0.00695**
Thallium	**7440-28-0**	**0.00272**	QB-01, QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**2.79**		**0.0410**
Zinc	7440-66-6	52.4	U	59.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040524-HM
Matrix: Air
Lab ID: 4041535-06RE1
Sample Volume: 2098.788 m³
Filter ID:
Sampled: 04/05/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 17:53

Comments: Q9516861 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	1.06		0.00726

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040524-HM
Matrix: Air
Lab ID: 4041535-07
Sample Volume: 2097.322 m³
Filter ID:
Sampled: 04/05/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 05:08

Comments: Q9516860 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0837**	SL	**0.0299**
Barium	**7440-39-3**	**5.75**	QB-01	**0.830**
Beryllium	**7440-41-7**	**0.0718**		**0.00248**
Cadmium	7440-43-9	0.0228	U	0.0575
Chromium	**7440-47-3**	**5.36**		**1.71**
Cobalt	**7440-48-4**	**1.25**		**0.0338**
Copper	**7440-50-8**	**34.6**		**2.04**
Lead	**7439-92-1**	**0.751**		**0.166**
Manganese	**7439-96-5**	**27.8**		**1.47**
Molybdenum	**7439-98-7**	**1.61**		**0.278**
Nickel	**7440-02-0**	**2.92**	GC-BS	**0.506**
Selenium	**7782-49-2**	**0.318**		**0.00695**
Thallium	**7440-28-0**	**0.00210**	QB-01, QB-04	**4.57E-4**
Vanadium	**7440-62-2**	**2.95**		**0.0410**
Zinc	7440-66-6	27.3	U	59.6

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040524-HM
Matrix: Air
Lab ID: 4041535-07RE1
Sample Volume: 2097.322 m³
Filter ID:
Sampled: 04/05/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 18:47

Comments: Q9516860 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.389		0.00727

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040524-HM
Matrix: Air
Lab ID: 4041535-08
Sample Volume: 2183.987 m³
Filter ID:
Sampled: 04/05/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 05:24

Comments: Q9516859 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.168**	SL	**0.0288**
Barium	**7440-39-3**	**4.60**	QB-01	**0.797**
Beryllium	**7440-41-7**	**0.0189**		**0.00238**
Cadmium	7440-43-9	0.0226	U	0.0552
Chromium	**7440-47-3**	**3.73**		**1.65**
Cobalt	**7440-48-4**	**0.692**		**0.0325**
Copper	**7440-50-8**	**24.9**		**1.96**
Lead	**7439-92-1**	**2.42**		**0.159**
Manganese	**7439-96-5**	**20.4**		**1.41**
Molybdenum	**7439-98-7**	**1.00**		**0.267**
Nickel	**7440-02-0**	**2.26**	GC-BS	**0.486**
Selenium	**7782-49-2**	**0.207**		**0.00667**
Thallium	**7440-28-0**	**0.00174**	QB-01, QB-04	**4.39E-4**
Vanadium	**7440-62-2**	**1.74**		**0.0394**
Zinc	7440-66-6	36.5	U	57.2

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040524-HM
Matrix: Air
Lab ID: 4041535-08RE1
Sample Volume: 2183.987 m³
Filter ID:
Sampled: 04/05/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 19:03

Comments: Q9516859 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	2.13		0.00698

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-040524-HM
Matrix: Air
Lab ID: 4041535-09
Sample Volume: 2039.946 m³
Filter ID:
Sampled: 04/05/24 00:00
Received: 04/15/24 14:36
Analysis Date: 04/17/24 05:41

Comments: Q9516857 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0144	U, SL	0.0308
Barium	7440-39-3	0.495	U, QB-01	0.853
Beryllium	7440-41-7	1.84E-4	U	0.00255
Cadmium	7440-43-9	0.00199	U	0.0591
Chromium	7440-47-3	0.635	U	1.76
Cobalt	7440-48-4	0.00949	U	0.0348
Copper	7440-50-8	1.17	U	2.10
Lead	7439-92-1	0.0454	U	0.171
Manganese	7439-96-5	0.260	U	1.51
Molybdenum	7439-98-7	0.104	U	0.286
Nickel	7440-02-0	0.231	GC-BS, U	0.520
Selenium	7782-49-2	0.00338	U	0.00715
Thallium	7440-28-0	1.74E-4	QB-01, QB-04, U	4.70E-4
Vanadium	7440-62-2	0.00792	U	0.0422
Zinc	7440-66-6	17.7	U	61.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-040524-HM
Matrix: Air
Lab ID: 4041535-09RE1
Sample Volume: 2039.946 m³
Filter ID:
Sampled: 04/05/24 00:00
Received: 04/15/24 14:36
Analysis Date: 04/18/24 19:20

Comments: Q9516857 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.00950**	FB-01	**0.00747**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040624-HM **Lab ID:** 4041535-10 **Sampled:** 04/06/24 23:59
Matrix: Air **Sample Volume:** 2020 m³ **Received:** 04/15/24 14:36
Filter ID: **Analysis Date:** 04/17/24 05:55

Comments: Q9516858 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0311**
Barium	**7440-39-3**	**5.69**	QB-01	**0.862**
Beryllium	**7440-41-7**	**0.0171**		**0.00258**
Cadmium	7440-43-9	0.0417	U	0.0597
Chromium	**7440-47-3**	**3.56**		**1.78**
Cobalt	**7440-48-4**	**0.785**		**0.0351**
Copper	**7440-50-8**	**81.6**		**2.12**
Lead	**7439-92-1**	**1.21**		**0.172**
Manganese	**7439-96-5**	**21.4**		**1.52**
Molybdenum	**7439-98-7**	**2.33**		**0.289**
Nickel	**7440-02-0**	**1.71**	GC-BS	**0.525**
Selenium	**7782-49-2**	**0.198**		**0.00722**
Thallium	**7440-28-0**	**0.00210**	QB-01, QB-04	**4.74E-4**
Vanadium	**7440-62-2**	**1.99**		**0.0426**
Zinc	7440-66-6	44.5	U	61.9

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Tetra Tech, Inc.
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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040624-HM
Matrix: Air
Lab ID: 4041535-10RE1
Sample Volume: 2020 m³
Filter ID:
Sampled: 04/06/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 20:13

Comments: Q9516858 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	1.26		0.00755

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040624-HM
Matrix: Air
Lab ID: 4041535-11
Sample Volume: 2039.402 m³
Filter ID:
Sampled: 04/06/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 07:26

Comments: Q9516856 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.174**	SL	**0.0308**
Barium	**7440-39-3**	**5.34**	QB-01	**0.854**
Beryllium	**7440-41-7**	**0.0201**		**0.00255**
Cadmium	**7440-43-9**	**0.130**		**0.0591**
Chromium	**7440-47-3**	**2.96**		**1.76**
Cobalt	**7440-48-4**	**0.642**		**0.0348**
Copper	**7440-50-8**	**71.9**		**2.10**
Lead	**7439-92-1**	**2.26**		**0.171**
Manganese	**7439-96-5**	**19.2**		**1.51**
Molybdenum	**7439-98-7**	**1.22**		**0.286**
Nickel	**7440-02-0**	**1.87**	GC-BS	**0.520**
Selenium	**7782-49-2**	**0.242**		**0.00715**
Thallium	**7440-28-0**	**0.00245**	QB-01, QB-04	**4.70E-4**
Vanadium	**7440-62-2**	**1.83**		**0.0422**
Zinc	7440-66-6	43.1	U	61.3

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040624-HM
Matrix: Air
Lab ID: 4041535-11RE1
Sample Volume: 2039.402 m³
Filter ID:
Sampled: 04/06/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 20:32

Comments: Q9516856 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.611		0.00748

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040624-HM
Matrix: Air
Lab ID: 4041535-12
Sample Volume: 1896.547 m³
Filter ID:
Sampled: 04/06/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 07:46

Comments: Q8508580 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0880**	SL	**0.0331**
Barium	**7440-39-3**	**4.92**	QB-01	**0.918**
Beryllium	**7440-41-7**	**0.0619**		**0.00275**
Cadmium	7440-43-9	0.0245	U	0.0636
Chromium	**7440-47-3**	**4.82**		**1.90**
Cobalt	**7440-48-4**	**1.03**		**0.0374**
Copper	**7440-50-8**	**45.9**		**2.26**
Lead	**7439-92-1**	**0.878**		**0.184**
Manganese	**7439-96-5**	**22.6**		**1.62**
Molybdenum	**7439-98-7**	**2.38**		**0.308**
Nickel	**7440-02-0**	**2.70**	GC-BS	**0.559**
Selenium	**7782-49-2**	**0.279**		**0.00769**
Thallium	**7440-28-0**	**0.00261**	QB-01, QB-04	**5.05E-4**
Vanadium	**7440-62-2**	**2.35**		**0.0454**
Zinc	7440-66-6	28.8	U	65.9

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040624-HM
Matrix: Air
Lab ID: 4041535-12RE1
Sample Volume: 1896.547 m³
Filter ID:
Sampled: 04/06/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 20:51

Comments: Q8508580 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.371		0.00804

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040624-HM
Matrix: Air
Lab ID: 4041535-13
Sample Volume: 1956.66 m³
Filter ID:
Sampled: 04/06/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 08:03

Comments: Q9516855 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.135**	SL	**0.0321**
Barium	**7440-39-3**	**4.15**	QB-01	**0.890**
Beryllium	**7440-41-7**	**0.0131**		**0.00266**
Cadmium	7440-43-9	0.0239	U	0.0616
Chromium	**7440-47-3**	**2.87**		**1.84**
Cobalt	**7440-48-4**	**0.469**		**0.0363**
Copper	**7440-50-8**	**39.4**		**2.19**
Lead	**7439-92-1**	**2.14**		**0.178**
Manganese	**7439-96-5**	**14.2**		**1.57**
Molybdenum	**7439-98-7**	**1.28**		**0.299**
Nickel	**7440-02-0**	**1.40**	GC-BS	**0.542**
Selenium	**7782-49-2**	**0.184**		**0.00745**
Thallium	**7440-28-0**	**0.00216**	QB-01, QB-04	**4.90E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0440**
Zinc	7440-66-6	42.2	U	63.9

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040624-HM
Matrix: Air
Lab ID: 4041535-13RE1
Sample Volume: 1956.66 m³
Filter ID:
Sampled: 04/06/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 21:07

Comments: Q9516855 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	2.39		0.00779

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040724-HM **Lab ID:** 4041535-14 **Sampled:** 04/07/24 23:59
Matrix: Air **Sample Volume:** 2045.71 m³ **Received:** 04/15/24 14:36
Filter ID: **Analysis Date:** 04/17/24 08:19

Comments: Q9516854 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0650**	SL	**0.0307**
Barium	**7440-39-3**	**3.36**	QB-01	**0.851**
Beryllium	**7440-41-7**	**0.00864**		**0.00255**
Cadmium	7440-43-9	0.0186	U	0.0589
Chromium	**7440-47-3**	**2.39**		**1.76**
Cobalt	**7440-48-4**	**0.383**		**0.0347**
Copper	**7440-50-8**	**92.9**		**2.09**
Lead	**7439-92-1**	**0.891**		**0.170**
Manganese	**7439-96-5**	**11.1**		**1.50**
Molybdenum	**7439-98-7**	**5.01**		**0.286**
Nickel	**7440-02-0**	**0.999**	GC-BS	**0.519**
Selenium	**7782-49-2**	**0.126**		**0.00713**
Thallium	**7440-28-0**	**0.00114**	QB-01, QB-04	**4.68E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0421**
Zinc	7440-66-6	39.7	U	61.1

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040724-HM
Matrix: Air
Lab ID: 4041535-14RE1
Sample Volume: 2045.71 m³
Filter ID:
Sampled: 04/07/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 21:23

Comments: Q9516854 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.489		0.00745

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040724-HM
Matrix: Air
Lab ID: 4041535-15
Sample Volume: 2108.264 m³
Filter ID:
Sampled: 04/07/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 08:35

Comments: Q9516853 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.150**	SL	**0.0298**
Barium	**7440-39-3**	**4.68**	QB-01	**0.826**
Beryllium	**7440-41-7**	**0.0153**		**0.00247**
Cadmium	7440-43-9	0.0198	U	0.0572
Chromium	**7440-47-3**	**2.15**		**1.71**
Cobalt	**7440-48-4**	**0.492**		**0.0336**
Copper	**7440-50-8**	**32.0**		**2.03**
Lead	**7439-92-1**	**1.31**		**0.165**
Manganese	**7439-96-5**	**14.6**		**1.46**
Molybdenum	**7439-98-7**	**1.36**		**0.277**
Nickel	**7440-02-0**	**1.39**	GC-BS	**0.503**
Selenium	**7782-49-2**	**0.152**		**0.00691**
Thallium	**7440-28-0**	**0.00127**	QB-01, QB-04	**4.55E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0408**
Zinc	7440-66-6	32.4	U	59.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040724-HM
Matrix: Air
Lab ID: 4041535-15RE1
Sample Volume: 2108.264 m³
Filter ID:
Sampled: 04/07/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 21:38

Comments: Q9516853 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.531		0.00723

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040724-HM
Matrix: Air
Lab ID: 4041535-16
Sample Volume: 2466.123 m³
Filter ID:
Sampled: 04/07/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 08:51

Comments: Q9516852 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0550**	SL	**0.0255**
Barium	**7440-39-3**	**2.06**	QB-01	**0.706**
Beryllium	**7440-41-7**	**0.00547**		**0.00211**
Cadmium	7440-43-9	0.00995	U	0.0489
Chromium	7440-47-3	1.23	U	1.46
Cobalt	**7440-48-4**	**0.138**		**0.0288**
Copper	**7440-50-8**	**69.1**		**1.74**
Lead	**7439-92-1**	**2.06**		**0.141**
Manganese	**7439-96-5**	**3.64**		**1.25**
Molybdenum	**7439-98-7**	**1.25**		**0.237**
Nickel	**7440-02-0**	**0.660**	GC-BS	**0.430**
Selenium	**7782-49-2**	**0.0604**		**0.00591**
Thallium	**7440-28-0**	**5.84E-4**	QB-01, QB-04	**3.89E-4**
Vanadium	**7440-62-2**	**0.331**		**0.0349**
Zinc	7440-66-6	42.4	U	50.7

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040724-HM
Matrix: Air
Lab ID: 4041535-16RE1
Sample Volume: 2466.123 m³
Filter ID:
Sampled: 04/07/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 21:53

Comments: Q9516852 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.120		0.00618

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040724-HM
Matrix: Air
Lab ID: 4041535-17
Sample Volume: 2162.34 m³
Filter ID:
Sampled: 04/07/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 09:07

Comments: Q9516851 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0720**	SL	**0.0290**
Barium	**7440-39-3**	**2.29**	QB-01	**0.805**
Beryllium	**7440-41-7**	**0.00626**		**0.00241**
Cadmium	7440-43-9	0.00944	U	0.0558
Chromium	**7440-47-3**	**1.71**		**1.66**
Cobalt	**7440-48-4**	**0.236**		**0.0328**
Copper	**7440-50-8**	**23.2**		**1.98**
Lead	**7439-92-1**	**0.821**		**0.161**
Manganese	**7439-96-5**	**7.05**		**1.42**
Molybdenum	**7439-98-7**	**1.03**		**0.270**
Nickel	**7440-02-0**	**0.768**	GC-BS	**0.491**
Selenium	**7782-49-2**	**0.0933**		**0.00674**
Thallium	**7440-28-0**	**6.87E-4**	QB-01, QB-04	**4.43E-4**
Vanadium	**7440-62-2**	**0.556**		**0.0398**
Zinc	7440-66-6	24.4	U	57.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040724-HM
Matrix: Air
Lab ID: 4041535-17RE1
Sample Volume: 2162.34 m³
Filter ID:
Sampled: 04/07/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 22:10

Comments: Q9516851 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.304		0.00705

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-040724-HM
Matrix: Air
Lab ID: 4041535-18
Sample Volume: 2045.71 m³
Filter ID:
Sampled: 04/07/24 00:00
Received: 04/15/24 14:36
Analysis Date: 04/17/24 09:23

Comments: Q9516848 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0140	SL, U	0.0307
Barium	7440-39-3	0.513	QB-01, U	0.851
Beryllium	7440-41-7	7.93E-5	U	0.00255
Cadmium	7440-43-9	0.00197	U	0.0589
Chromium	7440-47-3	0.695	U	1.76
Cobalt	7440-48-4	0.00870	U	0.0347
Copper	7440-50-8	1.34	U	2.09
Lead	7439-92-1	0.0525	U	0.170
Manganese	7439-96-5	0.213	U	1.50
Molybdenum	7439-98-7	0.0991	U	0.286
Nickel	7440-02-0	0.211	GC-BS, U	0.519
Selenium	7782-49-2	0.00175	U	0.00713
Thallium	7440-28-0	1.62E-4	QB-01, QB-04, U	4.68E-4
Vanadium	7440-62-2	0.00873	U	0.0421
Zinc	7440-66-6	18.3	U	61.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-040724-HM
Matrix: Air
Lab ID: 4041535-18RE1
Sample Volume: 2045.71 m³
Filter ID:
Sampled: 04/07/24 00:00
Received: 04/15/24 14:36
Analysis Date: 04/18/24 22:26

Comments: Q9516848 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.00787**	FB-01	**0.00745**

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040824-HM
Matrix: Air
Lab ID: 4041535-19
Sample Volume: 2054.28 m³
Filter ID:
Sampled: 04/08/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 09:36

Comments: Q9516850 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0881**	SL	**0.0306**
Barium	**7440-39-3**	**3.90**	QB-01	**0.847**
Beryllium	**7440-41-7**	**0.0104**		**0.00253**
Cadmium	7440-43-9	0.0174	U	0.0587
Chromium	**7440-47-3**	**3.64**		**1.75**
Cobalt	**7440-48-4**	**0.512**		**0.0345**
Copper	**7440-50-8**	**99.0**		**2.08**
Lead	**7439-92-1**	**0.592**		**0.169**
Manganese	**7439-96-5**	**14.8**		**1.50**
Molybdenum	**7439-98-7**	**5.44**		**0.284**
Nickel	**7440-02-0**	**1.45**	GC-BS	**0.516**
Selenium	**7782-49-2**	**0.177**		**0.00710**
Thallium	**7440-28-0**	**0.00142**	QB-01, QB-04	**4.66E-4**
Vanadium	**7440-62-2**	**1.46**		**0.0419**
Zinc	7440-66-6	23.6	U	60.8

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040824-HM
Matrix: Air
Lab ID: 4041535-19RE1
Sample Volume: 2054.28 m³
Filter ID:
Sampled: 04/08/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 22:40

Comments: Q9516850 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.770		0.00742

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040824-HM
Matrix: Air
Lab ID: 4041535-20
Sample Volume: 2147.825 m³
Filter ID:
Sampled: 04/08/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 09:51

Comments: Q9516849 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0292**
Barium	**7440-39-3**	**6.38**	QB-01	**0.811**
Beryllium	**7440-41-7**	**0.0150**		**0.00242**
Cadmium	**7440-43-9**	**0.0649**		**0.0561**
Chromium	**7440-47-3**	**2.36**		**1.67**
Cobalt	**7440-48-4**	**0.515**		**0.0330**
Copper	**7440-50-8**	**25.9**		**1.99**
Lead	**7439-92-1**	**1.43**		**0.162**
Manganese	**7439-96-5**	**15.6**		**1.43**
Molybdenum	**7439-98-7**	**1.22**		**0.272**
Nickel	**7440-02-0**	**1.52**	GC-BS	**0.494**
Selenium	**7782-49-2**	**0.205**		**0.00679**
Thallium	**7440-28-0**	**0.00152**	QB-01, QB-04	**4.46E-4**
Vanadium	**7440-62-2**	**1.51**		**0.0401**
Zinc	7440-66-6	41.0	U	58.2

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040824-HM
Matrix: Air
Lab ID: 4041535-20RE1
Sample Volume: 2147.825 m³
Filter ID:
Sampled: 04/08/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 23:29

Comments: Q9516849 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.525		0.00710

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040824-HM/MS/MS **Lab ID:** 4041535-21 **Sampled:** 04/08/24 23:59
Matrix: Air **Sample Volume:** 1944.852 m³ **Received:** 04/15/24 14:36
Filter ID: **Analysis Date:** 04/17/24 00:35

Comments: Q9516847 - Received in good condition. - Nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0857**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.428**		**0.00784**
Barium	**7440-39-3**	**3.30**	QB-01	**0.895**
Beryllium	**7440-41-7**	**0.0285**		**0.00268**
Cadmium	7440-43-9	0.0187	U	0.0620
Chromium	**7440-47-3**	**2.61**		**1.85**
Cobalt	**7440-48-4**	**0.512**		**0.0365**
Copper	**7440-50-8**	**41.4**		**2.20**
Lead	**7439-92-1**	**0.969**	D-F	**0.179**
Manganese	**7439-96-5**	**12.5**		**1.58**
Molybdenum	**7439-98-7**	**2.35**		**0.300**
Nickel	**7440-02-0**	**1.49**	GC-BS	**0.545**
Selenium	**7782-49-2**	**0.211**		**0.00750**
Thallium	**7440-28-0**	**0.00165**	QB-01, QB-04	**4.93E-4**
Vanadium	**7440-62-2**	**1.36**		**0.0443**
Zinc	7440-66-6	25.7	U	64.2

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040824-HM
Matrix: Air
Lab ID: 4041535-22
Sample Volume: 2080.337 m³
Filter ID:
Sampled: 04/08/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 11:25

Comments: Q9516846 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0302**
Barium	**7440-39-3**	**4.35**	QB-01	**0.837**
Beryllium	**7440-41-7**	**0.0163**		**0.00250**
Cadmium	7440-43-9	0.0136	U	0.0580
Chromium	**7440-47-3**	**2.74**		**1.73**
Cobalt	**7440-48-4**	**0.516**		**0.0341**
Copper	**7440-50-8**	**30.5**		**2.06**
Lead	**7439-92-1**	**1.06**		**0.167**
Manganese	**7439-96-5**	**16.1**		**1.48**
Molybdenum	**7439-98-7**	**1.84**		**0.281**
Selenium	**7782-49-2**	**0.210**		**0.00701**
Thallium	**7440-28-0**	**0.00185**	QB-01, QB-04	**4.61E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0414**
Zinc	7440-66-6	31.4	U	60.1

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040824-HM
Matrix: Air
Lab ID: 4041535-22RE1
Sample Volume: 2080.337 m³
Filter ID:
Sampled: 04/08/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/18/24 23:46

Comments: Q9516846 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.639		0.00733
Nickel	7440-02-0	1.30	GC-BS	0.510

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040924-HM
Matrix: Air
Lab ID: 4041535-23
Sample Volume: 2046.567 m³
Filter ID:
Sampled: 04/09/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 11:45

Comments: Q9516845 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0885**	SL	**0.0307**
Barium	**7440-39-3**	**2.92**	QB-01	**0.851**
Beryllium	**7440-41-7**	**0.00843**		**0.00254**
Cadmium	7440-43-9	0.0109	U	0.0589
Chromium	**7440-47-3**	**2.03**		**1.76**
Cobalt	**7440-48-4**	**0.335**		**0.0347**
Copper	**7440-50-8**	**104**		**2.09**
Lead	**7439-92-1**	**0.354**		**0.170**
Manganese	**7439-96-5**	**9.94**		**1.50**
Molybdenum	**7439-98-7**	**6.66**		**0.285**
Selenium	**7782-49-2**	**0.189**		**0.00712**
Thallium	**7440-28-0**	**0.00145**	QB-01, QB-04	**4.68E-4**
Vanadium	**7440-62-2**	**1.14**		**0.0421**
Zinc	7440-66-6	19.6	U	61.1

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-040924-HM
Matrix: Air
Lab ID: 4041535-23RE1
Sample Volume: 2046.567 m³
Filter ID:
Sampled: 04/09/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/19/24 00:00

Comments: Q9516845 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.423		0.00745
Nickel	7440-02-0	0.914	GC-BS	0.518

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040924-HM
Matrix: Air
Lab ID: 4041535-24
Sample Volume: 2141.547 m³
Filter ID:
Sampled: 04/09/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 12:00

Comments: Q9516844 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.140**	SL	**0.0293**
Barium	**7440-39-3**	**4.67**	QB-01	**0.813**
Beryllium	**7440-41-7**	**0.0105**		**0.00243**
Cadmium	7440-43-9	0.0113	U	0.0563
Chromium	**7440-47-3**	**1.91**		**1.68**
Cobalt	**7440-48-4**	**0.381**		**0.0331**
Copper	**7440-50-8**	**24.9**		**2.00**
Lead	**7439-92-1**	**0.673**		**0.163**
Manganese	**7439-96-5**	**11.3**		**1.44**
Molybdenum	**7439-98-7**	**1.46**		**0.273**
Selenium	**7782-49-2**	**0.205**		**0.00681**
Thallium	**7440-28-0**	**0.00152**	QB-01, QB-04	**4.47E-4**
Vanadium	**7440-62-2**	**1.26**		**0.0402**
Zinc	7440-66-6	20.5	U	58.3

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-040924-HM
Matrix: Air
Lab ID: 4041535-24RE1
Sample Volume: 2141.547 m³
Filter ID:
Sampled: 04/09/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/19/24 00:15

Comments: Q9516844 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.369		0.00712
Nickel	7440-02-0	1.13	GC-BS	0.495

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040924-HM
Matrix: Air
Lab ID: 4041535-25
Sample Volume: 1928.631 m³
Filter ID:
Sampled: 04/09/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 12:15

Comments: Q9516843 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0326**
Barium	**7440-39-3**	**3.69**	QB-01	**0.903**
Beryllium	**7440-41-7**	**0.0226**		**0.00270**
Cadmium	7440-43-9	0.0365	U	0.0625
Chromium	**7440-47-3**	**2.38**		**1.86**
Cobalt	**7440-48-4**	**0.456**		**0.0368**
Copper	**7440-50-8**	**40.7**		**2.22**
Lead	**7439-92-1**	**0.696**		**0.181**
Manganese	**7439-96-5**	**12.8**		**1.59**
Molybdenum	**7439-98-7**	**2.50**		**0.303**
Selenium	**7782-49-2**	**0.225**		**0.00756**
Thallium	**7440-28-0**	**0.00156**	QB-01, QB-04	**4.97E-4**
Vanadium	**7440-62-2**	**1.40**		**0.0446**
Zinc	7440-66-6	25.4	U	64.8

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-040924-HM
Matrix: Air
Lab ID: 4041535-25RE1
Sample Volume: 1928.631 m³
Filter ID:
Sampled: 04/09/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/19/24 00:30

Comments: Q9516843 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.352		0.00790
Nickel	7440-02-0	1.28	GC-BS	0.550

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REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040924-HM
Matrix: Air
Lab ID: 4041535-26
Sample Volume: 2011.208 m³
Filter ID:
Sampled: 04/09/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 12:30

Comments: Q9516842 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.105**	SL	**0.0312**
Barium	**7440-39-3**	**3.26**	QB-01	**0.866**
Beryllium	**7440-41-7**	**0.00948**		**0.00259**
Cadmium	7440-43-9	0.00976	U	0.0599
Chromium	7440-47-3	1.70	U	1.79
Cobalt	**7440-48-4**	**0.298**		**0.0353**
Copper	**7440-50-8**	**25.9**		**2.13**
Lead	**7439-92-1**	**0.729**		**0.173**
Manganese	**7439-96-5**	**9.68**		**1.53**
Molybdenum	**7439-98-7**	**1.84**		**0.290**
Selenium	**7782-49-2**	**0.183**		**0.00725**
Thallium	**7440-28-0**	**0.00132**	QB-01, QB-04	**4.76E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0428**
Zinc	7440-66-6	21.1	U	62.1

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-040924-HM
Matrix: Air
Lab ID: 4041535-26RE1
Sample Volume: 2011.208 m³
Filter ID:
Sampled: 04/09/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/19/24 00:45

Comments: Q9516842 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.372		0.00758
Nickel	7440-02-0	0.893	GC-BS	0.527

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SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-040924-HM
Matrix: Air
Lab ID: 4041535-27
Sample Volume: 2046.567 m³
Filter ID:
Sampled: 04/09/24 00:00
Received: 04/15/24 14:36
Analysis Date: 04/17/24 13:01

Comments: Q9516837 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0136	SL, U	0.0307
Barium	7440-39-3	0.540	QB-01, U	0.851
Beryllium	7440-41-7	8.16E-5	U	0.00254
Cadmium	7440-43-9	0.00136	U	0.0589
Chromium	7440-47-3	1.08	U	1.76
Cobalt	7440-48-4	0.00732	U	0.0347
Copper	7440-50-8	0.337	U	2.09
Lead	7439-92-1	0.0426	U	0.170
Manganese	7439-96-5	0.202	U	1.50
Molybdenum	7439-98-7	0.115	U	0.285
Selenium	7782-49-2	0.00208	U	0.00712
Thallium	7440-28-0	2.12E-4	QB-01, QB-04, U	4.68E-4
Vanadium	7440-62-2	0.00157	U	0.0421
Zinc	7440-66-6	12.1	U	61.1

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-040924-HM
Matrix: Air
Lab ID: 4041535-27RE1
Sample Volume: 2046.567 m³
Filter ID:
Sampled: 04/09/24 00:00
Received: 04/15/24 14:36
Analysis Date: 04/19/24 01:13

Comments: Q9516837 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.00777**	FB-01	**0.00745**
Nickel	7440-02-0	0.214	GC-BS, U	0.518

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REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-041024-HM
Matrix: Air
Lab ID: 4041535-28
Sample Volume: 2043.139 m³
Filter ID:
Sampled: 04/10/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 13:14

Comments: Q9516841 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0757**	SL	**0.0307**
Barium	**7440-39-3**	**3.00**	QB-01	**0.852**
Beryllium	**7440-41-7**	**0.00768**		**0.00255**
Cadmium	7440-43-9	0.0105	U	0.0590
Chromium	7440-47-3	1.72	U	1.76
Cobalt	**7440-48-4**	**0.275**		**0.0347**
Copper	**7440-50-8**	**79.2**		**2.09**
Lead	**7439-92-1**	**0.491**		**0.170**
Manganese	**7439-96-5**	**9.40**		**1.51**
Molybdenum	**7439-98-7**	**5.34**		**0.286**
Selenium	**7782-49-2**	**0.219**		**0.00714**
Thallium	**7440-28-0**	**0.00180**	QB-01, QB-04	**4.69E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0421**
Zinc	7440-66-6	17.1	U	61.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-041024-HM
Matrix: Air
Lab ID: 4041535-28RE1
Sample Volume: 2043.139 m³
Filter ID:
Sampled: 04/10/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/19/24 01:27

Comments: Q9516841 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.434		0.00746
Nickel	7440-02-0	0.947	GC-BS	0.519

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041024-HM
Matrix: Air
Lab ID: 4041535-29
Sample Volume: 2203.489 m³
Filter ID:
Sampled: 04/10/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 13:30

Comments: Q9516840 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.191**	SL	**0.0285**
Barium	**7440-39-3**	**6.14**	QB-01	**0.790**
Beryllium	**7440-41-7**	**0.0124**		**0.00236**
Cadmium	7440-43-9	0.0118	U	0.0547
Chromium	**7440-47-3**	**1.96**		**1.63**
Cobalt	**7440-48-4**	**0.410**		**0.0322**
Copper	**7440-50-8**	**23.9**		**1.94**
Lead	**7439-92-1**	**0.805**		**0.158**
Manganese	**7439-96-5**	**12.9**		**1.40**
Molybdenum	**7439-98-7**	**1.46**		**0.265**
Selenium	**7782-49-2**	**0.229**		**0.00662**
Thallium	**7440-28-0**	**0.00173**	QB-01, QB-04	**4.35E-4**
Vanadium	**7440-62-2**	**1.64**		**0.0391**
Zinc	7440-66-6	19.9	U	56.7

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REPORTED: 04/23/24 16:08
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AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041024-HM
Matrix: Air
Lab ID: 4041535-29RE1
Sample Volume: 2203.489 m³
Filter ID:
Sampled: 04/10/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/19/24 01:41

Comments: Q9516840 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.269		0.00692
Nickel	7440-02-0	1.36	GC-BS	0.481

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REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041024-HM
Matrix: Air
Lab ID: 4041535-30
Sample Volume: 1927.82 m³
Filter ID:
Sampled: 04/10/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 13:44

Comments: Q9516839 - Received in good condition. - Nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.162**	SL	**0.0326**
Barium	**7440-39-3**	**4.61**	QB-01	**0.903**
Beryllium	**7440-41-7**	**0.0293**		**0.00270**
Cadmium	7440-43-9	0.0256	U	0.0625
Chromium	**7440-47-3**	**2.71**		**1.87**
Cobalt	**7440-48-4**	**0.610**		**0.0368**
Copper	**7440-50-8**	**40.9**		**2.22**
Lead	**7439-92-1**	**1.04**		**0.181**
Manganese	**7439-96-5**	**17.5**		**1.60**
Molybdenum	**7439-98-7**	**2.29**		**0.303**
Selenium	**7782-49-2**	**0.287**		**0.00756**
Thallium	**7440-28-0**	**0.00218**	QB-01, QB-04	**4.97E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0446**
Zinc	7440-66-6	25.8	U	64.8

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REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041024-HM
Matrix: Air
Lab ID: 4041535-30RE1
Sample Volume: 1927.82 m³
Filter ID:
Sampled: 04/10/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/19/24 02:51

Comments: Q9516839 - Received in good condition. - Nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.483**		**0.00791**
Nickel	**7440-02-0**	**1.54**	GC-BS	**0.550**

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041024-HM
Matrix: Air
Lab ID: 4041535-31
Sample Volume: 1958.661 m³
Filter ID:
Sampled: 04/10/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/17/24 15:17

Comments: Q9516838 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0321**
Barium	**7440-39-3**	**3.98**	QB-01	**0.889**
Beryllium	**7440-41-7**	**0.0109**		**0.00266**
Cadmium	7440-43-9	0.0119	U	0.0616
Chromium	**7440-47-3**	**1.93**		**1.84**
Cobalt	**7440-48-4**	**0.336**		**0.0362**
Copper	**7440-50-8**	**28.1**		**2.18**
Lead	**7439-92-1**	**0.909**		**0.178**
Manganese	**7439-96-5**	**11.5**		**1.57**
Molybdenum	**7439-98-7**	**2.14**		**0.298**
Selenium	**7782-49-2**	**0.242**		**0.00744**
Thallium	**7440-28-0**	**0.00213**	QB-01, QB-04	**4.89E-4**
Vanadium	**7440-62-2**	**1.39**		**0.0439**
Zinc	7440-66-6	20.8	U	63.8

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041024-HM
Matrix: Air
Lab ID: 4041535-31RE1
Sample Volume: 1958.661 m³
Filter ID:
Sampled: 04/10/24 23:59
Received: 04/15/24 14:36
Analysis Date: 04/19/24 03:08

Comments: Q9516838 - Received in good condition.

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.309**		**0.00778**
Nickel	**7440-02-0**	**1.04**	GC-BS	**0.542**

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
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 2404050 - B4D1605										
Calibration Blank (2404050-CCB1)				Prepared & Analyzed: 04/16/24						
Antimony	0.813		ng/l							
Arsenic	10.8		ng/l							
Barium	1.60		ng/l							
Beryllium	-0.490		ng/l							U
Cadmium	0.0563		ng/l							
Chromium	0.580		ng/l							
Cobalt	0.487		ng/l							
Copper	118		ng/l							
Lead	3.86		ng/l							
Manganese	5.32		ng/l							
Molybdenum	13.7		ng/l							
Nickel	1.54		ng/l							
Selenium	10.3		ng/l							
Thallium	1.90		ng/l							QB-04
Vanadium	-64.2		ng/l							U
Zinc	-57.4		ng/l							U
Calibration Blank (2404050-CCB2)				Prepared & Analyzed: 04/16/24						
Antimony	0.875		ng/l							
Arsenic	15.0		ng/l							
Barium	3.48		ng/l							
Beryllium	-1.12		ng/l							U
Cadmium	0.268		ng/l							
Chromium	3.08		ng/l							
Cobalt	0.820		ng/l							
Copper	86.3		ng/l							
Lead	3.43		ng/l							
Manganese	5.33		ng/l							
Molybdenum	3.50		ng/l							
Nickel	2.29		ng/l							
Selenium	5.15		ng/l							
Thallium	1.61		ng/l							QB-04
Vanadium	-66.2		ng/l							U
Zinc	-51.4		ng/l							U
Calibration Blank (2404050-CCB3)				Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	0.353		ng/l							
Arsenic	14.0		ng/l							
Barium	1.06		ng/l							
Beryllium	-1.45		ng/l							U

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REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
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 2404050 - B4D1605										
Calibration Blank (2404050-CCB3) Contin				Prepared: 04/16/24 Analyzed: 04/17/24						
Cadmium	0.0914		ng/l							
Chromium	1.85		ng/l							
Cobalt	0.553		ng/l							
Copper	57.6		ng/l							
Lead	2.13		ng/l							
Manganese	3.18		ng/l							
Molybdenum	2.72		ng/l							
Nickel	2.45		ng/l							
Selenium	-10.8		ng/l							U
Thallium	1.68		ng/l							QB-04
Vanadium	-67.5		ng/l							U
Zinc	-50.2		ng/l							U
Calibration Blank (2404050-CCB4)				Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	0.668		ng/l							
Arsenic	17.8		ng/l							QB-04
Barium	0.326		ng/l							
Beryllium	-1.61		ng/l							U
Cadmium	0.232		ng/l							
Chromium	0.866		ng/l							
Cobalt	0.403		ng/l							
Copper	67.0		ng/l							
Lead	2.16		ng/l							
Manganese	4.11		ng/l							
Molybdenum	4.14		ng/l							
Nickel	3.49		ng/l							
Selenium	-4.13		ng/l							U
Thallium	2.26		ng/l							QB-04
Vanadium	-75.8		ng/l							U
Zinc	-34.1		ng/l							U
Calibration Blank (2404050-CCB5)				Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	0.634		ng/l							
Arsenic	16.6		ng/l							
Barium	1.56		ng/l							
Beryllium	-1.69		ng/l							U
Cadmium	0.180		ng/l							
Chromium	3.40		ng/l							
Cobalt	0.586		ng/l							
Copper	76.8		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
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 2404050 - B4D1605										
Calibration Blank (2404050-CCB5) Contin				Prepared: 04/16/24 Analyzed: 04/17/24						
Lead	2.26		ng/l							
Manganese	6.01		ng/l							
Molybdenum	4.85		ng/l							
Nickel	3.83		ng/l							
Selenium	-13.5		ng/l							U
Thallium	2.54		ng/l							QB-04
Vanadium	-76.9		ng/l							U
Zinc	-38.2		ng/l							U
Calibration Blank (2404050-CCB6)				Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	0.726		ng/l							
Arsenic	17.5		ng/l							QB-04
Barium	2.49		ng/l							
Beryllium	-1.82		ng/l							U
Cadmium	0.280		ng/l							
Chromium	5.32		ng/l							
Cobalt	0.864		ng/l							
Copper	82.8		ng/l							
Lead	2.74		ng/l							
Manganese	7.19		ng/l							
Molybdenum	5.29		ng/l							
Nickel	4.12		ng/l							
Selenium	-3.13		ng/l							U
Thallium	2.67		ng/l							QB-04
Vanadium	-82.3		ng/l							U
Zinc	-39.5		ng/l							U
Calibration Blank (2404050-CCB7)				Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	0.788		ng/l							
Arsenic	15.7		ng/l							
Barium	5.52		ng/l							
Beryllium	-1.78		ng/l							U
Cadmium	0.427		ng/l							
Chromium	9.28		ng/l							
Cobalt	1.48		ng/l							
Copper	132		ng/l							
Lead	6.09		ng/l							
Manganese	15.8		ng/l							
Molybdenum	5.45		ng/l							
Nickel	6.60		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
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 2404050 - B4D1605										
Calibration Blank (2404050-CCB7) Contin				Prepared: 04/16/24 Analyzed: 04/17/24						
Selenium	4.33		ng/l							
Thallium	2.99		ng/l							QB-04
Vanadium	-81.9		ng/l							U
Zinc	-33.5		ng/l							U
Calibration Check (2404050-CCV1)				Prepared & Analyzed: 04/16/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	538000		ng/l	500000		108	90-110			
Calibration Check (2404050-CCV2)				Prepared & Analyzed: 04/16/24						
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	5060		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	537000		ng/l	500000		107	90-110			

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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
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 2404050 - B4D1605										
Calibration Check (2404050-CCV3)				Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5080		ng/l	5000.0		102	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	51000		ng/l	50000		102	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	477		ng/l	500.00		95.4	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	536000		ng/l	500000		107	90-110			
Calibration Check (2404050-CCV4)				Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5140		ng/l	5000.0		103	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	53300		ng/l	50000		107	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	528000		ng/l	500000		106	90-110			
Molybdenum	52100		ng/l	50000		104	90-110			
Nickel	131000		ng/l	120000		109	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	547000		ng/l	500000		109	90-110			
Calibration Check (2404050-CCV5)				Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5190		ng/l	5000.0		104	90-110			

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Blue Bell, PA 19422
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FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
SUBMITTED: 04/15/24
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 2404050 - B4D1605										
Calibration Check (2404050-CCV5) Contin					Prepared: 04/16/24 Analyzed: 04/17/24					
Cadmium	20900		ng/l	20000		105	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	53900		ng/l	50000		108	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	532000		ng/l	500000		106	90-110			
Molybdenum	53700		ng/l	50000		107	90-110			
Nickel	131000		ng/l	120000		109	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	475		ng/l	500.00		95.1	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	546000		ng/l	500000		109	90-110			
Calibration Check (2404050-CCV6)					Prepared: 04/16/24 Analyzed: 04/17/24					
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20700		ng/l	20000		103	90-110			
Barium	213000		ng/l	200000		107	90-110			
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	54300		ng/l	50000		109	90-110			
Copper	2.15E6		ng/l	2.0000E6		108	90-110			
Lead	205000		ng/l	200000		102	90-110			
Manganese	534000		ng/l	500000		107	90-110			
Molybdenum	54500		ng/l	50000		109	90-110			
Nickel	133000		ng/l	120000		111	90-110			LJ, QX
Selenium	20100		ng/l	20000		101	90-110			
Thallium	470		ng/l	500.00		94.0	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	552000		ng/l	500000		110	90-110			
Calibration Check (2404050-CCV7)					Prepared: 04/16/24 Analyzed: 04/17/24					
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	53000		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 2404050 - B4D1605										
Calibration Check (2404050-CCV7) Contin					Prepared: 04/16/24 Analyzed: 04/17/24					
Lead	206000		ng/l	200000		103	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	54400		ng/l	50000		109	90-110			
Nickel	130000		ng/l	120000		109	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	470		ng/l	500.00		94.0	90-110			
Vanadium	20900		ng/l	20000		104	90-110			
Zinc	548000		ng/l	500000		110	90-110			
High Cal Check (2404050-HCV1)					Prepared & Analyzed: 04/16/24					
Antimony	40200		ng/l	40000		100	95-105			
Arsenic	40300		ng/l	40000		101	95-105			
Barium	406000		ng/l	400000		101	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39700		ng/l	40000		99.2	95-105			
Chromium	468000		ng/l	480000		97.6	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.7	95-105			
Lead	402000		ng/l	400000		101	95-105			
Manganese	974000		ng/l	1.0000E6		97.4	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	241000		ng/l	240000		100	95-105			
Selenium	40100		ng/l	40000		100	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	39800		ng/l	40000		99.6	95-105			
Zinc	971000		ng/l	1.0000E6		97.1	95-105			
Initial Cal Blank (2404050-ICB1)					Prepared & Analyzed: 04/16/24					
Antimony	0.910		ng/l							
Arsenic	3.16		ng/l							
Barium	1.92		ng/l							
Beryllium	-0.532		ng/l							U
Cadmium	0.181		ng/l							
Chromium	-0.0760		ng/l							U
Cobalt	0.370		ng/l							
Copper	121		ng/l							
Lead	3.75		ng/l							
Manganese	6.11		ng/l							
Molybdenum	6.55		ng/l							
Nickel	0.472		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404050 - B4D1605										
Initial Cal Blank (2404050-ICB1) Continu				Prepared & Analyzed: 04/16/24						
Selenium	5.02		ng/l							
Thallium	0.836		ng/l							
Vanadium	-60.3		ng/l							U
Zinc	-44.8		ng/l							U
Initial Cal Check (2404050-ICV1)				Prepared & Analyzed: 04/16/24						
Antimony	19600		ng/l	20000		98.0	90-110			
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	233000		ng/l	240000		97.2	90-110			
Cobalt	50000		ng/l	50000		99.9	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Manganese	476000		ng/l	500000		95.2	90-110			
Molybdenum	49800		ng/l	50000		99.7	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20700		ng/l	20000		103	90-110			
Thallium	515		ng/l	500.00		103	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Interference Check A (2404050-IFA1)				Prepared & Analyzed: 04/16/24						
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	305000		ng/l	300000		102	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 2404050 - B4D1605										
Interference Check B (2404050-IFB1)				Prepared & Analyzed: 04/16/24						
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	204000		ng/l	200000		102	80-120			
Beryllium	4820		ng/l	5000.0		96.3	80-120			
Cadmium	19500		ng/l	20000		97.6	80-120			
Chromium	248000		ng/l	240000		103	80-120			
Cobalt	54900		ng/l	50000		110	80-120			
Copper	2.01E6		ng/l	2.0000E6		100	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	579000		ng/l	500000		116	80-120			
Molybdenum	354000		ng/l	350000		101	80-120			
Nickel	130000		ng/l	120000		108	80-120			
Selenium	19000		ng/l	20000		95.0	80-120			
Thallium	517		ng/l	500.00		103	80-120			
Vanadium	20500		ng/l	20000		102	80-120			
Zinc	505000		ng/l	500000		101	80-120			
Batch 2404060 - B4D1605										
Calibration Blank (2404060-CCB1)				Prepared & Analyzed: 04/18/24						
Antimony	4.37		ng/l							
Arsenic	0.0495		ng/l							
Barium	5.74		ng/l							
Beryllium	0.355		ng/l							
Cadmium	0.358		ng/l							
Chromium	5.51		ng/l							
Cobalt	1.22		ng/l							
Copper	137		ng/l							
Lead	14.5		ng/l							
Manganese	14.5		ng/l							
Molybdenum	41.8		ng/l							
Nickel	8.48		ng/l							
Selenium	2.26		ng/l							
Thallium	0.673		ng/l							
Vanadium	-24.4		ng/l							U
Zinc	83.1		ng/l							
Calibration Blank (2404060-CCB2)				Prepared & Analyzed: 04/18/24						
Antimony	4.05		ng/l							
Arsenic	3.47		ng/l							
Barium	5.01		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404060 - B4D1605										
Calibration Blank (2404060-CCB2) Contin				Prepared & Analyzed: 04/18/24						
Beryllium	-0.277		ng/l							U
Cadmium	0.456		ng/l							
Chromium	6.66		ng/l							
Cobalt	0.896		ng/l							
Copper	118		ng/l							
Lead	8.14		ng/l							
Manganese	9.55		ng/l							
Molybdenum	12.6		ng/l							
Nickel	7.44		ng/l							
Selenium	-4.64		ng/l							U
Thallium	0.157		ng/l							
Vanadium	-25.9		ng/l							U
Zinc	-13.1		ng/l							U
Calibration Blank (2404060-CCB3)				Prepared & Analyzed: 04/18/24						
Antimony	3.30		ng/l							
Arsenic	6.99		ng/l							
Barium	3.19		ng/l							
Beryllium	-0.478		ng/l							U
Cadmium	0.251		ng/l							
Chromium	5.25		ng/l							
Cobalt	0.712		ng/l							
Copper	85.7		ng/l							
Lead	5.88		ng/l							
Manganese	6.75		ng/l							
Molybdenum	11.8		ng/l							
Nickel	7.66		ng/l							
Selenium	14.3		ng/l							
Thallium	0.213		ng/l							
Vanadium	-27.6		ng/l							U
Zinc	1.93		ng/l							
Calibration Blank (2404060-CCB4)				Prepared: 04/18/24 Analyzed: 04/19/24						
Antimony	4.17		ng/l							
Arsenic	7.71		ng/l							
Barium	7.76		ng/l							
Beryllium	-0.691		ng/l							U
Cadmium	0.822		ng/l							
Chromium	11.3		ng/l							
Cobalt	1.47		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404060 - B4D1605										
Calibration Blank (2404060-CCB4) Contin				Prepared: 04/18/24 Analyzed: 04/19/24						
Copper	140		ng/l							
Lead	10.9		ng/l							
Manganese	18.6		ng/l							
Molybdenum	19.8		ng/l							
Nickel	11.1		ng/l							
Selenium	-2.82		ng/l							U
Thallium	0.453		ng/l							
Vanadium	-35.4		ng/l							U
Zinc	191		ng/l							
Calibration Blank (2404060-CCB5)				Prepared: 04/18/24 Analyzed: 04/19/24						
Antimony	3.76		ng/l							
Arsenic	8.90		ng/l							
Barium	8.09		ng/l							
Beryllium	-0.453		ng/l							U
Cadmium	0.610		ng/l							
Chromium	12.4		ng/l							
Cobalt	1.78		ng/l							
Copper	130		ng/l							
Lead	10.6		ng/l							
Manganese	19.6		ng/l							
Molybdenum	17.8		ng/l							
Nickel	8.94		ng/l							
Selenium	-14.3		ng/l							U
Thallium	0.299		ng/l							
Vanadium	-40.1		ng/l							U
Zinc	-1.77		ng/l							U
Calibration Check (2404060-CCV1)				Prepared & Analyzed: 04/18/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	4770		ng/l	5000.0		95.3	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	236000		ng/l	240000		98.2	90-110			
Cobalt	51900		ng/l	50000		104	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404060 - B4D1605										
Calibration Check (2404060-CCV1) Contin				Prepared & Analyzed: 04/18/24						
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	19400		ng/l	20000		97.2	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Calibration Check (2404060-CCV2)				Prepared & Analyzed: 04/18/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	207000		ng/l	200000		103	90-110			
Beryllium	4620		ng/l	5000.0		92.4	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	52300		ng/l	50000		105	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	490		ng/l	500.00		97.9	90-110			
Vanadium	19600		ng/l	20000		98.2	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Calibration Check (2404060-CCV3)				Prepared & Analyzed: 04/18/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	4570		ng/l	5000.0		91.4	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	240000		ng/l	240000		99.8	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	19200		ng/l	20000		95.9	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 2404060 - B4D1605										
Calibration Check (2404060-CCV3) Contin					Prepared & Analyzed: 04/18/24					
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2404060-CCV4)					Prepared: 04/18/24 Analyzed: 04/19/24					
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	215000		ng/l	200000		108	90-110			
Beryllium	4530		ng/l	5000.0		90.6	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	52400		ng/l	50000		105	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	535000		ng/l	500000		107	90-110			
Calibration Check (2404060-CCV5)					Prepared: 04/18/24 Analyzed: 04/19/24					
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4520		ng/l	5000.0		90.3	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	239000		ng/l	240000		99.7	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			
Vanadium	19400		ng/l	20000		97.2	90-110			
Zinc	532000		ng/l	500000		106	90-110			
High Cal Check (2404060-HCV1)					Prepared & Analyzed: 04/18/24					
Antimony	40700		ng/l	40000		102	95-105			
Arsenic	39900		ng/l	40000		99.8	95-105			

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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: 04/23/24 16:08
SUBMITTED: 04/15/24
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 2404060 - B4D1605										
High Cal Check (2404060-HCV1) Continue				Prepared & Analyzed: 04/18/24						
Barium	408000		ng/l	400000		102	95-105			
Beryllium	10300		ng/l	10000		103	95-105			
Cadmium	40100		ng/l	40000		100	95-105			
Chromium	478000		ng/l	480000		99.6	95-105			
Cobalt	99300		ng/l	100000		99.3	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.8	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	997000		ng/l	1.0000E6		99.7	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	235000		ng/l	240000		97.8	95-105			
Selenium	40400		ng/l	40000		101	95-105			
Thallium	993		ng/l	1000.0		99.3	95-105			
Vanadium	40500		ng/l	40000		101	95-105			
Zinc	981000		ng/l	1.0000E6		98.1	95-105			
Initial Cal Blank (2404060-ICB1)				Prepared & Analyzed: 04/18/24						
Antimony	3.23		ng/l							
Arsenic	-4.20		ng/l							U
Barium	2.79		ng/l							
Beryllium	-0.00251		ng/l							U
Cadmium	0.0568		ng/l							
Chromium	3.36		ng/l							
Cobalt	0.375		ng/l							
Copper	81.0		ng/l							
Lead	5.94		ng/l							
Manganese	5.31		ng/l							
Molybdenum	13.4		ng/l							
Nickel	5.33		ng/l							
Selenium	-0.547		ng/l							U
Thallium	0.743		ng/l							
Vanadium	-19.8		ng/l							U
Zinc	26.5		ng/l							
Initial Cal Check (2404060-ICV1)				Prepared & Analyzed: 04/18/24						
Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	19500		ng/l	20000		97.5	90-110			
Barium	197000		ng/l	200000		98.6	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	232000		ng/l	240000		96.8	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 2404060 - B4D1605										
Initial Cal Check (2404060-ICV1) Continu				Prepared & Analyzed: 04/18/24						
Cobalt	48900		ng/l	50000		97.9	90-110			
Copper	1.95E6		ng/l	2.0000E6		97.7	90-110			
Lead	193000		ng/l	200000		96.4	90-110			
Manganese	479000		ng/l	500000		95.8	90-110			
Molybdenum	48900		ng/l	50000		97.7	90-110			
Nickel	116000		ng/l	120000		96.7	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	477		ng/l	500.00		95.4	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Interference Check A (2404060-IFA1)				Prepared & Analyzed: 04/18/24						
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	291000		ng/l	300000		97.1	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
Interference Check B (2404060-IFB1)				Prepared & Analyzed: 04/18/24						
Antimony	20300		ng/l	20000		101	80-120			
Arsenic	20100		ng/l	20000		101	80-120			
Barium	206000		ng/l	200000		103	80-120			
Beryllium	4450		ng/l	5000.0		88.9	80-120			
Cadmium	19400		ng/l	20000		96.9	80-120			
Chromium	227000		ng/l	240000		94.5	80-120			
Cobalt	51200		ng/l	50000		102	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.3	80-120			
Lead	206000		ng/l	200000		103	80-120			
Manganese	516000		ng/l	500000		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 2404060 - B4D1605										
Interference Check B (2404060-IFB1) Co					Prepared & Analyzed: 04/18/24					
Molybdenum	352000		ng/l	350000		101	80-120			
Nickel	114000		ng/l	120000		95.3	80-120			
Selenium	18800		ng/l	20000		94.0	80-120			
Thallium	495		ng/l	500.00		99.1	80-120			
Vanadium	17700		ng/l	20000		88.6	80-120			
Zinc	481000		ng/l	500000		96.3	80-120			
Batch B4D1605 - ICP-MS Extraction										
Blank (B4D1605-BLK1)					Prepared & Analyzed: 04/16/24					
Antimony	ND	0.0386	ng/m³ Air							U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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							GC-BS, U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-01, QB-04 U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
Blank (B4D1605-BLK2)					Prepared & Analyzed: 04/16/24					
Antimony	ND	0.0386	ng/m³ Air							U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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							GC-BS, U

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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 B4D1605 - ICP-MS Extraction										
Blank (B4D1605-BLK2) Continued				Prepared & Analyzed: 04/16/24						
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							QB-01, QB-04 U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4D1605-BS1)				Prepared & Analyzed: 04/16/24						
Antimony	0.759	0.0386	ng/m³ Air	1.3829		54.9	80-120			SL
Arsenic	2.62	0.00937	ng/m³ Air	2.7658		94.7	80-120			
Barium	27.7	1.07	ng/m³ Air	27.658		100	80-120			QB-01
Beryllium	1.27	0.00320	ng/m³ Air	1.3829		92.2	80-120			
Cadmium	1.43	0.0741	ng/m³ Air	1.3829		104	80-120			
Chromium	15.0	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.4	80-120			
Copper	28.6	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.3	0.214	ng/m³ Air	13.829		96.4	80-120			
Manganese	7.77	1.89	ng/m³ Air	8.2975		93.6	80-120			
Molybdenum	1.47	0.359	ng/m³ Air	1.3829		106	80-120			
Nickel	3.88	0.652	ng/m³ Air	2.7658		140	80-120			GC-BS
Selenium	2.62	0.00896	ng/m³ Air	2.7658		94.9	80-120			
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		96.2	80-120			QB-01, QB-04
Vanadium	2.74	0.0529	ng/m³ Air	2.7658		98.9	80-120			
Zinc	133	76.8	ng/m³ Air	82.975		160	80-120			
LCS (B4D1605-BS2)				Prepared & Analyzed: 04/16/24						
Antimony	0.740	0.0386	ng/m³ Air	1.3829		53.5	80-120			SL
Arsenic	2.58	0.00937	ng/m³ Air	2.7658		93.2	80-120			
Barium	27.2	1.07	ng/m³ Air	27.658		98.4	80-120			QB-01
Beryllium	1.27	0.00320	ng/m³ Air	1.3829		91.6	80-120			
Cadmium	1.35	0.0741	ng/m³ Air	1.3829		97.4	80-120			
Chromium	14.5	2.21	ng/m³ Air	13.829		105	80-120			
Cobalt	1.33	0.0436	ng/m³ Air	1.3829		95.9	80-120			
Copper	27.6	2.63	ng/m³ Air	27.658		99.6	80-120			
Lead	13.0	0.214	ng/m³ Air	13.829		94.1	80-120			
Manganese	7.60	1.89	ng/m³ Air	8.2975		91.6	80-120			
Molybdenum	1.44	0.359	ng/m³ Air	1.3829		104	80-120			
Nickel	3.10	0.652	ng/m³ Air	2.7658		112	80-120			GC-BS
Selenium	2.57	0.00896	ng/m³ Air	2.7658		92.9	80-120			
Thallium	0.130	5.89E-4	ng/m³ Air	0.13829		94.1	80-120			QB-01, QB-04
Vanadium	2.64	0.0529	ng/m³ Air	2.7658		95.6	80-120			

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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 B4D1605 - ICP-MS Extraction										
LCS (B4D1605-BS2) Continued				Prepared & Analyzed: 04/16/24						
Zinc	133	76.8	ng/m³ Air	82.975		160	80-120			
Duplicate (B4D1605-DUP1)		**Source: 4041535-01**		Prepared & Analyzed: 04/16/24						
Antimony	0.196	0.0330	ng/m³ Air		0.209			6.23	10	SL
Arsenic	2.10	0.00800	ng/m³ Air		1.78			16.4	10	
Barium	7.08	0.914	ng/m³ Air		6.85			3.26	10	QB-01
Beryllium	0.0233	0.00273	ng/m³ Air		0.0216			7.56	10	
Cadmium	ND	0.0633	ng/m³ Air		ND				10	U
Chromium	4.48	1.89	ng/m³ Air		4.51			0.756	10	
Cobalt	0.810	0.0372	ng/m³ Air		0.780			3.77	10	
Copper	56.5	2.25	ng/m³ Air		58.4			3.38	10	
Lead	0.832	0.183	ng/m³ Air		0.930			11.1	10	
Manganese	24.6	1.61	ng/m³ Air		23.7			3.57	10	
Molybdenum	2.25	0.307	ng/m³ Air		2.25			0.148	10	
Nickel	2.24	0.557	ng/m³ Air		2.26			1.16	10	GC-BS
Selenium	0.219	0.00765	ng/m³ Air		0.202			8.05	10	
Thallium	0.00183	5.03E-4	ng/m³ Air		0.00183			0.105	10	QB-01, QB-04
Vanadium	2.68	0.0452	ng/m³ Air		2.71			1.20	10	
Zinc	ND	65.6	ng/m³ Air		ND				10	U
Duplicate (B4D1605-DUP2)		**Source: 4041535-21**		Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	0.0829	0.0323	ng/m³ Air		0.0857			3.30	10	SL
Arsenic	0.481	0.00784	ng/m³ Air		0.428			11.7	10	
Barium	3.25	0.895	ng/m³ Air		3.30			1.68	10	QB-01
Beryllium	0.0292	0.00268	ng/m³ Air		0.0285			2.74	10	
Cadmium	ND	0.0620	ng/m³ Air		ND				10	U
Chromium	2.56	1.85	ng/m³ Air		2.61			1.89	10	
Cobalt	0.527	0.0365	ng/m³ Air		0.512			2.91	10	
Copper	37.7	2.20	ng/m³ Air		41.4			9.44	10	
Lead	0.517	0.179	ng/m³ Air		0.969			60.8	10	D-F
Manganese	12.7	1.58	ng/m³ Air		12.5			2.03	10	
Molybdenum	2.34	0.300	ng/m³ Air		2.35			0.392	10	
Nickel	1.49	0.545	ng/m³ Air		1.49			0.100	10	GC-BS
Selenium	0.220	0.00750	ng/m³ Air		0.211			3.83	10	
Thallium	0.00161	4.93E-4	ng/m³ Air		0.00165			2.58	10	QB-01, QB-04
Vanadium	1.39	0.0443	ng/m³ Air		1.36			1.87	10	
Zinc	ND	64.2	ng/m³ Air		ND				10	U
Duplicate (B4D1605-DUP3)		**Source: 4041535-06**		Prepared: 04/16/24 Analyzed: 04/17/24						
Antimony	0.505	0.0299	ng/m³ Air		0.507			0.548	10	SL
Arsenic	1.09	0.00726	ng/m³ Air		1.09			0.108	10	QB-04

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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 B4D1605 - ICP-MS Extraction										
Duplicate (B4D1605-DUP3) Continued			**Source: 4041535-06**		Prepared: 04/16/24 Analyzed: 04/17/24					
Barium	11.7	0.829	ng/m³ Air		11.7			0.287	10	QB-01
Beryllium	0.0285	0.00248	ng/m³ Air		0.0282			1.19	10	
Cadmium	0.0691	0.0574	ng/m³ Air		0.0692			0.124	10	
Chromium	3.52	1.71	ng/m³ Air		3.50			0.730	10	
Cobalt	0.956	0.0338	ng/m³ Air		0.943			1.35	10	
Copper	54.8	2.04	ng/m³ Air		54.2			1.09	10	
Lead	3.33	0.166	ng/m³ Air		3.32			0.324	10	
Manganese	33.8	1.47	ng/m³ Air		33.3			1.44	10	
Molybdenum	1.96	0.278	ng/m³ Air		1.96			0.349	10	
Nickel	2.68	0.505	ng/m³ Air		2.64			1.49	10	GC-BS
Selenium	0.271	0.00695	ng/m³ Air		0.259			4.61	10	
Thallium	0.00281	4.57E-4	ng/m³ Air		0.00272			3.18	10	QB-01, QB-04
Vanadium	2.80	0.0410	ng/m³ Air		2.79			0.325	10	
Zinc	ND	59.5	ng/m³ Air		ND				10	U
Duplicate (B4D1605-DUP4)			**Source: 4041535-26**		Prepared: 04/16/24 Analyzed: 04/17/24					
Antimony	0.107	0.0312	ng/m³ Air		0.105			1.11	10	SL
Arsenic	0.377	0.00758	ng/m³ Air		0.382			1.35	10	QB-04
Barium	3.28	0.866	ng/m³ Air		3.26			0.470	10	QB-01
Beryllium	0.00885	0.00259	ng/m³ Air		0.00948			6.92	10	
Cadmium	ND	0.0599	ng/m³ Air		ND				10	U
Chromium	ND	1.79	ng/m³ Air		ND				10	U
Cobalt	0.298	0.0353	ng/m³ Air		0.298			0.104	10	
Copper	25.9	2.13	ng/m³ Air		25.9			0.0650	10	
Lead	0.727	0.173	ng/m³ Air		0.729			0.304	10	
Manganese	9.74	1.53	ng/m³ Air		9.68			0.562	10	
Molybdenum	1.83	0.290	ng/m³ Air		1.84			0.643	10	
Nickel	0.972	0.527	ng/m³ Air		0.964			0.878	10	GC-BS, LJ, QX
Selenium	0.181	0.00725	ng/m³ Air		0.183			0.820	10	
Thallium	0.00129	4.76E-4	ng/m³ Air		0.00132			1.98	10	QB-01, QB-04
Vanadium	1.05	0.0428	ng/m³ Air		1.04			0.462	10	
Zinc	ND	62.1	ng/m³ Air		ND				10	U
Duplicate (B4D1605-DUP5)			**Source: 4041535-06R**		Prepared: 04/16/24 Analyzed: 04/18/24					
Antimony	0.493	0.0299	ng/m³ Air		0.494			0.0487	10	
Arsenic	1.06	0.00726	ng/m³ Air		1.06			0.120	10	
Barium	11.6	0.829	ng/m³ Air		11.5			0.619	10	
Beryllium	0.0252	0.00248	ng/m³ Air		0.0253			0.482	10	
Cadmium	0.0667	0.0574	ng/m³ Air		0.0678			1.61	10	
Chromium	3.36	1.71	ng/m³ Air		3.33			0.926	10	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 04/23/24 16:08
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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 B4D1605 - ICP-MS Extraction										
Duplicate (B4D1605-DUP5) Continued			**Source: 4041535-06R**		Prepared: 04/16/24 Analyzed: 04/18/24					
Cobalt	0.916	0.0338	ng/m³ Air		0.906			1.01	10	
Copper	53.4	2.04	ng/m³ Air		52.5			1.57	10	
Lead	3.26	0.166	ng/m³ Air		3.27			0.355	10	
Manganese	31.0	1.47	ng/m³ Air		30.7			1.09	10	
Molybdenum	1.92	0.278	ng/m³ Air		1.91			0.923	10	
Nickel	2.44	0.505	ng/m³ Air		2.42			0.713	10	
Selenium	0.228	0.00695	ng/m³ Air		0.228			0.223	10	
Thallium	0.00265	4.57E-4	ng/m³ Air		0.00258			2.52	10	
Vanadium	2.54	0.0410	ng/m³ Air		2.54			0.190	10	
Zinc	ND	59.5	ng/m³ Air		ND				10	U
Duplicate (B4D1605-DUP6)			**Source: 4041535-26R**		Prepared: 04/16/24 Analyzed: 04/19/24					
Antimony	0.105	0.0312	ng/m³ Air		0.106			0.839	10	
Arsenic	0.377	0.00758	ng/m³ Air		0.372			1.36	10	
Barium	3.34	0.866	ng/m³ Air		3.33			0.0358	10	
Beryllium	0.00846	0.00259	ng/m³ Air		0.00834			1.40	10	
Cadmium	ND	0.0599	ng/m³ Air		ND				10	U
Chromium	ND	1.79	ng/m³ Air		ND				10	U
Cobalt	0.288	0.0353	ng/m³ Air		0.290			0.837	10	
Copper	25.4	2.13	ng/m³ Air		25.4			0.0450	10	
Lead	0.729	0.173	ng/m³ Air		0.728			0.0748	10	
Manganese	9.00	1.53	ng/m³ Air		9.06			0.660	10	
Molybdenum	1.81	0.290	ng/m³ Air		1.80			0.581	10	
Nickel	0.887	0.527	ng/m³ Air		0.893			0.777	10	GC-BS
Selenium	0.167	0.00725	ng/m³ Air		0.172			2.58	10	
Thallium	0.00105	4.76E-4	ng/m³ Air		0.00104			0.898	10	
Vanadium	0.940	0.0428	ng/m³ Air		0.946			0.685	10	
Zinc	ND	62.1	ng/m³ Air		ND				10	U
Matrix Spike (B4D1605-MS1)			**Source: 4041535-01**		Prepared & Analyzed: 04/16/24					
Antimony	0.875	0.0330	ng/m³ Air	1.1809	0.209	56.4	80-120			SL
Arsenic	3.97	0.00800	ng/m³ Air	2.3618	1.78	93.0	80-120			
Barium	30.6	0.914	ng/m³ Air	23.618	6.85	101	80-120			QB-01
Beryllium	1.17	0.00273	ng/m³ Air	1.1809	0.0216	97.3	80-120			
Cadmium	1.19	0.0633	ng/m³ Air	1.1809	ND	101	80-120			
Chromium	16.9	1.89	ng/m³ Air	11.809	4.51	105	80-120			
Cobalt	2.02	0.0372	ng/m³ Air	1.1809	0.780	105	80-120			
Copper	82.2	2.25	ng/m³ Air	23.618	58.4	101	80-120			
Lead	12.9	0.183	ng/m³ Air	11.809	0.930	101	80-120			
Manganese	31.9	1.61	ng/m³ Air	7.0855	23.7	116	80-120			

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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 B4D1605 - ICP-MS Extraction										
Matrix Spike (B4D1605-MS1) Continued Source: 4041535-01 Prepared & Analyzed: 04/16/24										
Molybdenum	3.40	0.307	ng/m³ Air	1.1809	2.25	97.2	80-120			
Nickel	4.79	0.557	ng/m³ Air	2.3618	2.26	107	80-120			GC-BS
Selenium	2.39	0.00765	ng/m³ Air	2.3618	0.202	92.8	80-120			
Thallium	0.113	5.03E-4	ng/m³ Air	0.11809	0.00183	93.9	80-120			QB-01, QB-04
Vanadium	5.06	0.0452	ng/m³ Air	2.3618	2.71	99.5	80-120			
Zinc	119	65.6	ng/m³ Air	70.855	ND	167	80-120			
Matrix Spike (B4D1605-MS2) Source: 4041535-21 Prepared: 04/16/24 Analyzed: 04/17/24										
Antimony	0.795	0.0323	ng/m³ Air	1.1569	0.0857	61.3	80-120			SL
Arsenic	2.64	0.00784	ng/m³ Air	2.3138	0.428	95.8	80-120			
Barium	26.3	0.895	ng/m³ Air	23.138	3.30	99.4	80-120			QB-01
Beryllium	1.16	0.00268	ng/m³ Air	1.1569	0.0285	97.8	80-120			
Cadmium	1.18	0.0620	ng/m³ Air	1.1569	ND	102	80-120			
Chromium	14.8	1.85	ng/m³ Air	11.569	2.61	105	80-120			
Cobalt	1.71	0.0365	ng/m³ Air	1.1569	0.512	103	80-120			
Copper	64.7	2.20	ng/m³ Air	23.138	41.4	101	80-120			
Lead	12.2	0.179	ng/m³ Air	11.569	0.969	97.1	80-120			
Manganese	19.7	1.58	ng/m³ Air	6.9414	12.5	103	80-120			
Molybdenum	3.35	0.300	ng/m³ Air	1.1569	2.35	86.8	80-120			
Nickel	3.93	0.545	ng/m³ Air	2.3138	1.49	105	80-120			GC-BS
Selenium	2.42	0.00750	ng/m³ Air	2.3138	0.211	95.5	80-120			
Thallium	0.113	4.93E-4	ng/m³ Air	0.11569	0.00165	96.4	80-120			QB-01, QB-04
Vanadium	3.68	0.0443	ng/m³ Air	2.3138	1.36	100	80-120			
Zinc	99.4	64.2	ng/m³ Air	69.414	ND	143	80-120			
Matrix Spike Dup (B4D1605-MSD1) Source: 4041535-01 Prepared & Analyzed: 04/16/24										
Antimony	0.858	0.0330	ng/m³ Air	1.1809	0.209	55.0	80-120	1.91	20	SL
Arsenic	4.12	0.00800	ng/m³ Air	2.3618	1.78	99.2	80-120	3.62	20	
Barium	30.7	0.914	ng/m³ Air	23.618	6.85	101	80-120	0.183	20	QB-01
Beryllium	1.16	0.00273	ng/m³ Air	1.1809	0.0216	96.1	80-120	1.17	20	
Cadmium	1.21	0.0633	ng/m³ Air	1.1809	ND	102	80-120	1.18	20	
Chromium	16.9	1.89	ng/m³ Air	11.809	4.51	105	80-120	0.0606	20	
Cobalt	1.99	0.0372	ng/m³ Air	1.1809	0.780	103	80-120	1.30	20	
Copper	80.7	2.25	ng/m³ Air	23.618	58.4	94.4	80-120	1.85	20	
Lead	12.5	0.183	ng/m³ Air	11.809	0.930	98.2	80-120	2.96	20	
Manganese	31.1	1.61	ng/m³ Air	7.0855	23.7	104	80-120	2.71	20	
Molybdenum	3.46	0.307	ng/m³ Air	1.1809	2.25	102	80-120	1.70	20	
Nickel	4.71	0.557	ng/m³ Air	2.3618	2.26	104	80-120	1.58	20	GC-BS
Selenium	2.40	0.00765	ng/m³ Air	2.3618	0.202	93.0	80-120	0.181	20	
Thallium	0.112	5.03E-4	ng/m³ Air	0.11809	0.00183	93.5	80-120	0.441	20	QB-04, QB-01

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REPORTED: 04/23/24 16:08
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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 B4D1605 - ICP-MS Extraction										
Matrix Spike Dup (B4D1605-MSD1) Conti				**Source: 4041535-01**		Prepared & Analyzed: 04/16/24				
Vanadium	4.94	0.0452	ng/m³ Air	2.3618	2.71	94.6	80-120	2.34	20	
Zinc	123	65.6	ng/m³ Air	70.855	ND	174	80-120	3.56	20	
Matrix Spike Dup (B4D1605-MSD2)				**Source: 4041535-21**		Prepared: 04/16/24	Analyzed: 04/17/24			
Antimony	0.762	0.0323	ng/m³ Air	1.1569	0.0857	58.5	80-120	4.26	20	SL
Arsenic	2.54	0.00784	ng/m³ Air	2.3138	0.428	91.1	80-120	4.19	20	
Barium	25.9	0.895	ng/m³ Air	23.138	3.30	97.7	80-120	1.58	20	QB-01
Beryllium	1.13	0.00268	ng/m³ Air	1.1569	0.0285	95.5	80-120	2.39	20	
Cadmium	1.14	0.0620	ng/m³ Air	1.1569	ND	98.3	80-120	4.01	20	
Chromium	14.0	1.85	ng/m³ Air	11.569	2.61	98.6	80-120	5.13	20	
Cobalt	1.67	0.0365	ng/m³ Air	1.1569	0.512	100	80-120	2.30	20	
Copper	63.6	2.20	ng/m³ Air	23.138	41.4	95.7	80-120	1.84	20	
Lead	11.7	0.179	ng/m³ Air	11.569	0.969	93.0	80-120	3.96	20	
Manganese	19.2	1.58	ng/m³ Air	6.9414	12.5	97.3	80-120	2.17	20	
Molybdenum	3.40	0.300	ng/m³ Air	1.1569	2.35	90.9	80-120	1.40	20	
Nickel	3.78	0.545	ng/m³ Air	2.3138	1.49	99.0	80-120	3.80	20	GC-BS
Selenium	2.36	0.00750	ng/m³ Air	2.3138	0.211	93.0	80-120	2.43	20	
Thallium	0.108	4.93E-4	ng/m³ Air	0.11569	0.00165	92.1	80-120	4.57	20	QB-01, QB-04
Vanadium	3.56	0.0443	ng/m³ Air	2.3138	1.36	95.0	80-120	3.38	20	
Zinc	94.9	64.2	ng/m³ Air	69.414	ND	137	80-120	4.65	20	
Post Spike (B4D1605-PS1)				**Source: 4041535-01**		Prepared & Analyzed: 04/16/24				
Antimony	0.445	0.0330	ng/m³ Air	0.23618	0.209	99.9	75-125			SL
Arsenic	2.95	0.00800	ng/m³ Air	1.1809	1.78	99.5	75-125			
Barium	9.15	0.914	ng/m³ Air	2.3618	6.85	97.4	75-125			QB-01
Beryllium	0.255	0.00273	ng/m³ Air	0.23618	0.0216	98.9	75-125			
Cadmium	0.139	0.0633	ng/m³ Air	0.11809	ND	117	75-125			
Chromium	5.78	1.89	ng/m³ Air	1.1809	4.51	107	75-125			
Cobalt	1.04	0.0372	ng/m³ Air	0.23618	0.780	112	75-125			
Copper	71.6	2.25	ng/m³ Air	11.809	58.4	112	75-125			
Lead	24.4	0.183	ng/m³ Air	23.618	0.930	99.3	75-125			
Manganese	27.4	1.61	ng/m³ Air	2.3618	23.7	157	75-125			A-01
Molybdenum	3.37	0.307	ng/m³ Air	1.1809	2.25	94.6	75-125			
Nickel	4.79	0.557	ng/m³ Air	2.3618	2.26	107	75-125			GC-BS
Selenium	1.33	0.00765	ng/m³ Air	1.1809	0.202	95.7	75-125			
Thallium	0.0589	5.03E-4	ng/m³ Air	5.9045E-2	0.00183	96.7	75-125			QB-01, QB-04
Vanadium	3.89	0.0452	ng/m³ Air	1.1809	2.71	100	75-125			
Zinc	78.0	65.6	ng/m³ Air	23.618	ND	330	75-125			
Post Spike (B4D1605-PS2)				**Source: 4041535-21**		Prepared: 04/16/24	Analyzed: 04/17/24			
Antimony	0.319	0.0323	ng/m³ Air	0.23138	0.0857	101	75-125			SL

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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 B4D1605 - ICP-MS Extraction										
Post Spike (B4D1605-PS2) Continued			**Source: 4041535-21**		Prepared: 04/16/24		Analyzed: 04/17/24			
Arsenic	1.56	0.00784	ng/m³ Air	1.1569	0.428	98.0	75-125			
Barium	5.66	0.895	ng/m³ Air	2.3138	3.30	102	75-125			QB-01
Beryllium	0.259	0.00268	ng/m³ Air	0.23138	0.0285	99.7	75-125			
Cadmium	0.136	0.0620	ng/m³ Air	0.11569	ND	117	75-125			
Chromium	3.82	1.85	ng/m³ Air	1.1569	2.61	105	75-125			
Cobalt	0.761	0.0365	ng/m³ Air	0.23138	0.512	107	75-125			
Copper	54.5	2.20	ng/m³ Air	11.569	41.4	113	75-125			
Lead	24.2	0.179	ng/m³ Air	23.138	0.969	101	75-125			
Manganese	15.4	1.58	ng/m³ Air	2.3138	12.5	124	75-125			
Molybdenum	3.47	0.300	ng/m³ Air	1.1569	2.35	96.8	75-125			
Nickel	3.94	0.545	ng/m³ Air	2.3138	1.49	106	75-125			GC-BS
Selenium	1.31	0.00750	ng/m³ Air	1.1569	0.211	95.0	75-125			
Thallium	0.0595	4.93E-4	ng/m³ Air	5.7845E-2	0.00165	100	75-125			QB-01, QB-04
Vanadium	2.52	0.0443	ng/m³ Air	1.1569	1.36	99.9	75-125			
Zinc	ND	64.2	ng/m³ Air	23.138	ND		75-125			U
Dilution Check (B4D1605-SRL1)			**Source: 4041535-01**		Prepared & Analyzed: 04/16/24					
Antimony	0.206	0.165	ng/m³ Air		0.209			1.08	10	SL
Arsenic	1.84	0.0400	ng/m³ Air		1.78			3.39	10	
Barium	6.84	4.57	ng/m³ Air		6.85			0.0912	10	QB-01
Beryllium	0.0217	0.0137	ng/m³ Air		0.0216			0.704	10	
Cadmium	ND	0.316	ng/m³ Air		ND				10	U
Chromium	ND	9.44	ng/m³ Air		ND				10	U
Cobalt	0.806	0.186	ng/m³ Air		0.780			3.26	10	
Copper	61.5	11.2	ng/m³ Air		58.4			5.23	10	
Lead	ND	0.914	ng/m³ Air		0.930				10	U
Manganese	24.6	8.07	ng/m³ Air		23.7			3.71	10	
Molybdenum	2.33	1.53	ng/m³ Air		2.25			3.21	10	
Nickel	ND	2.78	ng/m³ Air		ND				10	GC-BS, U
Selenium	0.193	0.0383	ng/m³ Air		0.202			4.68	10	
Thallium	0.00520	0.00251	ng/m³ Air		ND			95.8	10	QB-01, QB-04
Vanadium	2.66	0.226	ng/m³ Air		2.71			1.76	10	
Zinc	ND	328	ng/m³ Air		ND				10	U
Dilution Check (B4D1605-SRL2)			**Source: 4041535-21**		Prepared: 04/16/24		Analyzed: 04/17/24			
Antimony	ND	0.161	ng/m³ Air		ND				10	SL, U
Arsenic	0.455	0.0392	ng/m³ Air		0.428			6.11	10	
Barium	ND	4.48	ng/m³ Air		ND				10	QB-01, U
Beryllium	0.0288	0.0134	ng/m³ Air		0.0285			1.37	10	
Cadmium	ND	0.310	ng/m³ Air		ND				10	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 B4D1605 - ICP-MS Extraction										
Dilution Check (B4D1605-SRL2) ContinueSource: 4041535-21 Prepared: 04/16/24 Analyzed: 04/17/24										
Chromium	ND	9.24	ng/m³ Air		ND				10	U
Cobalt	0.522	0.182	ng/m³ Air		0.512			2.00	10	
Copper	43.5	11.0	ng/m³ Air		41.4			4.80	10	
Lead	0.954	0.895	ng/m³ Air		0.969			1.49	10	
Manganese	12.9	7.91	ng/m³ Air		12.5			3.07	10	
Molybdenum	2.38	1.50	ng/m³ Air		2.35			1.24	10	
Nickel	ND	2.73	ng/m³ Air		ND				10	GC-BS, U
Selenium	0.233	0.0375	ng/m³ Air		0.211			9.81	10	SRD-01
Thallium	0.00419	0.00246	ng/m³ Air		ND			87.0	10	QB-01, QB-04
Vanadium	1.35	0.221	ng/m³ Air		1.36			0.958	10	
Zinc	ND	321	ng/m³ Air		ND				10	U
Dilution Check (B4D1605-SRL3) Source: 4041535-06R Prepared: 04/16/24 Analyzed: 04/18/24										
Antimony	0.493	0.150	ng/m³ Air		0.494			0.165	10	
Arsenic	1.07	0.0363	ng/m³ Air		1.06			1.46	10	
Barium	11.5	4.15	ng/m³ Air		11.5			0.0551	10	
Beryllium	0.0242	0.0124	ng/m³ Air		0.0253			4.69	10	
Cadmium	ND	0.287	ng/m³ Air		ND				10	U
Chromium	ND	8.57	ng/m³ Air		ND				10	U
Cobalt	0.928	0.169	ng/m³ Air		0.906			2.32	10	
Copper	55.7	10.2	ng/m³ Air		52.5			5.84	10	
Lead	3.21	0.829	ng/m³ Air		3.27			1.93	10	
Manganese	31.5	7.33	ng/m³ Air		30.7			2.43	10	
Molybdenum	2.01	1.39	ng/m³ Air		1.91			5.37	10	
Nickel	ND	2.53	ng/m³ Air		ND				10	U
Selenium	0.259	0.0347	ng/m³ Air		0.228			12.6	10	
Thallium	0.00272	0.00228	ng/m³ Air		0.00258			5.24	10	
Vanadium	2.63	0.205	ng/m³ Air		2.54			3.45	10	
Zinc	ND	298	ng/m³ Air		ND				10	U

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: 04/23/24 16:08
SUBMITTED: 04/15/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
D-F	Duplicate exceeds DQO criteria.
A-01	Parent sample >4x spike amount
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.

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.

Stage 1 Data Verification Checklist – Metals
HDOH CAB – Ambient Community Air Sampling – Lahaina
Task Order No. 23141

Reviewed by:
Kierra Johnson 4/24/2024 and Shanna Vasser 4/26/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 4/4/2024 – 4/10/2024
Report No: 4041535

√	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.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic in MFL-FB01-040524-HM, MFL-FB01-040724-HM, and MFL-FB01-040924-HM.

Notes:

2. The laboratory stated that all samples were received in acceptable condition unless otherwise noted. MFL-AM01-040424-HM/MS/MS, MFL-AM03-040824-HM/MS/MS, and MFL-AM03-041024-HM were nonhomogeneous samples. There were no additional details; therefore, it is assumed the other samples met method criteria for analysis.
7. MFL-AM01-040424-HM/MS/MSD and MFL-AM03-040824-HM/MS/MSD were analyzed at a five-fold dilution for all analytes. MFL-AM02-040524-HM was analyzed at a five-fold dilution for arsenic.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

April 11 through April 17, 2024
[Report Updated: December 4, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from April 11 through April 17, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from April 11 through April 17 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exception of Leialii Hawaiian Homelands on April 11 and 12 because of a power outage in the area. None of the PM_{10} monitoring results exceeded the 150 $\mu g/m^3$ screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 25 samples for asbestos fibers were collected during this reporting period. Of the 25 samples collected, two samples collected at WW Pump Station #4 on April 15 and 16 were voided due to a

greater than 10% discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling SOP. Three asbestos samples at Leialii Hawaiian Homelands on April 11, 12, and 13 were not collected due to a power outage in the sampling area. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at the following monitoring stations:

- Lahaina Intermediate School on April 16
- Lahaina Boys & Girls Club on April 15 and 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 analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Heavy metal samples from Leialii Hawaiian Homelands on April 11 through 13 were not collected due to a power outage in the sampling area. Low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.3 miles per hour and were generally from a southerly direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler

- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
April 11 through April 17, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
4/11/2024	Leialii Hawaiian Homelands (AM-01)	
	WW Pump Station #4 (AM-02)	15
	Lahaina Intermediate School (AM-03)	15
	Lahaina Boys & Girls Club (AM-04)	14
4/12/2024	Leialii Hawaiian Homelands (AM-01)	
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	16
	Lahaina Boys & Girls Club (AM-04)	12
4/13/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	14
	Lahaina Intermediate School (AM-03)	16
	Lahaina Boys & Girls Club (AM-04)	11
4/14/2024	Leialii Hawaiian Homelands (AM-01)	9.5
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	15
	Lahaina Boys & Girls Club (AM-04)	9.5
4/15/2024	Leialii Hawaiian Homelands (AM-01)	5.6
	WW Pump Station #4 (AM-02)	9.4
	Lahaina Intermediate School (AM-03)	107
	Lahaina Boys & Girls Club (AM-04)	6.3
4/16/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	7.7
	Lahaina Intermediate School (AM-03)	6.8
	Lahaina Boys & Girls Club (AM-04)	6.2
4/17/2024	Leialii Hawaiian Homelands (AM-01)	6.9
	WW Pump Station #4 (AM-02)	8.7
	Lahaina Intermediate School (AM-03)	7.3
	Lahaina Boys & Girls Club (AM-04)	6.7

Notes:

µg/m3 = micrograms per cubic meter

24 hour TWA calculation results are shown in two significant figures

Results are based on 24 hour TWA calculation

No 24 hr TWA results due to power outage.

Results for Leialii Hawaiian Homelands (AM-01) on 4/13 are based on a 11 hr TWA because of a power outage.

Results for WW Pump Station #4 (AM-02) on 4/14 are based on a 19 hr TWA because of a power outage.

Results for WW Pump Station #4 (AM-02) on 4/13 are based on a 16 hr TWA because of a power outage.

Results from Lahaina Intermediate School on 4/15 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
April 11 through April 17, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
4/11/2024	Leialii Hawaiian Homelands (AM-01)																	
	WW Pump Station #4 (AM-02)	<0.0024	0.000113	0.000357	0.00340	0.00000856	ND	ND	0.000223	0.0283	0.000868	0.00808	0.00192	0.000962	0.000274	0.00000206	0.00107	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000156	0.000535	0.00500	0.0000233	ND	0.00299	0.000569	0.0374	0.000922	0.0154	0.00222	0.00183	0.000291	0.00000248	0.00178	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.000415	0.00351	0.00000968	ND	0.00219	0.000284	0.0311	0.000960	0.00964	0.00164	0.00121	0.000254	0.00000199	0.00118	ND
4/12/2024	Leialii Hawaiian Homelands (AM-01)																	
	WW Pump Station #4 (AM-02)	<0.0024	0.000125	0.000464	0.00338	0.00000778	ND	ND	0.000236	0.0347	0.000864	0.00835	0.00175	0.00115	0.000290	0.00000153	0.00137	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000103	0.000272	0.00403	0.0000225	ND	0.00353	0.000777	0.0381	0.000593	0.0167	0.00208	0.00254	0.000326	0.00000176	0.00240	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000171	0.000557	0.00464	0.0000124	ND	0.00251	0.000419	0.0350	0.00147	0.0132	0.00176	0.00178	0.000311	0.00000145	0.00191	ND
4/13/2024	Leialii Hawaiian Homelands (AM-01)																	
	WW Pump Station #4 (AM-02)	<0.0024	0.000124	0.000240	0.00319	0.00000654	ND	ND	0.000179	0.0358	0.000694	0.00637	0.00215	0.00106	0.000276	0.00000210	0.00112	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000964	0.000311	0.00404	0.0000191	ND	0.00250	0.000454	0.0475	0.000630	0.0115	0.00217	0.00170	0.000305	0.00000202	0.00180	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000104	0.000287	0.00342	0.00000865	ND	ND	0.000267	0.0306	0.00110	0.00850	0.00162	0.00126	0.000256	0.00000186	0.00132	ND
4/14/2024	Leialii Hawaiian Homelands (AM-01)		0.000128	0.00113	0.00392	0.00000796	ND	0.00230	0.000306	0.0674	0.000898	0.00961	0.00424	0.00186	0.000292	0.00000157	0.00110	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000658	0.000287	0.00203	0.00000531	ND	ND	0.000146	0.0384	0.000518	0.00539	0.00238	0.000869	0.000294	0.00000132	0.000667	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000713	0.000317	0.00314	0.0000144	ND	0.00286	0.000545	0.0344	0.000451	0.0108	0.00164	0.00177	0.000321	0.00000143	0.00117	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000103	0.000869	0.00295	0.00000619	ND	0.00199	0.000220	0.0384	0.00102	0.00685	0.00214	0.00106	0.000287	0.00000133	0.000778	ND
4/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000172	0.00325	0.00659	0.0000169	0.0000616	0.00442	0.000772	0.0692	0.00163	0.0218	0.00409	0.00246	0.000242	0.00000175	0.00201	ND
	WW Pump Station #4 (AM-02)		0.000161	0.000660	0.00419	0.00000858	ND	ND	0.000271	0.0339	0.00109	0.00773	0.00159	0.00225	0.000274	0.00000137	0.000740	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000140	0.000151	0.00322	0.0000109	ND	0.00230	0.000394	0.0369	0.000696	0.00742	0.00146	0.00142	0.000189	0.00000101	0.000627	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000129	0.000389	0.00191	0.00000306	ND	ND	0.000115	0.0356	0.000625	0.00317	0.00186	0.000767	0.000161	0.000000901	0.000237	ND
4/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000819	0.000190	0.00294	0.00000266	ND	ND	0.000110	0.0735	0.000445	0.00285	0.00433	0.00119	0.000161	0.00000171	0.000396	ND
	WW Pump Station #4 (AM-02)		0.000236	0.000259	0.00752	0.00000912	ND	0.00229	0.000347	0.0420	0.000705	0.00936	0.00240	0.00175	0.000193	0.00000187	0.00101	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000837	0.000140	0.00245	0.00000546	ND	ND	0.000162	0.0532	0.000413	0.00386	0.00262	0.00102	0.000149	0.00000180	0.000478	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000101	0.000315	0.00393	0.00000888	ND	0.00192	0.000287	0.0309	0.000946	0.00874	0.00169	0.00121	0.000232	0.00000157	0.000801	ND
4/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000619	0.000165	0.00336	0.00000493	ND	0.00236	0.000288	0.0791	0.000942	0.00626	0.00370	0.00175	0.000117	0.000000681	0.000567	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000115	0.000261	0.00412	0.00000814	ND	0.00194	0.000331	0.0525	0.000778	0.00888	0.00260	0.00131	0.000139	0.000000886	0.000873	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000692	0.000111	0.00235	0.00000961	ND	0.00186	0.000213	0.0448	0.00132	0.00523	0.00225	0.00107	0.000128	0.000000817	0.000498	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000955	0.000345	0.00405	0.0000120	ND	0.00302	0.000404	0.0303	0.000976	0.0125	0.00177	0.00203	0.000233	0.00000101	0.000954	ND
95% Upper Confidence Limit[2]		NA	0.000130	0.000630	0.00419	0.0000130	NA	0.00286	0.000410	0.0480	0.00990	0.0112	0.00260	0.00169	0.000270	0.00000170	0.000137	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Asbestos samples voided due to a greater than 10% discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling SOP.

Samples voided due to power outage

Heavy Metals sample results from WW Pump Station #4 (AM-02) on April 15 have been received from lab and completed Stage 1 verification process.

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
April 11 through April 17, 2024
[Report Updated:December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
4/11/2024	AM-01	Leialii Hawaiian Homelands					
4/11/2024	AM-02	WW Pump Station #4	0.7	SSE	78	73	761.0
4/11/2024	AM-03	Lahaina Intermediate School	1.0	SSE	74	73	751.6
4/11/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	76	70	760.7
4/12/2024	AM-01	Leialii Hawaiian Homelands					
4/12/2024	AM-02	WW Pump Station #4	0.8	S	77	77	762.6
4/12/2024	AM-03	Lahaina Intermediate School	1.1	S	75	78	753.1
4/12/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	76	74	762.2
4/13/2024	AM-01	Leialii Hawaiian Homelands	1.6	SW	80	68	759.9
4/13/2024	AM-02	WW Pump Station #4	0.8	SSW	78	74	762.4
4/13/2024	AM-03	Lahaina Intermediate School	1.4	S	76	75	753.0
4/13/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	77	73	762.0
4/14/2024	AM-01	Leialii Hawaiian Homelands	1.3	SSE	77	77	758.9
4/14/2024	AM-02	WW Pump Station #4	1.4	SSE	77	81	761.1
4/14/2024	AM-03	Lahaina Intermediate School	2.4	SE	74	85	751.7
4/14/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSE	76	79	760.8
4/15/2024	AM-01	Leialii Hawaiian Homelands	1.3	S	75	77	757.8
4/15/2024	AM-02	WW Pump Station #4	1.2	SSE	77	78	760.6
4/15/2024	AM-03	Lahaina Intermediate School	1.5	SSE	73	82	750.5
4/15/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	74	79	759.6
4/16/2024	AM-01	Leialii Hawaiian Homelands	1.4	S	75	63	758.8
4/16/2024	AM-02	WW Pump Station #4	1.1	SE	76	65	761.0
4/16/2024	AM-03	Lahaina Intermediate School	1.4	SSE	74	66	751.7
4/16/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	73	70	760.6
4/17/2024	AM-01	Leialii Hawaiian Homelands	1.6	S	77	60	760.4
4/17/2024	AM-02	WW Pump Station #4	1.1	SSE	76	63	762.7
4/17/2024	AM-03	Lahaina Intermediate School	1.2	SE	74	64	753.3
4/17/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	75	65	762.3

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour
Weather data for Leialii Hawaiian Homelands on 4/11 & 4/12 was not calculated due to a power outage not related to the monitoring equipment

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

**Please note sample data that does not fall within this reporting period have been removed or redacted

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EMSL Order:	042408082
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:	04/22/2024 09:00 AM
Analysis Date:	04/24/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-041524-AB**

EMSL Sample Number:	042408082-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7190.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408082**
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: 042408082-0001 **Customer Sample:** MFL-AM01-041524-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	A6	None Detected									
A5	D4	None Detected									
A5	H7	None Detected									
A6	B4	None Detected									
A6	F7	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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Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-041524-AB**

EMSL Sample Number:	042408082-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7215.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID:	**042408082**
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: 042408082-0002 **Customer Sample:** MFL-AM03-041524-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	C5	None Detected									
B1	F2	None Detected									
B1	I7	None Detected									
B2	D5	None Detected									
B2	G3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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1560 Broadway, Suite 1400
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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/22/2024 09:00 AM
Analysis Date:	04/24/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-041524-AB**

EMSL Sample Number:	042408082-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7273.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

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: 042408082-0003 **Customer Sample:** MFL-AM04-041524-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	A3	None Detected									
B5	F8	None Detected									
B5	I5	None Detected									
B6	C4	None Detected									
B6	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:	042408082
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:	04/22/2024 09:00 AM
Analysis Date:	04/24/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-041524-AB**

EMSL Sample Number:	042408082-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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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: 042408082-0004 **Customer Sample:** MFL-FB01-041524-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	I4	None Detected									
H1	G8	None Detected									
H1	D4	None Detected									
H1	A7	None Detected									
H2	C7	None Detected									
H2	E4	None Detected									
H2	J8	None Detected									
H3	H5	None Detected									
H3	D3	None Detected									
H3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408082
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/22/2024 09:00 AM
Analysis Date:	04/24/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-041624-AB**

EMSL Sample Number:	042408082-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7076.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	N/A			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408082**
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: 042408082-0005 **Customer Sample:** MFL-AM01-041624-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	A6	None Detected									
C5	E5	None Detected									
C5	J6	None Detected									
C6	D3	None Detected									
C6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408082
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:	04/22/2024 09:00 AM
Analysis Date:	04/24/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-041624-AB**

EMSL Sample Number:	042408082-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7234.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042408082**
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: 042408082-0006 **Customer Sample:** MFL-AM03-041624-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	A4	None Detected									
D1	F7	None Detected									
D1	J9	None Detected									
D2	C3	None Detected									
D2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408082
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/22/2024 09:00 AM
Analysis Date:	04/24/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-041624-AB**

EMSL Sample Number:	042408082-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7276.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	N/A			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

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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: 042408082-0007 **Customer Sample:** MFL-AM04-041624-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	I8	None Detected									
D5	G4	None Detected									
D5	D5	None Detected									
D6	F9	None Detected									
D6	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408082
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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-041624-AB**

EMSL Sample Number:	042408082-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Approved Signatory

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408082-0008 **Customer Sample:** MFL-FB01-041624-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	J6	None Detected									
E1	H9	None Detected									
E1	E4	None Detected									
E1	C5	None Detected									
E2	B9	None Detected									
E2	D4	None Detected									
E2	H6	None Detected									
E3	J7	None Detected									
E3	G3	None Detected									
E3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408082
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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-041724-AB**

EMSL Sample Number:	042408082-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7181.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408082-0009 **Customer Sample:** MFL-AM01-041724-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	B8	None Detected									
E5	E4	None Detected									
E5	I3	None Detected									
E6	G7	None Detected									
E6	D4	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-AM02-041724-AB**

EMSL Sample Number:	042408082-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7401.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408082**
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: 042408082-0010 **Customer Sample:** MFL-AM02-041724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B3	None Detected									
F1	E7	None Detected									
F1	I9	None Detected									
F2	H6	None Detected									
F2	D4	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:	042408082
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:	04/22/2024 09:00 AM
Analysis Date:	04/29/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-041724-AB**

EMSL Sample Number:	042408082-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7361.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408082**
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: 042408082-0011 **Customer Sample:** MFL-AM03-041724-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	B7	None Detected									
I1	C5	None Detected									
I1	H5	None Detected									
I2	A5	None Detected									
I2	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408082
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:	04/22/2024 09:00 AM
Analysis Date:	04/29/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-041724-AB**

EMSL Sample Number:	042408082-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7247.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID:	**042408082**
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: 042408082-0012 **Customer Sample:** MFL-AM04-041724-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	D4	None Detected									
G1	G5	None Detected									
G1	J4	None Detected									
G2	H7	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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EMSL Order:	042408082
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:	04/22/2024 09:00 AM
Analysis Date:	04/29/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-041724-AB**

EMSL Sample Number:	042408082-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042408082**
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: 042408082-0013 **Customer Sample:** MFL-FB01-041724-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	A5	None Detected									
G5	C4	None Detected									
G5	F3	None Detected									
G5	G6	None Detected									
G5	I4	None Detected									
G6	I7	None Detected									
G6	G5	None Detected									
G6	E7	None Detected									
G6	C8	None Detected									
G6	A7	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:	042408082
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:	04/22/2024 09:00 AM
Analysis Date:	04/24/2024
Report Date:	04/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042408082-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408082-0014 **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	I4	None Detected									
A1	G7	None Detected									
A1	E4	None Detected									
A1	B6	None Detected									
A2	H3	None Detected									
A2	F8	None Detected									
A2	C5	None Detected									
A3	B8	None Detected									
A3	D5	None Detected									
A3	J6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042408082

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042408082

RECEIVED EMSL CINNAMINSON, NJ 24 APR 22 AM 10:32

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 Suber
Street Address:	1560 Broadway Ste. 1400
City, State, Zip:	Denver, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.suber@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:	
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:	Elia Kenyon Soldevila
Sampled By Signature:	
No. of Samples in Shipment	13

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-AM01-041524-AB		7,190.431	04/15/24 1105
~~MFL-AM02-041524-AB~~	VOID	~~5,045.706~~	~~04/15/24 0502~~ (EKS)
MFL-AM03-041524-AB		7,215.840	04/15/24 1309
MFL-AM04-041524-AB		7,273.584	04/15/24 1331
MFL-FB01-041524-AB		0	04/15/24 1200
MFL-AM01-041624-AB		7,076.355	04/16/24 1059
~~MFL-AM02-041624-AB~~	VOID	~~7,597.945~~	~~04/16/24 1114~~ (EKS)
MFL-AM03-041624-AB		7,234.241	04/16/24 1307

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

MFL-AM02-041524-AB voided because post-cal value was greater than 10% deviation from pre-cal value.
MFL-AM02-041624-AB voided because post-cal value was greater than 10% deviation from pre-cal value

Method of Shipment:	FedEx	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 04/18/24 1600	Received by: FX Date/Time: 4/22/24 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.)

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.

BCK

All samples received acceptable for analysis.

OrderID: 042408082

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

RECEIVED EMSL CINNAMINSON, NJ

#042408082

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

24 APR 22 AM10:52

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-AM04-041624-AB		7,267.663	04/16/24 1329
MFL-FB01-041624-AB		0	04/16/24 1200
MFL-AM01-041724-AB		7,181.020	04/17/24 1100
MFL-AM02-041724-AB		7,401.600	04/17/24 1118
MFL-AM03-041724-AB		7,360.978	04/17/24 1309
MFL-AM04-041724-AB		7,247.866	04/17/24 1327
MFL-FB01-041724-AB		0	04/17/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 04/18/24 1100	Received by: FedEx	Date/Time: 4/22/24 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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Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

May 01, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Lahaina fires

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 04/22/24 15:41.

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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM02-041124-HM	4042234-02	Air	04/11/24 23:59	04/22/24 15:41
MFL-AM03-041124-HM	4042234-03	Air	04/11/24 23:59	04/22/24 15:41
MFL-AM04-041124-HM	4042234-04	Air	04/11/24 23:59	04/22/24 15:41
MFL-FB01-041124-HM	4042234-05	Air	04/11/24 00:00	04/22/24 15:41
MFL-AM02-041224-HM	4042234-07	Air	04/12/24 23:59	04/22/24 15:41
MFL-AM03-041224-HM	4042234-08	Air	04/12/24 23:59	04/22/24 15:41
MFL-AM04-041224-HM	4042234-09	Air	04/12/24 23:59	04/22/24 15:41
MFL-AM02-041324-HM/MS/I	4042234-11	Air	04/13/24 23:59	04/22/24 15:41
MFL-AM03-041324-HM	4042234-12	Air	04/13/24 23:59	04/22/24 15:41
MFL-AM04-041324-HM	4042234-13	Air	04/13/24 23:59	04/22/24 15:41
MFL-FB01-041324-HM	4042234-14	Air	04/13/24 00:00	04/22/24 15:41
MFL-AM01-041424-HM	4042234-15	Air	04/14/24 23:59	04/22/24 15:41
MFL-AM02-041424-HM	4042234-16	Air	04/14/24 23:59	04/22/24 15:41
MFL-AM03-041424-HM	4042234-17	Air	04/14/24 23:59	04/22/24 15:41
MFL-AM04-041424-HM	4042234-18	Air	04/14/24 23:59	04/22/24 15:41
MFL-AM01-041524-HM	4042234-19	Air	04/15/24 23:59	04/22/24 15:41
MFL-AM03-041524-HM	4042234-21	Air	04/15/24 23:59	04/22/24 15:41
MFL-AM04-041524-HM	4042234-22	Air	04/15/24 23:59	04/22/24 15:41
MFL-FB01-041524-HM	4042234-23	Air	04/15/24 00:00	04/22/24 15:41
MFL-AM01-041624-HM	4042234-24	Air	04/16/24 23:59	04/22/24 15:41
MFL-AM02-041624-HM	4042234-25	Air	04/16/24 23:59	04/22/24 15:41

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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM03-041624-HM	4042234-26	Air	04/16/24 23:59	04/22/24 15:41
MFL-AM04-041624-HM	4042234-27	Air	04/16/24 23:59	04/22/24 15:41
MFL-AM01-041724-HM	4042234-28	Air	04/17/24 23:59	04/22/24 15:41
MFL-AM02-041724-HM	4042234-29	Air	04/17/24 23:59	04/22/24 15:41
MFL-AM03-041724-HM/MS/I	4042234-30	Air	04/17/24 23:59	04/22/24 15:41
MFL-AM04-041724-HM	4042234-31	Air	04/17/24 23:59	04/22/24 15:41
MFL-FB01-041724-HM	4042234-32	Air	04/17/24 00:00	04/22/24 15:41

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041124-HM
Matrix: Air
Lab ID: 4042234-02
Sample Volume: 2011.781 m³
Filter ID:
Sampled: 04/11/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 00:55

Comments: Q8508904 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.357**		**0.00758**
Barium	**7440-39-3**	**3.40**	QB-01	**0.865**
Beryllium	**7440-41-7**	**0.00856**		**0.00259**
Cadmium	7440-43-9	0.0111	U	0.0599
Chromium	7440-47-3	1.63	U	1.79
Cobalt	**7440-48-4**	**0.223**		**0.0353**
Copper	**7440-50-8**	**28.3**		**2.13**
Lead	**7439-92-1**	**0.868**		**0.173**
Manganese	**7439-96-5**	**8.08**		**1.53**
Molybdenum	**7439-98-7**	**1.92**		**0.290**
Nickel	**7440-02-0**	**0.962**		**0.527**
Selenium	**7782-49-2**	**0.274**	LJ, QX	**0.00725**
Thallium	**7440-28-0**	**0.00206**	QB-01	**4.76E-4**
Vanadium	**7440-62-2**	**1.07**		**0.0428**
Zinc	7440-66-6	35.9	U	62.1

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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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041124-HM
Matrix: Air
Lab ID: 4042234-03
Sample Volume: 1871.036 m³
Filter ID:
Sampled: 04/11/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 01:14

Comments: Q8508902 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.156**	SL	**0.0336**
Arsenic	**7440-38-2**	**0.535**		**0.00815**
Barium	**7440-39-3**	**5.00**	QB-01	**0.930**
Beryllium	**7440-41-7**	**0.0233**		**0.00278**
Cadmium	7440-43-9	0.0226	U	0.0644
Chromium	**7440-47-3**	**2.99**		**1.92**
Cobalt	**7440-48-4**	**0.569**		**0.0379**
Copper	**7440-50-8**	**37.4**		**2.29**
Lead	**7439-92-1**	**0.922**		**0.186**
Manganese	**7439-96-5**	**15.4**		**1.64**
Molybdenum	**7439-98-7**	**2.22**		**0.312**
Nickel	**7440-02-0**	**1.83**		**0.567**
Selenium	**7782-49-2**	**0.291**	LJ, QX	**0.00779**
Thallium	**7440-28-0**	**0.00248**	QB-01	**5.12E-4**
Vanadium	**7440-62-2**	**1.78**		**0.0460**
Zinc	7440-66-6	48.8	U	66.8

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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041124-HM
Matrix: Air
Lab ID: 4042234-04
Sample Volume: 1889.915 m³
Filter ID:
Sampled: 04/11/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 01:31

Comments: Q8508900 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.415**		**0.00807**
Barium	**7440-39-3**	**3.51**	QB-01	**0.921**
Beryllium	**7440-41-7**	**0.00968**		**0.00275**
Cadmium	7440-43-9	0.0130	U	0.0638
Chromium	**7440-47-3**	**2.19**		**1.90**
Cobalt	**7440-48-4**	**0.284**		**0.0375**
Copper	**7440-50-8**	**31.1**		**2.26**
Lead	**7439-92-1**	**0.960**		**0.184**
Manganese	**7439-96-5**	**9.64**		**1.63**
Molybdenum	**7439-98-7**	**1.64**		**0.309**
Nickel	**7440-02-0**	**1.21**		**0.561**
Selenium	**7782-49-2**	**0.254**	LJ, QX	**0.00771**
Thallium	**7440-28-0**	**0.00199**	QB-01	**5.07E-4**
Vanadium	**7440-62-2**	**1.18**		**0.0455**
Zinc	7440-66-6	49.4	U	66.1

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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-041124-HM
Matrix: Air
Lab ID: 4042234-05
Sample Volume: 2011.781 m³
Filter ID:
Sampled: 04/11/24 00:00
Received: 04/22/24 15:41
Analysis Date: 04/24/24 01:49

Comments: Q8508899 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0188	U, SL	0.0312
Arsenic	**7440-38-2**	**0.0102**	FB-01	**0.00758**
Barium	7440-39-3	0.697	U, QB-01	0.865
Beryllium	7440-41-7	6.15E-4	U	0.00259
Cadmium	7440-43-9	6.15E-4	U	0.0599
Chromium	7440-47-3	0.905	U	1.79
Cobalt	7440-48-4	0.0169	U	0.0353
Copper	7440-50-8	0.565	U	2.13
Lead	7439-92-1	0.0371	U	0.173
Manganese	7439-96-5	0.388	U	1.53
Molybdenum	7439-98-7	0.132	U	0.290
Nickel	7440-02-0	0.384	U	0.527
Selenium	7782-49-2	ND	LJ, QX, U	0.00725
Thallium	7440-28-0	2.57E-4	QB-01, U	4.76E-4
Vanadium	**7440-62-2**	**0.0435**	FB-01	**0.0428**
Zinc	7440-66-6	34.7	U	62.1

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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041224-HM
Matrix: Air
Lab ID: 4042234-07
Sample Volume: 2074.718 m³
Filter ID:
Sampled: 04/12/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 02:03

Comments: Q8508895 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.464**		**0.00735**
Barium	**7440-39-3**	**3.38**	QB-01	**0.839**
Beryllium	**7440-41-7**	**0.00778**		**0.00251**
Cadmium	7440-43-9	0.0119	U	0.0581
Chromium	7440-47-3	1.67	U	1.73
Cobalt	**7440-48-4**	**0.236**		**0.0342**
Copper	**7440-50-8**	**34.7**		**2.06**
Lead	**7439-92-1**	**0.864**		**0.168**
Manganese	**7439-96-5**	**8.35**		**1.48**
Molybdenum	**7439-98-7**	**1.75**		**0.282**
Nickel	**7440-02-0**	**1.15**		**0.511**
Selenium	**7782-49-2**	**0.290**	LJ, QX	**0.00703**
Thallium	**7440-28-0**	**0.00153**	QB-01	**4.62E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0415**
Zinc	7440-66-6	40.1	U	60.2

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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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041224-HM
Matrix: Air
Lab ID: 4042234-08
Sample Volume: 1861.438 m³
Filter ID:
Sampled: 04/12/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 02:20

Comments: Q8508894 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.272**		**0.00819**
Barium	**7440-39-3**	**4.03**	QB-01	**0.935**
Beryllium	**7440-41-7**	**0.0225**		**0.00280**
Cadmium	7440-43-9	0.00944	U	0.0648
Chromium	**7440-47-3**	**3.53**		**1.93**
Cobalt	**7440-48-4**	**0.777**		**0.0381**
Copper	**7440-50-8**	**38.1**		**2.30**
Lead	**7439-92-1**	**0.593**		**0.187**
Manganese	**7439-96-5**	**16.7**		**1.65**
Molybdenum	**7439-98-7**	**2.08**		**0.314**
Nickel	**7440-02-0**	**2.54**		**0.570**
Selenium	**7782-49-2**	**0.326**	LJ, QX	**0.00783**
Thallium	**7440-28-0**	**0.00176**	QB-01	**5.15E-4**
Vanadium	**7440-62-2**	**2.40**		**0.0462**
Zinc	7440-66-6	46.1	U	67.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041224-HM
Matrix: Air
Lab ID: 4042234-09
Sample Volume: 1862.548 m³
Filter ID:
Sampled: 04/12/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 02:36

Comments: Q8508893 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.171**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.557**		**0.00819**
Barium	**7440-39-3**	**4.64**	QB-01	**0.935**
Beryllium	**7440-41-7**	**0.0124**		**0.00280**
Cadmium	7440-43-9	0.0192	U	0.0647
Chromium	**7440-47-3**	**2.51**		**1.93**
Cobalt	**7440-48-4**	**0.419**		**0.0381**
Copper	**7440-50-8**	**35.0**		**2.30**
Lead	**7439-92-1**	**1.47**		**0.187**
Manganese	**7439-96-5**	**13.2**		**1.65**
Molybdenum	**7439-98-7**	**1.76**		**0.314**
Nickel	**7440-02-0**	**1.78**		**0.570**
Selenium	**7782-49-2**	**0.311**	LJ, QX	**0.00783**
Thallium	**7440-28-0**	**0.00145**	QB-01	**5.15E-4**
Vanadium	**7440-62-2**	**1.91**		**0.0462**
Zinc	7440-66-6	41.2	U	67.1

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FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041324-HM/MS/MS
Matrix: Air
Lab ID: 4042234-11
Sample Volume: 2039.989 m³
Filter ID:
Sampled: 04/13/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/23/24 17:24

Comments: Q8508891 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.124**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.240**		**0.00747**
Barium	**7440-39-3**	**3.19**	QB-01	**0.853**
Beryllium	**7440-41-7**	**0.00654**		**0.00255**
Cadmium	7440-43-9	0.0122	U	0.0591
Chromium	7440-47-3	1.50	U	1.76
Cobalt	**7440-48-4**	**0.179**		**0.0348**
Copper	**7440-50-8**	**35.8**		**2.10**
Lead	**7439-92-1**	**0.694**		**0.171**
Manganese	**7439-96-5**	**6.37**		**1.51**
Molybdenum	**7439-98-7**	**2.15**		**0.286**
Nickel	**7440-02-0**	**1.06**		**0.520**
Selenium	**7782-49-2**	**0.276**	LJ, QX	**0.00715**
Thallium	**7440-28-0**	**0.00210**	QB-01, QB-04	**4.70E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0422**
Zinc	7440-66-6	40.1	U	61.3

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FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041324-HM
Matrix: Air
Lab ID: 4042234-12
Sample Volume: 1895.451 m³
Filter ID:
Sampled: 04/13/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 02:54

Comments: Q8508889 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0964**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.311**		**0.00804**
Barium	**7440-39-3**	**4.04**	QB-01	**0.918**
Beryllium	**7440-41-7**	**0.0191**		**0.00275**
Cadmium	7440-43-9	0.0154	U	0.0636
Chromium	**7440-47-3**	**2.50**		**1.90**
Cobalt	**7440-48-4**	**0.454**		**0.0374**
Copper	**7440-50-8**	**47.5**		**2.26**
Lead	**7439-92-1**	**0.630**		**0.184**
Manganese	**7439-96-5**	**11.5**		**1.62**
Molybdenum	**7439-98-7**	**2.17**		**0.308**
Nickel	**7440-02-0**	**1.70**		**0.560**
Selenium	**7782-49-2**	**0.305**	LJ, QX	**0.00769**
Thallium	**7440-28-0**	**0.00202**	QB-01	**5.06E-4**
Vanadium	**7440-62-2**	**1.80**		**0.0454**
Zinc	7440-66-6	32.8	U	65.9

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FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041324-HM
Matrix: Air
Lab ID: 4042234-13
Sample Volume: 1872.713 m³
Filter ID:
Sampled: 04/13/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 04:03

Comments: Q8508887- Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.287**		**0.00814**
Barium	**7440-39-3**	**3.42**	QB-01	**0.930**
Beryllium	**7440-41-7**	**0.00865**		**0.00278**
Cadmium	7440-43-9	0.0282	U	0.0644
Chromium	7440-47-3	1.91	U	1.92
Cobalt	**7440-48-4**	**0.267**		**0.0379**
Copper	**7440-50-8**	**30.6**		**2.28**
Lead	**7439-92-1**	**1.10**		**0.186**
Manganese	**7439-96-5**	**8.50**		**1.64**
Molybdenum	**7439-98-7**	**1.62**		**0.312**
Nickel	**7440-02-0**	**1.26**		**0.566**
Selenium	**7782-49-2**	**0.256**	LJ, QX	**0.00778**
Thallium	**7440-28-0**	**0.00186**	QB-01	**5.12E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0460**
Zinc	7440-66-6	39.3	U	66.7

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FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-041324-HM
Matrix: Air
Lab ID: 4042234-14
Sample Volume: 2039.989 m³
Filter ID:
Sampled: 04/13/24 00:00
Received: 04/22/24 15:41
Analysis Date: 04/24/24 04:19

Comments: Q8508882- Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0173	SL, U	0.0308
Arsenic	7440-38-2	0.00693	U	0.00747
Barium	7440-39-3	0.696	QB-01, U	0.853
Beryllium	7440-41-7	3.79E-4	U	0.00255
Cadmium	7440-43-9	6.45E-4	U	0.0591
Chromium	7440-47-3	1.00	U	1.76
Cobalt	7440-48-4	0.0139	U	0.0348
Copper	7440-50-8	0.358	U	2.10
Lead	7439-92-1	0.0259	U	0.171
Manganese	7439-96-5	0.196	U	1.51
Molybdenum	7439-98-7	0.148	U	0.286
Nickel	7440-02-0	0.505	U	0.520
Selenium	7782-49-2	ND	LJ, QX, U	0.00715
Thallium	7440-28-0	1.85E-4	QB-01, U	4.70E-4
Vanadium	7440-62-2	0.0235	U	0.0422
Zinc	7440-66-6	17.7	U	61.3

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FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-041424-HM
Matrix: Air
Lab ID: 4042234-15
Sample Volume: 1940.06 m³
Filter ID:
Sampled: 04/14/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 04:34

Comments: Q8508885- Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.128**	SL	**0.0324**
Arsenic	**7440-38-2**	**1.13**		**0.00786**
Barium	**7440-39-3**	**3.92**	QB-01	**0.897**
Beryllium	**7440-41-7**	**0.00796**		**0.00268**
Cadmium	7440-43-9	0.0151	U	0.0621
Chromium	**7440-47-3**	**2.30**		**1.85**
Cobalt	**7440-48-4**	**0.306**		**0.0366**
Copper	**7440-50-8**	**67.4**		**2.21**
Lead	**7439-92-1**	**0.898**		**0.179**
Manganese	**7439-96-5**	**9.61**		**1.59**
Molybdenum	**7439-98-7**	**4.24**		**0.301**
Nickel	**7440-02-0**	**1.86**		**0.547**
Selenium	**7782-49-2**	**0.292**	LJ, QX	**0.00751**
Thallium	**7440-28-0**	**0.00157**	QB-01	**4.94E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0444**
Zinc	7440-66-6	34.2	U	64.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041424-HM
Matrix: Air
Lab ID: 4042234-16
Sample Volume: 2014.034 m³
Filter ID:
Sampled: 04/14/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 05:10

Comments: Q8508883- Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0658**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.287**		**0.00757**
Barium	**7440-39-3**	**2.03**	QB-01	**0.864**
Beryllium	**7440-41-7**	**0.00531**		**0.00259**
Cadmium	7440-43-9	0.00858	U	0.0599
Chromium	7440-47-3	1.31	U	1.79
Cobalt	**7440-48-4**	**0.146**		**0.0352**
Copper	**7440-50-8**	**38.4**		**2.12**
Lead	**7439-92-1**	**0.518**		**0.173**
Manganese	**7439-96-5**	**5.39**		**1.53**
Molybdenum	**7439-98-7**	**2.38**		**0.290**
Nickel	**7440-02-0**	**0.869**		**0.527**
Selenium	**7782-49-2**	**0.294**	LJ, QX	**0.00724**
Thallium	**7440-28-0**	**0.00132**	QB-01	**4.76E-4**
Vanadium	**7440-62-2**	**0.667**		**0.0427**
Zinc	7440-66-6	29.9	U	62.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041424-HM
Matrix: Air
Lab ID: 4042234-17
Sample Volume: 1884.357 m³
Filter ID:
Sampled: 04/14/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 05:26

Comments: Q8506892- Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0713**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.317**		**0.00809**
Barium	**7440-39-3**	**3.14**	QB-01	**0.924**
Beryllium	**7440-41-7**	**0.0144**		**0.00276**
Cadmium	7440-43-9	0.0102	U	0.0640
Chromium	**7440-47-3**	**2.86**		**1.91**
Cobalt	**7440-48-4**	**0.545**		**0.0376**
Copper	**7440-50-8**	**34.4**		**2.27**
Lead	**7439-92-1**	**0.451**		**0.185**
Manganese	**7439-96-5**	**10.8**		**1.63**
Molybdenum	**7439-98-7**	**1.64**		**0.310**
Nickel	**7440-02-0**	**1.77**		**0.563**
Selenium	**7782-49-2**	**0.321**	LJ, QX	**0.00774**
Thallium	**7440-28-0**	**0.00143**	QB-01	**5.09E-4**
Vanadium	**7440-62-2**	**1.17**		**0.0457**
Zinc	7440-66-6	25.9	U	66.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041424-HM
Matrix: Air
Lab ID: 4042234-18
Sample Volume: 1883.644 m³
Filter ID:
Sampled: 04/14/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 05:41

Comments: Q8506893- Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.869**		**0.00809**
Barium	**7440-39-3**	**2.95**	QB-01	**0.924**
Beryllium	**7440-41-7**	**0.00619**		**0.00276**
Cadmium	7440-43-9	0.0280	U	0.0640
Chromium	**7440-47-3**	**1.99**		**1.91**
Cobalt	**7440-48-4**	**0.220**		**0.0377**
Copper	**7440-50-8**	**38.4**		**2.27**
Lead	**7439-92-1**	**1.02**		**0.185**
Manganese	**7439-96-5**	**6.85**		**1.63**
Molybdenum	**7439-98-7**	**2.14**		**0.310**
Nickel	**7440-02-0**	**1.06**		**0.563**
Selenium	**7782-49-2**	**0.287**	LJ, QX	**0.00774**
Thallium	**7440-28-0**	**0.00133**	QB-01	**5.09E-4**
Vanadium	**7440-62-2**	**0.778**		**0.0457**
Zinc	7440-66-6	41.4	U	66.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-041524-HM
Matrix: Air
Lab ID: 4042234-19
Sample Volume: 1974.48 m³
Filter ID:
Sampled: 04/15/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 05:59

Comments: Q8506894 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.172**	SL	**0.0318**
Arsenic	**7440-38-2**	**3.25**		**0.00772**
Barium	**7440-39-3**	**6.59**	QB-01	**0.882**
Beryllium	**7440-41-7**	**0.0169**		**0.00264**
Cadmium	**7440-43-9**	**0.0616**		**0.0611**
Chromium	**7440-47-3**	**4.42**		**1.82**
Cobalt	**7440-48-4**	**0.772**		**0.0359**
Copper	**7440-50-8**	**69.2**		**2.17**
Lead	**7439-92-1**	**1.63**		**0.176**
Manganese	**7439-96-5**	**21.8**		**1.56**
Molybdenum	**7439-98-7**	**4.09**		**0.296**
Nickel	**7440-02-0**	**2.46**		**0.537**
Selenium	**7782-49-2**	**0.242**	LJ, QX	**0.00738**
Thallium	**7440-28-0**	**0.00175**	QB-01	**4.85E-4**
Vanadium	**7440-62-2**	**2.01**		**0.0436**
Zinc	7440-66-6	46.2	U	63.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041524-HM
Matrix: Air
Lab ID: 4042234-21
Sample Volume: 1951.34 m³
Filter ID:
Sampled: 04/15/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 06:17

Comments: Q8521179 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.140**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.151**		**0.00781**
Barium	**7440-39-3**	**3.22**	QB-01	**0.892**
Beryllium	**7440-41-7**	**0.0109**		**0.00267**
Cadmium	7440-43-9	0.0330	U	0.0618
Chromium	**7440-47-3**	**2.30**		**1.84**
Cobalt	**7440-48-4**	**0.394**		**0.0364**
Copper	**7440-50-8**	**36.9**		**2.19**
Lead	**7439-92-1**	**0.696**		**0.178**
Manganese	**7439-96-5**	**7.42**		**1.58**
Molybdenum	**7439-98-7**	**1.46**		**0.299**
Nickel	**7440-02-0**	**1.42**		**0.544**
Selenium	**7782-49-2**	**0.189**	LJ, QX	**0.00747**
Thallium	**7440-28-0**	**0.00101**	QB-01	**4.91E-4**
Vanadium	**7440-62-2**	**0.627**		**0.0441**
Zinc	7440-66-6	42.6	U	64.0

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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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041524-HM
Matrix: Air
Lab ID: 4042234-22
Sample Volume: 1981.734 m³
Filter ID:
Sampled: 04/15/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 07:30

Comments: Q8521177 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.129**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.389**		**0.00769**
Barium	**7440-39-3**	**1.91**	QB-01	**0.878**
Beryllium	**7440-41-7**	**0.00306**		**0.00263**
Cadmium	7440-43-9	0.0136	U	0.0608
Chromium	7440-47-3	1.32	U	1.81
Cobalt	**7440-48-4**	**0.115**		**0.0358**
Copper	**7440-50-8**	**35.6**		**2.16**
Lead	**7439-92-1**	**0.625**		**0.176**
Manganese	**7439-96-5**	**3.17**		**1.55**
Molybdenum	**7439-98-7**	**1.86**		**0.295**
Nickel	**7440-02-0**	**0.767**		**0.535**
Selenium	**7782-49-2**	**0.161**	LJ, QX	**0.00736**
Thallium	**7440-28-0**	**9.01E-4**	QB-01	**4.84E-4**
Vanadium	**7440-62-2**	**0.237**		**0.0434**
Zinc	7440-66-6	32.6	LJ, QX, U	63.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-041524-HM
Matrix: Air
Lab ID: 4042234-23
Sample Volume: 1974.48 m³
Filter ID:
Sampled: 04/15/24 00:00
Received: 04/22/24 15:41
Analysis Date: 04/24/24 08:02

Comments: Q8521172 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0296	SL, U	0.0318
Arsenic	**7440-38-2**	**0.0116**	FB-01	**0.00772**
Barium	**7440-39-3**	**1.55**	FB-01, QB-01	**0.882**
Beryllium	7440-41-7	8.10E-4	U	0.00264
Cadmium	7440-43-9	0.00426	U	0.0611
Chromium	7440-47-3	0.921	U	1.82
Cobalt	7440-48-4	0.0233	U	0.0359
Copper	**7440-50-8**	**19.3**	FB-01	**2.17**
Lead	**7439-92-1**	**0.865**	FB-01	**0.176**
Manganese	7439-96-5	0.428	U	1.56
Molybdenum	7439-98-7	0.185	U	0.296
Nickel	7440-02-0	0.486	U	0.537
Selenium	7782-49-2	ND	LJ, QX, U	0.00738
Thallium	7440-28-0	1.96E-4	QB-01, U	4.85E-4
Vanadium	**7440-62-2**	**0.0491**	FB-01	**0.0436**
Zinc	7440-66-6	31.7	LJ, QX, U	63.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-041624-HM
Matrix: Air
Lab ID: 4042234-24
Sample Volume: 1955.527 m³
Filter ID:
Sampled: 04/16/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 08:19

Comments: Q8521176 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0819**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.190**		**0.00780**
Barium	**7440-39-3**	**2.94**	QB-01	**0.890**
Beryllium	**7440-41-7**	**0.00266**		**0.00266**
Cadmium	7440-43-9	0.00807	U	0.0617
Chromium	7440-47-3	1.50	U	1.84
Cobalt	**7440-48-4**	**0.110**		**0.0363**
Copper	**7440-50-8**	**73.5**		**2.19**
Lead	**7439-92-1**	**0.445**		**0.178**
Manganese	**7439-96-5**	**2.85**		**1.57**
Molybdenum	**7439-98-7**	**4.33**		**0.299**
Nickel	**7440-02-0**	**1.19**		**0.542**
Selenium	**7782-49-2**	**0.161**	LJ, QX	**0.00745**
Thallium	**7440-28-0**	**0.00171**	QB-01	**4.90E-4**
Vanadium	**7440-62-2**	**0.396**		**0.0440**
Zinc	7440-66-6	47.5	LJ, QX, U	63.9

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041624-HM
Matrix: Air
Lab ID: 4042234-25
Sample Volume: 1939.101 m³
Filter ID:
Sampled: 04/16/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 08:37

Comments: Q8521175 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.236**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.259**		**0.00786**
Barium	**7440-39-3**	**7.52**	QB-01	**0.898**
Beryllium	**7440-41-7**	**0.00912**		**0.00268**
Cadmium	7440-43-9	0.0118	U	0.0622
Chromium	**7440-47-3**	**2.29**		**1.85**
Cobalt	**7440-48-4**	**0.347**		**0.0366**
Copper	**7440-50-8**	**42.0**		**2.21**
Lead	**7439-92-1**	**0.705**		**0.180**
Manganese	**7439-96-5**	**9.36**		**1.59**
Molybdenum	**7439-98-7**	**2.40**		**0.301**
Nickel	**7440-02-0**	**1.75**		**0.547**
Selenium	**7782-49-2**	**0.193**	LJ, QX	**0.00752**
Thallium	**7440-28-0**	**0.00187**	QB-01	**4.94E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0444**
Zinc	7440-66-6	34.6	LJ, QX, U	64.4

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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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041624-HM
Matrix: Air
Lab ID: 4042234-26
Sample Volume: 1922.954 m³
Filter ID:
Sampled: 04/16/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 08:53

Comments: Q8521173 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0837**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.140**		**0.00793**
Barium	**7440-39-3**	**2.45**	QB-01	**0.905**
Beryllium	**7440-41-7**	**0.00546**		**0.00271**
Cadmium	7440-43-9	0.00868	U	0.0627
Chromium	7440-47-3	1.42	U	1.87
Cobalt	**7440-48-4**	**0.162**		**0.0369**
Copper	**7440-50-8**	**53.2**		**2.23**
Lead	**7439-92-1**	**0.413**		**0.181**
Manganese	**7439-96-5**	**3.86**		**1.60**
Molybdenum	**7439-98-7**	**2.62**		**0.304**
Nickel	**7440-02-0**	**1.02**		**0.552**
Selenium	**7782-49-2**	**0.149**	LJ, QX	**0.00758**
Thallium	**7440-28-0**	**0.00180**	QB-01	**4.98E-4**
Vanadium	**7440-62-2**	**0.478**		**0.0448**
Zinc	7440-66-6	20.4	LJ, QX, U	65.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041624-HM
Matrix: Air
Lab ID: 4042234-27
Sample Volume: 1960.309 m³
Filter ID:
Sampled: 04/16/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 09:10

Comments: Q8521171 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.315**		**0.00778**
Barium	**7440-39-3**	**3.93**	QB-01	**0.888**
Beryllium	**7440-41-7**	**0.00888**		**0.00266**
Cadmium	7440-43-9	0.0143	U	0.0615
Chromium	**7440-47-3**	**1.92**		**1.83**
Cobalt	**7440-48-4**	**0.287**		**0.0362**
Copper	**7440-50-8**	**30.9**		**2.18**
Lead	**7439-92-1**	**0.946**		**0.178**
Manganese	**7439-96-5**	**8.74**		**1.57**
Molybdenum	**7439-98-7**	**1.69**		**0.298**
Nickel	**7440-02-0**	**1.21**		**0.541**
Selenium	**7782-49-2**	**0.232**	LJ, QX	**0.00744**
Thallium	**7440-28-0**	**0.00157**	QB-01	**4.89E-4**
Vanadium	**7440-62-2**	**0.801**		**0.0439**
Zinc	7440-66-6	27.6	LJ, QX, U	63.7

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-041724-HM
Matrix: Air
Lab ID: 4042234-28
Sample Volume: 1971.184 m³
Filter ID:
Sampled: 04/17/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 09:28

Comments: Q8521170 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0619**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.165**		**0.00773**
Barium	**7440-39-3**	**3.36**	QB-01	**0.883**
Beryllium	**7440-41-7**	**0.00493**		**0.00264**
Cadmium	7440-43-9	0.00687	U	0.0612
Chromium	**7440-47-3**	**2.36**		**1.82**
Cobalt	**7440-48-4**	**0.288**		**0.0360**
Copper	**7440-50-8**	**79.1**		**2.17**
Lead	**7439-92-1**	**0.942**		**0.177**
Manganese	**7439-96-5**	**6.26**		**1.56**
Molybdenum	**7439-98-7**	**3.70**		**0.296**
Nickel	**7440-02-0**	**1.75**		**0.538**
Selenium	**7782-49-2**	**0.117**	LJ, QX	**0.00740**
Thallium	**7440-28-0**	**6.81E-4**	QB-01	**4.86E-4**
Vanadium	**7440-62-2**	**0.567**		**0.0437**
Zinc	7440-66-6	54.4	LJ, QX, U	63.4

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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: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041724-HM
Matrix: Air
Lab ID: 4042234-29
Sample Volume: 2081.064 m³
Filter ID:
Sampled: 04/17/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 09:43

Comments: Q8521168 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.261**		**0.00733**
Barium	**7440-39-3**	**4.12**	QB-01	**0.837**
Beryllium	**7440-41-7**	**0.00814**		**0.00250**
Cadmium	7440-43-9	0.0115	U	0.0579
Chromium	**7440-47-3**	**1.94**		**1.73**
Cobalt	**7440-48-4**	**0.331**		**0.0341**
Copper	**7440-50-8**	**52.5**		**2.06**
Lead	**7439-92-1**	**0.778**		**0.167**
Manganese	**7439-96-5**	**8.88**		**1.48**
Molybdenum	**7439-98-7**	**2.60**		**0.281**
Nickel	**7440-02-0**	**1.31**		**0.510**
Selenium	**7782-49-2**	**0.139**	LJ, QX	**0.00701**
Thallium	**7440-28-0**	**8.86E-4**	QB-01	**4.60E-4**
Vanadium	**7440-62-2**	**0.873**		**0.0414**
Zinc	7440-66-6	35.1	LJ, QX, U	60.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041724-HM/MS/MS **Lab ID:** 4042234-30 **Sampled:** 04/17/24 23:59
Matrix: Air **Sample Volume:** 1984.52 m³ **Received:** 04/22/24 15:41
Filter ID: **Analysis Date:** 04/23/24 21:32

Comments: Q8521166 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0692**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.111**		**0.00768**
Barium	**7440-39-3**	**2.35**	QB-01	**0.877**
Beryllium	**7440-41-7**	**0.00961**		**0.00262**
Cadmium	7440-43-9	0.00788	U	0.0608
Chromium	**7440-47-3**	**1.86**		**1.81**
Cobalt	**7440-48-4**	**0.213**		**0.0357**
Copper	**7440-50-8**	**44.8**		**2.16**
Lead	**7439-92-1**	**1.32**		**0.175**
Manganese	**7439-96-5**	**5.23**		**1.55**
Molybdenum	**7439-98-7**	**2.25**		**0.294**
Nickel	**7440-02-0**	**1.07**		**0.535**
Selenium	**7782-49-2**	**0.128**	LJ, QX	**0.00735**
Thallium	**7440-28-0**	**8.17E-4**	QB-01	**4.83E-4**
Vanadium	**7440-62-2**	**0.498**		**0.0434**
Zinc	7440-66-6	44.2	LJ, QM-07, QX, U	63.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041724-HM
Matrix: Air
Lab ID: 4042234-31
Sample Volume: 1963.605 m³
Filter ID:
Sampled: 04/17/24 23:59
Received: 04/22/24 15:41
Analysis Date: 04/24/24 09:59

Comments: Q8521165 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0955**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.345**		**0.00776**
Barium	**7440-39-3**	**4.05**	QB-01	**0.887**
Beryllium	**7440-41-7**	**0.0120**		**0.00265**
Cadmium	7440-43-9	0.0321	U	0.0614
Chromium	**7440-47-3**	**3.02**		**1.83**
Cobalt	**7440-48-4**	**0.404**		**0.0361**
Copper	**7440-50-8**	**30.3**		**2.18**
Lead	**7439-92-1**	**0.976**		**0.177**
Manganese	**7439-96-5**	**12.5**		**1.57**
Molybdenum	**7439-98-7**	**1.77**		**0.297**
Nickel	**7440-02-0**	**2.03**		**0.540**
Selenium	**7782-49-2**	**0.233**	LJ, QX	**0.00742**
Thallium	**7440-28-0**	**0.00101**	QB-01	**4.88E-4**
Vanadium	**7440-62-2**	**0.954**		**0.0438**
Zinc	7440-66-6	39.9	LJ, QX, U	63.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-041724-HM
Matrix: Air
Lab ID: 4042234-32
Sample Volume: 1971.184 m³
Filter ID:
Sampled: 04/17/24 00:00
Received: 04/22/24 15:41
Analysis Date: 04/24/24 11:30

Comments: Q8521156 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0202	SL, U	0.0319
Arsenic	7440-38-2	0.00339	U	0.00773
Barium	**7440-39-3**	**1.01**	FB-01, QB-01	**0.883**
Beryllium	7440-41-7	4.02E-4	U	0.00264
Cadmium	7440-43-9	5.23E-4	U	0.0612
Chromium	7440-47-3	0.845	U	1.82
Cobalt	7440-48-4	0.0107	U	0.0360
Copper	7440-50-8	0.391	U	2.17
Lead	7439-92-1	0.0308	U	0.177
Manganese	7439-96-5	0.169	U	1.56
Molybdenum	7439-98-7	0.147	U	0.296
Nickel	7440-02-0	0.395	U	0.538
Selenium	7782-49-2	ND	LJ, QX, U	0.00740
Thallium	7440-28-0	2.36E-4	QB-01, QB-04, U	4.86E-4
Vanadium	7440-62-2	0.0164	U	0.0437
Zinc	7440-66-6	21.7	LJ, QX, U	63.4

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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: 05/01/24 10:52
SUBMITTED: 04/22/24
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 2404070 - B4D2306										
Calibration Blank (2404070-CCB1)				Prepared & Analyzed: 04/23/24						
Antimony	2.09		ng/l							
Arsenic	5.81		ng/l							
Barium	3.88		ng/l							
Beryllium	0.531		ng/l							
Cadmium	0.362		ng/l							
Chromium	7.34		ng/l							
Cobalt	1.20		ng/l							
Copper	128		ng/l							
Lead	23.8		ng/l							
Manganese	13.0		ng/l							
Molybdenum	44.6		ng/l							
Nickel	2.71		ng/l							
Selenium	-15.2		ng/l							LJ, QX, U
Thallium	3.15		ng/l							QB-04
Vanadium	-36.0		ng/l							U
Zinc	-7.89		ng/l							U
Calibration Blank (2404070-CCB2)				Prepared & Analyzed: 04/23/24						
Antimony	0.160		ng/l							
Arsenic	5.48		ng/l							
Barium	-0.127		ng/l							U
Beryllium	0.109		ng/l							
Cadmium	-0.125		ng/l							U
Chromium	1.79		ng/l							
Cobalt	0.214		ng/l							
Copper	57.8		ng/l							
Lead	2.32		ng/l							
Manganese	2.82		ng/l							
Molybdenum	4.36		ng/l							
Nickel	0.723		ng/l							
Selenium	-26.3		ng/l							LJ, QX, U
Thallium	0.955		ng/l							
Vanadium	-27.1		ng/l							U
Zinc	-53.8		ng/l							U
Calibration Blank (2404070-CCB3)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	0.276		ng/l							
Arsenic	2.05		ng/l							
Barium	-0.927		ng/l							U
Beryllium	-0.241		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 2404070 - B4D2306										
Calibration Blank (2404070-CCB3) Contin				Prepared: 04/23/24 Analyzed: 04/24/24						
Cadmium	-0.123		ng/l							U
Chromium	1.63		ng/l							
Cobalt	0.313		ng/l							
Copper	34.9		ng/l							
Lead	2.06		ng/l							
Manganese	1.26		ng/l							
Molybdenum	5.11		ng/l							
Nickel	1.10		ng/l							
Selenium	-24.5		ng/l							LJ, QX, U
Thallium	1.04		ng/l							
Vanadium	-36.6		ng/l							U
Zinc	-57.7		ng/l							U
Calibration Blank (2404070-CCB4)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	1.67		ng/l							
Arsenic	12.3		ng/l							
Barium	14.2		ng/l							
Beryllium	-0.0264		ng/l							U
Cadmium	1.49		ng/l							
Chromium	23.3		ng/l							
Cobalt	4.14		ng/l							
Copper	215		ng/l							
Lead	15.1		ng/l							
Manganese	42.1		ng/l							
Molybdenum	7.53		ng/l							
Nickel	12.0		ng/l							
Selenium	-21.1		ng/l							LJ, QX, U
Thallium	0.889		ng/l							
Vanadium	-35.6		ng/l							U
Zinc	-4.37		ng/l							U
Calibration Blank (2404070-CCB5)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	0.183		ng/l							
Arsenic	7.89		ng/l							
Barium	0.376		ng/l							
Beryllium	-0.674		ng/l							U
Cadmium	0.0634		ng/l							
Chromium	3.72		ng/l							
Cobalt	0.390		ng/l							
Copper	55.8		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404070 - B4D2306										
Calibration Blank (2404070-CCB5) Contin				Prepared: 04/23/24 Analyzed: 04/24/24						
Lead	2.23		ng/l							
Manganese	2.66		ng/l							
Molybdenum	4.33		ng/l							
Nickel	3.28		ng/l							
Selenium	-5.72		ng/l							LJ, QX, U
Thallium	0.780		ng/l							
Vanadium	-42.6		ng/l							U
Zinc	-45.9		ng/l							U
Calibration Blank (2404070-CCB6)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	0.602		ng/l							
Arsenic	6.34		ng/l							
Barium	0.692		ng/l							
Beryllium	-0.503		ng/l							U
Cadmium	0.0858		ng/l							
Chromium	4.40		ng/l							
Cobalt	0.358		ng/l							
Copper	68.9		ng/l							
Lead	2.63		ng/l							
Manganese	3.17		ng/l							
Molybdenum	7.15		ng/l							
Nickel	2.55		ng/l							
Selenium	-17.1		ng/l							LJ, QX, U
Thallium	1.20		ng/l							
Vanadium	-52.5		ng/l							U
Zinc	-40.2		ng/l							U
Calibration Blank (2404070-CCB7)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	0.502		ng/l							
Arsenic	0.299		ng/l							
Barium	0.971		ng/l							
Beryllium	-0.152		ng/l							U
Cadmium	0.164		ng/l							
Chromium	2.50		ng/l							
Cobalt	0.353		ng/l							
Copper	74.6		ng/l							
Lead	3.91		ng/l							
Manganese	4.39		ng/l							
Molybdenum	6.88		ng/l							
Nickel	1.25		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404070 - B4D2306										
Calibration Blank (2404070-CCB7) Contin				Prepared: 04/23/24 Analyzed: 04/24/24						
Selenium	-17.1		ng/l							LJ, QX, U
Thallium	1.41		ng/l							QB-04
Vanadium	-52.1		ng/l							U
Zinc	-19.1		ng/l							U
Calibration Check (2404070-CCV1)				Prepared & Analyzed: 04/23/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	203000		ng/l	200000		101	90-110			
Beryllium	4780		ng/l	5000.0		95.6	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	494000		ng/l	500000		98.9	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20100		ng/l	20000		100	90-110			LJ, QX
Thallium	501		ng/l	500.00		100	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2404070-CCV2)				Prepared & Analyzed: 04/23/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4720		ng/l	5000.0		94.3	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	236000		ng/l	240000		98.3	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	494000		ng/l	500000		98.8	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20300		ng/l	20000		101	90-110			LJ, QX
Thallium	494		ng/l	500.00		98.8	90-110			
Vanadium	19300		ng/l	20000		96.6	90-110			
Zinc	528000		ng/l	500000		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 2404070 - B4D2306										
Calibration Check (2404070-CCV3)				Prepared & Analyzed: 04/23/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4730		ng/l	5000.0		94.6	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	237000		ng/l	240000		98.9	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	492000		ng/l	500000		98.5	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Thallium	497		ng/l	500.00		99.3	90-110			
Vanadium	19600		ng/l	20000		98.2	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Calibration Check (2404070-CCV4)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	51000		ng/l	50000		102	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20500		ng/l	20000		102	90-110			LJ, QX
Thallium	509		ng/l	500.00		102	90-110			
Vanadium	19500		ng/l	20000		97.4	90-110			
Zinc	544000		ng/l	500000		109	90-110			
Calibration Check (2404070-CCV5)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20700		ng/l	20000		104	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4770		ng/l	5000.0		95.4	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 2404070 - B4D2306										
Calibration Check (2404070-CCV5) Contin				Prepared: 04/23/24 Analyzed: 04/24/24						
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	53800		ng/l	50000		108	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	127000		ng/l	120000		105	90-110			
Selenium	20700		ng/l	20000		104	90-110			LJ, QX
Thallium	511		ng/l	500.00		102	90-110			
Vanadium	19700		ng/l	20000		98.4	90-110			
Zinc	548000		ng/l	500000		110	90-110			
Calibration Check (2404070-CCV6)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20900		ng/l	20000		104	90-110			
Barium	215000		ng/l	200000		108	90-110			
Beryllium	4800		ng/l	5000.0		96.0	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	54300		ng/l	50000		109	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Lead	206000		ng/l	200000		103	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	53700		ng/l	50000		107	90-110			
Nickel	128000		ng/l	120000		106	90-110			
Selenium	20700		ng/l	20000		103	90-110			LJ, QX
Thallium	517		ng/l	500.00		103	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	555000		ng/l	500000		111	90-110			LJ, QX
Calibration Check (2404070-CCV7)				Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	20900		ng/l	20000		105	90-110			
Arsenic	20800		ng/l	20000		104	90-110			
Barium	213000		ng/l	200000		107	90-110			
Beryllium	4760		ng/l	5000.0		95.1	90-110			
Cadmium	21100		ng/l	20000		106	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	53400		ng/l	50000		107	90-110			
Copper	2.12E6		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 2404070 - B4D2306										
Calibration Check (2404070-CCV7) Contin				Prepared: 04/23/24 Analyzed: 04/24/24						
Lead	207000		ng/l	200000		103	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	54200		ng/l	50000		108	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Thallium	515		ng/l	500.00		103	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	551000		ng/l	500000		110	90-110			
High Cal Check (2404070-HCV1)				Prepared & Analyzed: 04/23/24						
Antimony	40000		ng/l	40000		99.9	95-105			
Arsenic	39800		ng/l	40000		99.5	95-105			
Barium	407000		ng/l	400000		102	95-105			
Beryllium	9750		ng/l	10000		97.5	95-105			
Cadmium	39300		ng/l	40000		98.3	95-105			
Chromium	468000		ng/l	480000		97.5	95-105			
Cobalt	96400		ng/l	100000		96.4	95-105			
Copper	3.87E6		ng/l	4.0000E6		96.9	95-105			
Lead	397000		ng/l	400000		99.3	95-105			
Manganese	969000		ng/l	1.0000E6		96.9	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	234000		ng/l	240000		97.4	95-105			
Selenium	39700		ng/l	40000		99.4	95-105			LJ, QX
Thallium	1030		ng/l	1000.0		103	95-105			
Vanadium	39800		ng/l	40000		99.6	95-105			
Zinc	964000		ng/l	1.0000E6		96.4	95-105			
Initial Cal Blank (2404070-ICB1)				Prepared & Analyzed: 04/23/24						
Antimony	0.607		ng/l							
Arsenic	-2.90		ng/l							U
Barium	1.21		ng/l							
Beryllium	-0.0928		ng/l							U
Cadmium	-0.0577		ng/l							U
Chromium	3.85		ng/l							
Cobalt	0.447		ng/l							
Copper	102		ng/l							
Lead	10.5		ng/l							
Manganese	7.46		ng/l							
Molybdenum	7.24		ng/l							
Nickel	-1.23		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 2404070 - B4D2306										
Initial Cal Blank (2404070-ICB1) Continu				Prepared & Analyzed: 04/23/24						
Selenium	-14.0		ng/l							LJ, QX, U
Thallium	1.08		ng/l							
Vanadium	-35.9		ng/l							U
Zinc	-26.0		ng/l							U
Initial Cal Check (2404070-ICV1)				Prepared & Analyzed: 04/23/24						
Antimony	19700		ng/l	20000		98.5	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	4810		ng/l	5000.0		96.1	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	236000		ng/l	240000		98.4	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.3	90-110			
Manganese	485000		ng/l	500000		97.0	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	514		ng/l	500.00		103	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Interference Check A (2404070-IFA1)				Prepared & Analyzed: 04/23/24						
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	298000		ng/l	300000		99.5	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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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: 05/01/24 10:52
SUBMITTED: 04/22/24
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 2404070 - B4D2306										
Interference Check B (2404070-IFB1)				Prepared & Analyzed: 04/23/24						
Antimony	20600		ng/l	20000		103	80-120			
Arsenic	20500		ng/l	20000		102	80-120			
Barium	206000		ng/l	200000		103	80-120			
Beryllium	4470		ng/l	5000.0		89.3	80-120			
Cadmium	19800		ng/l	20000		98.8	80-120			
Chromium	230000		ng/l	240000		96.0	80-120			
Cobalt	51700		ng/l	50000		103	80-120			
Copper	1.95E6		ng/l	2.0000E6		97.4	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	510000		ng/l	500000		102	80-120			
Molybdenum	353000		ng/l	350000		101	80-120			
Nickel	118000		ng/l	120000		98.4	80-120			
Selenium	19300		ng/l	20000		96.7	80-120			LJ, QX
Thallium	528		ng/l	500.00		106	80-120			
Vanadium	18100		ng/l	20000		90.3	80-120			
Zinc	496000		ng/l	500000		99.2	80-120			
Batch B4D2306 - ICP-MS Extraction										
Blank (B4D2306-BLK1)				Prepared & Analyzed: 04/23/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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							LJ, QX, U
Thallium	ND	5.89E-4	ng/m³ Air							QB-01, QB-04 U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4D2306-BS1)				Prepared & Analyzed: 04/23/24						
Antimony	0.789	0.0386	ng/m³ Air	1.3829		57.1	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		97.0	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4D2306 - ICP-MS Extraction										
LCS (B4D2306-BS1) Continued				Prepared & Analyzed: 04/23/24						
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			QB-01
Beryllium	1.27	0.00320	ng/m³ Air	1.3829		91.5	80-120			
Cadmium	1.39	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.8	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		100	80-120			
Copper	29.2	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.3	80-120			
Manganese	7.97	1.89	ng/m³ Air	8.2975		96.1	80-120			
Molybdenum	1.69	0.359	ng/m³ Air	1.3829		122	80-120			
Nickel	3.43	0.652	ng/m³ Air	2.7658		124	80-120			
Selenium	2.76	0.00896	ng/m³ Air	2.7658		100	80-120			LJ, QX
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.7	80-120			QB-01, QB-04
Vanadium	2.79	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	142	76.8	ng/m³ Air	82.975		171	80-120			
LCS (B4D2306-BS2)				Prepared & Analyzed: 04/23/24						
Antimony	0.791	0.0386	ng/m³ Air	1.3829		57.2	80-120			SL
Arsenic	2.66	0.00937	ng/m³ Air	2.7658		96.1	80-120			
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			QB-01
Beryllium	1.23	0.00320	ng/m³ Air	1.3829		88.6	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		100	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.37	0.0436	ng/m³ Air	1.3829		98.8	80-120			
Copper	29.0	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.5	0.214	ng/m³ Air	13.829		98.0	80-120			
Manganese	7.86	1.89	ng/m³ Air	8.2975		94.7	80-120			
Molybdenum	1.56	0.359	ng/m³ Air	1.3829		113	80-120			
Nickel	3.06	0.652	ng/m³ Air	2.7658		111	80-120			
Selenium	2.69	0.00896	ng/m³ Air	2.7658		97.1	80-120			LJ, QX
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.5	80-120			QB-01
Vanadium	2.76	0.0529	ng/m³ Air	2.7658		99.8	80-120			
Zinc	141	76.8	ng/m³ Air	82.975		170	80-120			
Duplicate (B4D2306-DUP1)		**Source: 4042234-11**		Prepared & Analyzed: 04/23/24						
Antimony	0.123	0.0308	ng/m³ Air		0.124			0.937	10	SL
Arsenic	0.263	0.00747	ng/m³ Air		0.240			9.13	10	
Barium	3.25	0.853	ng/m³ Air		3.19			2.01	10	QB-01
Beryllium	0.00652	0.00255	ng/m³ Air		0.00654			0.345	10	
Cadmium	ND	0.0591	ng/m³ Air		ND				10	U
Chromium	ND	1.76	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4D2306 - ICP-MS Extraction										
Duplicate (B4D2306-DUP1) Continued			**Source: 4042234-11**		Prepared & Analyzed: 04/23/24					
Cobalt	0.181	0.0348	ng/m³ Air		0.179			1.25	10	
Copper	37.7	2.10	ng/m³ Air		35.8			5.12	10	
Lead	0.684	0.171	ng/m³ Air		0.694			1.43	10	
Manganese	6.35	1.51	ng/m³ Air		6.37			0.393	10	
Molybdenum	2.15	0.286	ng/m³ Air		2.15			0.0772	10	
Nickel	1.04	0.520	ng/m³ Air		1.06			1.79	10	
Selenium	0.283	0.00715	ng/m³ Air		0.276			2.63	10	LJ, QX
Thallium	0.00214	4.70E-4	ng/m³ Air		0.00210			1.58	10	QB-01, QB-04
Vanadium	1.11	0.0422	ng/m³ Air		1.12			0.567	10	
Zinc	ND	61.3	ng/m³ Air		ND				10	U
Duplicate (B4D2306-DUP2)			**Source: 4042234-30**		Prepared & Analyzed: 04/23/24					
Antimony	0.0725	0.0316	ng/m³ Air		0.0692			4.67	10	SL
Arsenic	0.134	0.00768	ng/m³ Air		0.111			19.6	10	
Barium	2.62	0.877	ng/m³ Air		2.35			10.9	10	QB-01
Beryllium	0.00960	0.00262	ng/m³ Air		0.00961			0.179	10	
Cadmium	ND	0.0608	ng/m³ Air		ND				10	U
Chromium	ND	1.81	ng/m³ Air		1.86				10	U
Cobalt	0.218	0.0357	ng/m³ Air		0.213			2.12	10	
Copper	50.2	2.16	ng/m³ Air		44.8			11.3	10	
Lead	1.47	0.175	ng/m³ Air		1.32			11.0	10	
Manganese	5.28	1.55	ng/m³ Air		5.23			0.907	10	
Molybdenum	2.28	0.294	ng/m³ Air		2.25			1.49	10	
Nickel	1.05	0.535	ng/m³ Air		1.07			2.02	10	
Selenium	0.131	0.00735	ng/m³ Air		0.128			2.28	10	LJ, QX
Thallium	8.48E-4	4.83E-4	ng/m³ Air		8.17E-4			3.79	10	QB-01
Vanadium	0.534	0.0434	ng/m³ Air		0.498			7.06	10	
Zinc	ND	63.0	ng/m³ Air		ND				10	U
Duplicate (B4D2306-DUP3)			**Source: 4042234-15**		Prepared: 04/23/24 Analyzed: 04/24/24					
Antimony	0.126	0.0324	ng/m³ Air		0.128			1.68	10	SL
Arsenic	1.12	0.00786	ng/m³ Air		1.13			0.944	10	
Barium	3.93	0.897	ng/m³ Air		3.92			0.232	10	QB-01
Beryllium	0.00784	0.00268	ng/m³ Air		0.00796			1.48	10	
Cadmium	ND	0.0621	ng/m³ Air		ND				10	U
Chromium	2.27	1.85	ng/m³ Air		2.30			1.36	10	
Cobalt	0.305	0.0366	ng/m³ Air		0.306			0.397	10	
Copper	66.9	2.21	ng/m³ Air		67.4			0.736	10	
Lead	0.892	0.179	ng/m³ Air		0.898			0.672	10	
Manganese	9.53	1.59	ng/m³ Air		9.61			0.864	10	

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FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
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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 B4D2306 - ICP-MS Extraction										
Duplicate (B4D2306-DUP3) Continued		**Source: 4042234-15**		Prepared: 04/23/24 Analyzed: 04/24/24						
Molybdenum	4.22	0.301	ng/m³ Air		4.24			0.530	10	
Nickel	1.86	0.547	ng/m³ Air		1.86			0.170	10	
Selenium	0.291	0.00751	ng/m³ Air		0.292			0.206	10	LJ, QX
Thallium	0.00162	4.94E-4	ng/m³ Air		0.00157			3.28	10	QB-01
Vanadium	1.08	0.0444	ng/m³ Air		1.10			2.35	10	
Zinc	ND	64.4	ng/m³ Air		ND				10	U
Duplicate (B4D2306-DUP4)		**Source: 4042234-22**		Prepared: 04/23/24 Analyzed: 04/24/24						
Antimony	0.129	0.0317	ng/m³ Air		0.129			0.0268	10	SL
Arsenic	0.394	0.00769	ng/m³ Air		0.389			1.28	10	
Barium	1.92	0.878	ng/m³ Air		1.91			0.513	10	QB-01
Beryllium	0.00305	0.00263	ng/m³ Air		0.00306			0.290	10	
Cadmium	ND	0.0608	ng/m³ Air		ND				10	U
Chromium	ND	1.81	ng/m³ Air		ND				10	U
Cobalt	0.115	0.0358	ng/m³ Air		0.115			0.420	10	
Copper	35.5	2.16	ng/m³ Air		35.6			0.171	10	
Lead	0.618	0.176	ng/m³ Air		0.625			0.978	10	
Manganese	3.19	1.55	ng/m³ Air		3.17			0.564	10	
Molybdenum	1.87	0.295	ng/m³ Air		1.86			0.355	10	
Nickel	0.768	0.535	ng/m³ Air		0.767			0.102	10	
Selenium	0.161	0.00736	ng/m³ Air		0.161			0.310	10	LJ, QX
Thallium	8.54E-4	4.84E-4	ng/m³ Air		9.01E-4			5.36	10	QB-01
Vanadium	0.236	0.0434	ng/m³ Air		0.237			0.0722	10	
Zinc	ND	63.1	ng/m³ Air		ND				10	LJ, QX, U
Matrix Spike (B4D2306-MS1)		**Source: 4042234-11**		Prepared & Analyzed: 04/23/24						
Antimony	0.787	0.0308	ng/m³ Air	1.1029	0.124	60.1	80-120			SL
Arsenic	2.37	0.00747	ng/m³ Air	2.2059	0.240	96.4	80-120			
Barium	25.0	0.853	ng/m³ Air	22.059	3.19	98.7	80-120			QB-01
Beryllium	0.987	0.00255	ng/m³ Air	1.1029	0.00654	88.9	80-120			
Cadmium	1.07	0.0591	ng/m³ Air	1.1029	ND	97.4	80-120			
Chromium	12.6	1.76	ng/m³ Air	11.029	ND	114	80-120			
Cobalt	1.28	0.0348	ng/m³ Air	1.1029	0.179	100	80-120			
Copper	56.2	2.10	ng/m³ Air	22.059	35.8	92.2	80-120			
Lead	11.6	0.171	ng/m³ Air	11.029	0.694	98.8	80-120			
Manganese	12.3	1.51	ng/m³ Air	6.6177	6.37	89.6	80-120			
Molybdenum	3.13	0.286	ng/m³ Air	1.1029	2.15	88.9	80-120			
Nickel	3.09	0.520	ng/m³ Air	2.2059	1.06	92.1	80-120			
Selenium	2.38	0.00715	ng/m³ Air	2.2059	0.276	95.5	80-120			LJ, QX
Thallium	0.112	4.70E-4	ng/m³ Air	0.11029	0.00210	99.3	80-120			QB-01, QB-04

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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 B4D2306 - ICP-MS Extraction										
Matrix Spike (B4D2306-MS1) Continued Source: 4042234-11 Prepared & Analyzed: 04/23/24										
Vanadium	3.12	0.0422	ng/m³ Air	2.2059	1.12	90.7	80-120			
Zinc	100	61.3	ng/m³ Air	66.177	ND	152	80-120			
Matrix Spike (B4D2306-MS2) Source: 4042234-30 Prepared & Analyzed: 04/23/24										
Antimony	0.712	0.0316	ng/m³ Air	1.1338	0.0692	56.7	80-120			SL
Arsenic	2.23	0.00768	ng/m³ Air	2.2676	0.111	93.4	80-120			
Barium	24.4	0.877	ng/m³ Air	22.676	2.35	97.4	80-120			QB-01
Beryllium	0.996	0.00262	ng/m³ Air	1.1338	0.00961	87.0	80-120			
Cadmium	1.11	0.0608	ng/m³ Air	1.1338	ND	97.5	80-120			
Chromium	12.7	1.81	ng/m³ Air	11.338	1.86	95.9	80-120			
Cobalt	1.30	0.0357	ng/m³ Air	1.1338	0.213	96.0	80-120			
Copper	71.4	2.16	ng/m³ Air	22.676	44.8	117	80-120			
Lead	12.6	0.175	ng/m³ Air	11.338	1.32	99.6	80-120			
Manganese	11.3	1.55	ng/m³ Air	6.8027	5.23	89.6	80-120			
Molybdenum	3.27	0.294	ng/m³ Air	1.1338	2.25	90.6	80-120			
Nickel	3.03	0.535	ng/m³ Air	2.2676	1.07	86.4	80-120			
Selenium	2.26	0.00735	ng/m³ Air	2.2676	0.128	94.1	80-120			LJ, QX
Thallium	0.112	4.83E-4	ng/m³ Air	0.11338	8.17E-4	97.9	80-120			QB-01
Vanadium	2.62	0.0434	ng/m³ Air	2.2676	0.498	93.6	80-120			
Zinc	101	63.0	ng/m³ Air	68.027	ND	149	80-120			
Matrix Spike Dup (B4D2306-MSD1) Source: 4042234-11 Prepared & Analyzed: 04/23/24										
Antimony	0.788	0.0308	ng/m³ Air	1.1029	0.124	60.1	80-120	0.0378	20	SL
Arsenic	2.35	0.00747	ng/m³ Air	2.2059	0.240	95.6	80-120	0.805	20	
Barium	24.8	0.853	ng/m³ Air	22.059	3.19	98.1	80-120	0.504	20	QB-01
Beryllium	0.985	0.00255	ng/m³ Air	1.1029	0.00654	88.7	80-120	0.187	20	
Cadmium	1.08	0.0591	ng/m³ Air	1.1029	ND	97.9	80-120	0.574	20	
Chromium	12.6	1.76	ng/m³ Air	11.029	ND	114	80-120	0.231	20	
Cobalt	1.29	0.0348	ng/m³ Air	1.1029	0.179	100	80-120	0.287	20	
Copper	60.4	2.10	ng/m³ Air	22.059	35.8	112	80-120	7.30	20	
Lead	11.7	0.171	ng/m³ Air	11.029	0.694	100	80-120	1.23	20	
Manganese	12.3	1.51	ng/m³ Air	6.6177	6.37	89.0	80-120	0.336	20	
Molybdenum	3.24	0.286	ng/m³ Air	1.1029	2.15	99.3	80-120	3.60	20	
Nickel	3.18	0.520	ng/m³ Air	2.2059	1.06	96.3	80-120	2.95	20	
Selenium	2.39	0.00715	ng/m³ Air	2.2059	0.276	95.6	80-120	0.134	20	LJ, QX
Thallium	0.112	4.70E-4	ng/m³ Air	0.11029	0.00210	99.6	80-120	0.299	20	QB-01, QB-04
Vanadium	3.10	0.0422	ng/m³ Air	2.2059	1.12	89.8	80-120	0.631	20	
Zinc	103	61.3	ng/m³ Air	66.177	ND	156	80-120	2.69	20	
Matrix Spike Dup (B4D2306-MSD2) Source: 4042234-30 Prepared & Analyzed: 04/23/24										
Antimony	0.712	0.0316	ng/m³ Air	1.1338	0.0692	56.7	80-120	0.0299	20	SL

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
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 B4D2306 - ICP-MS Extraction										
Matrix Spike Dup (B4D2306-MSD2) Conti				**Source: 4042234-30**		Prepared & Analyzed: 04/23/24				
Arsenic	2.28	0.00768	ng/m³ Air	2.2676	0.111	95.6	80-120	2.17	20	
Barium	24.8	0.877	ng/m³ Air	22.676	2.35	98.8	80-120	1.33	20	QB-01
Beryllium	1.01	0.00262	ng/m³ Air	1.1338	0.00961	88.0	80-120	1.14	20	
Cadmium	1.11	0.0608	ng/m³ Air	1.1338	ND	98.2	80-120	0.754	20	
Chromium	13.2	1.81	ng/m³ Air	11.338	1.86	99.9	80-120	3.48	20	
Cobalt	1.34	0.0357	ng/m³ Air	1.1338	0.213	99.0	80-120	2.55	20	
Copper	70.7	2.16	ng/m³ Air	22.676	44.8	114	80-120	0.946	20	
Lead	12.5	0.175	ng/m³ Air	11.338	1.32	98.9	80-120	0.584	20	
Manganese	11.8	1.55	ng/m³ Air	6.8027	5.23	96.0	80-120	3.82	20	
Molybdenum	3.38	0.294	ng/m³ Air	1.1338	2.25	99.5	80-120	3.05	20	
Nickel	3.25	0.535	ng/m³ Air	2.2676	1.07	96.1	80-120	7.03	20	
Selenium	2.29	0.00735	ng/m³ Air	2.2676	0.128	95.3	80-120	1.19	20	LJ, QX
Thallium	0.112	4.83E-4	ng/m³ Air	0.11338	8.17E-4	97.8	80-120	0.0950	20	QB-01
Vanadium	2.65	0.0434	ng/m³ Air	2.2676	0.498	94.8	80-120	1.01	20	
Zinc	95.5	63.0	ng/m³ Air	68.027	ND	140	80-120	5.95	20	QM-07
Post Spike (B4D2306-PS1)				**Source: 4042234-11**		Prepared & Analyzed: 04/23/24				
Antimony	0.344	0.0308	ng/m³ Air	0.22059	0.124	99.6	75-125			SL
Arsenic	1.31	0.00747	ng/m³ Air	1.1029	0.240	97.1	75-125			
Barium	5.37	0.853	ng/m³ Air	2.2059	3.19	98.9	75-125			QB-01
Beryllium	0.203	0.00255	ng/m³ Air	0.22059	0.00654	89.0	75-125			
Cadmium	0.120	0.0591	ng/m³ Air	0.11029	ND	108	75-125			
Chromium	2.58	1.76	ng/m³ Air	1.1029	ND	234	75-125			
Cobalt	0.402	0.0348	ng/m³ Air	0.22059	0.179	101	75-125			
Copper	47.6	2.10	ng/m³ Air	11.029	35.8	106	75-125			
Lead	22.4	0.171	ng/m³ Air	22.059	0.694	98.6	75-125			
Manganese	8.56	1.51	ng/m³ Air	2.2059	6.37	99.2	75-125			
Molybdenum	3.21	0.286	ng/m³ Air	1.1029	2.15	96.5	75-125			
Nickel	3.24	0.520	ng/m³ Air	2.2059	1.06	99.0	75-125			
Selenium	1.33	0.00715	ng/m³ Air	1.1029	0.276	95.2	75-125			LJ, QX
Thallium	0.0583	4.70E-4	ng/m³ Air	5.5147E-2	0.00210	102	75-125			QB-01, QB-04
Vanadium	2.12	0.0422	ng/m³ Air	1.1029	1.12	91.0	75-125			
Zinc	63.7	61.3	ng/m³ Air	22.059	ND	289	75-125			
Post Spike (B4D2306-PS2)				**Source: 4042234-30**		Prepared & Analyzed: 04/23/24				
Antimony	0.293	0.0316	ng/m³ Air	0.22676	0.0692	98.9	75-125			SL
Arsenic	1.21	0.00768	ng/m³ Air	1.1338	0.111	96.6	75-125			
Barium	4.58	0.877	ng/m³ Air	2.2676	2.35	98.2	75-125			QB-01
Beryllium	0.225	0.00262	ng/m³ Air	0.22676	0.00961	95.1	75-125			
Cadmium	0.121	0.0608	ng/m³ Air	0.11338	ND	107	75-125			

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REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
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 B4D2306 - ICP-MS Extraction										
Post Spike (B4D2306-PS2) Continued			**Source: 4042234-30**		Prepared & Analyzed: 04/23/24					
Chromium	2.96	1.81	ng/m³ Air	1.1338	1.86	97.3	75-125			
Cobalt	0.437	0.0357	ng/m³ Air	0.22676	0.213	99.0	75-125			
Copper	57.0	2.16	ng/m³ Air	11.338	44.8	108	75-125			
Lead	23.7	0.175	ng/m³ Air	22.676	1.32	98.7	75-125			
Manganese	7.53	1.55	ng/m³ Air	2.2676	5.23	101	75-125			
Molybdenum	3.31	0.294	ng/m³ Air	1.1338	2.25	93.6	75-125			
Nickel	3.31	0.535	ng/m³ Air	2.2676	1.07	98.7	75-125			
Selenium	1.26	0.00735	ng/m³ Air	1.1338	0.128	99.5	75-125			LJ, QX
Thallium	0.0594	4.83E-4	ng/m³ Air	5.6689E-2	8.17E-4	103	75-125			QB-01
Vanadium	1.57	0.0434	ng/m³ Air	1.1338	0.498	95.0	75-125			
Zinc	68.7	63.0	ng/m³ Air	22.676	ND	303	75-125			
Dilution Check (B4D2306-SRL1)			**Source: 4042234-11**		Prepared & Analyzed: 04/23/24					
Antimony	ND	0.154	ng/m³ Air		ND				10	SL, U
Arsenic	0.250	0.0374	ng/m³ Air		0.240			4.31	10	
Barium	ND	4.27	ng/m³ Air		ND				10	QB-01, U
Beryllium	ND	0.0128	ng/m³ Air		ND				10	U
Cadmium	ND	0.295	ng/m³ Air		ND				10	U
Chromium	ND	8.81	ng/m³ Air		ND				10	U
Cobalt	0.180	0.174	ng/m³ Air		0.179			0.307	10	
Copper	37.2	10.5	ng/m³ Air		35.8			3.81	10	
Lead	ND	0.853	ng/m³ Air		ND				10	U
Manganese	ND	7.54	ng/m³ Air		ND				10	U
Molybdenum	2.13	1.43	ng/m³ Air		2.15			0.796	10	
Nickel	ND	2.60	ng/m³ Air		ND				10	U
Selenium	0.250	0.0357	ng/m³ Air		0.276			9.80	10	LJ, QX
Thallium	0.00296	0.00235	ng/m³ Air		ND			33.8	10	QB-01, QB-04
Vanadium	1.10	0.211	ng/m³ Air		1.12			1.63	10	
Zinc	ND	306	ng/m³ Air		ND				10	U
Dilution Check (B4D2306-SRL2)			**Source: 4042234-30**		Prepared & Analyzed: 04/23/24					
Antimony	ND	0.158	ng/m³ Air		ND				10	SL, U
Arsenic	0.118	0.0384	ng/m³ Air		0.111			6.36	10	
Barium	ND	4.39	ng/m³ Air		ND				10	QB-01, U
Beryllium	ND	0.0131	ng/m³ Air		ND				10	U
Cadmium	ND	0.304	ng/m³ Air		ND				10	U
Chromium	ND	9.06	ng/m³ Air		ND				10	U
Cobalt	0.213	0.179	ng/m³ Air		0.213			0.157	10	
Copper	46.0	10.8	ng/m³ Air		44.8			2.66	10	
Lead	1.29	0.877	ng/m³ Air		1.32			2.45	10	

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FILE #: 4205.00.003.001
REPORTED: 05/01/24 10:52
SUBMITTED: 04/22/24
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 B4D2306 - ICP-MS Extraction										
Dilution Check (B4D2306-SRL2) ContinueSource: 4042234-30 Prepared & Analyzed: 04/23/24										
Manganese	ND	7.75	ng/m³ Air		ND				10	U
Molybdenum	2.24	1.47	ng/m³ Air		2.25			0.394	10	
Nickel	ND	2.67	ng/m³ Air		ND				10	U
Selenium	0.100	0.0367	ng/m³ Air		0.128			24.6	10	LJ, QX
Thallium	ND	0.00241	ng/m³ Air		ND				10	QB-01, U
Vanadium	0.529	0.217	ng/m³ Air		0.498			6.18	10	
Zinc	ND	315	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
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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Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

May 08, 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 04/29/24 14:32.

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.

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
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AQS SITE CODE:
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ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
[redacted]				

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MFL-AM02-041524-HM	4042941-32	Air	04/15/24 23:59	04/29/24 14:32

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SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041524-HM
Matrix: Air
Lab ID: 4042941-32
Sample Volume: 1026.835 m³
Filter ID:
Sampled: 04/15/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 05:17

Comments: Q8506895 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.161**	SL	**0.0612**
Arsenic	**7440-38-2**	**0.660**		**0.0148**
Barium	**7440-39-3**	**4.19**	QB-01	**1.70**
Beryllium	**7440-41-7**	**0.00858**		**0.00507**
Cadmium	7440-43-9	0.0220	U	0.117
Chromium	7440-47-3	3.12	U	3.50
Cobalt	**7440-48-4**	**0.271**		**0.0691**
Copper	**7440-50-8**	**33.9**		**4.17**
Lead	**7439-92-1**	**1.09**		**0.339**
Manganese	**7439-96-5**	**7.73**		**2.99**
Molybdenum	**7439-98-7**	**1.59**		**0.569**
Nickel	**7440-02-0**	**2.25**		**1.03**
Selenium	**7782-49-2**	**0.274**		**0.0142**
Thallium	**7440-28-0**	**0.00137**		**9.33E-4**
Vanadium	**7440-62-2**	**0.740**		**0.0838**
Zinc	7440-66-6	41.6	U	122

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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 2404094 - B4D3006										
Calibration Blank (2404094-CCB1)				Prepared & Analyzed: 04/30/24						
Antimony	0.504		ng/l							
Arsenic	0.0930		ng/l							
Barium	0.576		ng/l							
Beryllium	0.302		ng/l							
Cadmium	0.181		ng/l							
Chromium	4.55		ng/l							
Cobalt	0.474		ng/l							
Copper	52.6		ng/l							
Lead	10.5		ng/l							
Manganese	2.08		ng/l							
Molybdenum	12.0		ng/l							
Nickel	0.396		ng/l							
Selenium	9.29		ng/l							
Thallium	1.25		ng/l							
Vanadium	-40.9		ng/l							U
Zinc	16.8		ng/l							
Calibration Blank (2404094-CCB2)				Prepared & Analyzed: 04/30/24						
Antimony	0.470		ng/l							
Arsenic	-0.329		ng/l							U
Barium	0.850		ng/l							
Beryllium	0.290		ng/l							
Cadmium	0.113		ng/l							
Chromium	1.90		ng/l							
Cobalt	0.337		ng/l							
Copper	18.0		ng/l							
Lead	5.70		ng/l							
Manganese	-1.30		ng/l							U
Molybdenum	4.65		ng/l							
Nickel	0.361		ng/l							
Selenium	8.25		ng/l							
Thallium	1.08		ng/l							
Vanadium	-38.1		ng/l							U
Zinc	32.5		ng/l							
Calibration Blank (2404094-CCB3)				Prepared & Analyzed: 04/30/24						
Antimony	0.303		ng/l							
Arsenic	-0.279		ng/l							U
Barium	0.747		ng/l							
Beryllium	0.285		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2404094 - B4D3006										
Calibration Blank (2404094-CCB3) Contin				Prepared & Analyzed: 04/30/24						
Cadmium	0.0568		ng/l							
Chromium	2.47		ng/l							
Cobalt	0.262		ng/l							
Copper	13.8		ng/l							
Lead	2.55		ng/l							
Manganese	-1.66		ng/l							U
Molybdenum	2.36		ng/l							
Nickel	-0.00781		ng/l							U
Selenium	0.215		ng/l							
Thallium	0.566		ng/l							
Vanadium	-26.0		ng/l							U
Zinc	10.7		ng/l							
Calibration Blank (2404094-CCB4)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.460		ng/l							
Arsenic	0.556		ng/l							
Barium	0.842		ng/l							
Beryllium	0.289		ng/l							
Cadmium	0.121		ng/l							
Chromium	3.18		ng/l							
Cobalt	0.367		ng/l							
Copper	25.4		ng/l							
Lead	7.74		ng/l							
Manganese	-0.806		ng/l							U
Molybdenum	5.98		ng/l							
Nickel	0.726		ng/l							
Selenium	0.487		ng/l							
Thallium	1.26		ng/l							
Vanadium	-41.6		ng/l							U
Zinc	11.9		ng/l							
Calibration Blank (2404094-CCB5)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.437		ng/l							
Arsenic	1.77		ng/l							
Barium	0.431		ng/l							
Beryllium	-0.245		ng/l							U
Cadmium	0.0387		ng/l							
Chromium	2.89		ng/l							
Cobalt	0.299		ng/l							
Copper	19.0		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 2404094 - B4D3006										
Calibration Blank (2404094-CCB5) Contin				Prepared: 04/30/24 Analyzed: 05/01/24						
Lead	5.23		ng/l							
Manganese	-2.03		ng/l							U
Molybdenum	5.44		ng/l							
Nickel	1.69		ng/l							
Selenium	5.82		ng/l							
Thallium	1.13		ng/l							
Vanadium	-41.2		ng/l							U
Zinc	16.9		ng/l							
Calibration Blank (2404094-CCB6)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.697		ng/l							
Arsenic	0.733		ng/l							
Barium	0.694		ng/l							
Beryllium	0.0530		ng/l							
Cadmium	0.143		ng/l							
Chromium	2.81		ng/l							
Cobalt	0.309		ng/l							
Copper	24.6		ng/l							
Lead	9.12		ng/l							
Manganese	-1.08		ng/l							U
Molybdenum	6.63		ng/l							
Nickel	1.00		ng/l							
Selenium	9.97		ng/l							
Thallium	1.22		ng/l							
Vanadium	-48.0		ng/l							U
Zinc	18.7		ng/l							
Calibration Blank (2404094-CCB7)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.715		ng/l							
Arsenic	1.13		ng/l							
Barium	0.292		ng/l							
Beryllium	0.0773		ng/l							
Cadmium	0.114		ng/l							
Chromium	3.49		ng/l							
Cobalt	0.300		ng/l							
Copper	20.1		ng/l							
Lead	6.44		ng/l							
Manganese	-0.713		ng/l							U
Molybdenum	5.74		ng/l							
Nickel	1.02		ng/l							

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2404094 - B4D3006										
Calibration Blank (2404094-CCB7) Contin				Prepared: 04/30/24 Analyzed: 05/01/24						
Selenium	3.47		ng/l							
Thallium	1.03		ng/l							
Vanadium	-47.0		ng/l							U
Zinc	25.8		ng/l							
Calibration Check (2404094-CCV1)				Prepared & Analyzed: 04/30/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4920		ng/l	5000.0		98.5	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	506		ng/l	500.00		101	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2404094-CCV2)				Prepared & Analyzed: 04/30/24						
Antimony	19800		ng/l	20000		99.0	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	4990		ng/l	5000.0		99.8	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	52500		ng/l	50000		105	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	523000		ng/l	500000		105	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	518000		ng/l	500000		104	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 2404094 - B4D3006										
Calibration Check (2404094-CCV3)				Prepared & Analyzed: 04/30/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2404094-CCV4)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	4930		ng/l	5000.0		98.6	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19700		ng/l	20000		98.4	90-110			
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2404094-CCV5)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5030		ng/l	5000.0		101	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 2404094 - B4D3006										
Calibration Check (2404094-CCV5) Contin				Prepared: 04/30/24 Analyzed: 05/01/24						
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	258000		ng/l	240000		107	90-110			
Cobalt	52900		ng/l	50000		106	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	528000		ng/l	500000		106	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2404094-CCV6)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	256000		ng/l	240000		107	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	523000		ng/l	500000		105	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	19800		ng/l	20000		98.8	90-110			
Thallium	498		ng/l	500.00		99.5	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2404094-CCV7)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	19800		ng/l	20000		99.1	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4910		ng/l	5000.0		98.3	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	256000		ng/l	240000		107	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.11E6		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 2404094 - B4D3006										
Calibration Check (2404094-CCV7) Contin					Prepared: 04/30/24 Analyzed: 05/01/24					
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	523000		ng/l	500000		105	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19500		ng/l	20000		97.5	90-110			
Thallium	491		ng/l	500.00		98.3	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	518000		ng/l	500000		104	90-110			
High Cal Check (2404094-HCV1)					Prepared & Analyzed: 04/30/24					
Antimony	39800		ng/l	40000		99.6	95-105			
Arsenic	39800		ng/l	40000		99.6	95-105			
Barium	399000		ng/l	400000		99.9	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39600		ng/l	40000		98.9	95-105			
Chromium	473000		ng/l	480000		98.5	95-105			
Cobalt	98200		ng/l	100000		98.2	95-105			
Copper	3.94E6		ng/l	4.0000E6		98.5	95-105			
Lead	402000		ng/l	400000		100	95-105			
Manganese	984000		ng/l	1.0000E6		98.4	95-105			
Molybdenum	99000		ng/l	100000		99.0	95-105			
Nickel	236000		ng/l	240000		98.2	95-105			
Selenium	39900		ng/l	40000		99.6	95-105			
Thallium	1020		ng/l	1000.0		102	95-105			
Vanadium	39600		ng/l	40000		99.1	95-105			
Zinc	980000		ng/l	1.0000E6		98.0	95-105			
Initial Cal Blank (2404094-ICB1)					Prepared & Analyzed: 04/30/24					
Antimony	0.625		ng/l							
Arsenic	0.186		ng/l							
Barium	0.823		ng/l							
Beryllium	0.330		ng/l							
Cadmium	0.0636		ng/l							
Chromium	4.13		ng/l							
Cobalt	0.355		ng/l							
Copper	82.0		ng/l							
Lead	15.7		ng/l							
Manganese	3.39		ng/l							
Molybdenum	7.63		ng/l							
Nickel	-0.223		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 2404094 - B4D3006										
Initial Cal Blank (2404094-ICB1) Continu				Prepared & Analyzed: 04/30/24						
Selenium	-0.801		ng/l							U
Thallium	0.937		ng/l							
Vanadium	-41.9		ng/l							U
Zinc	12.1		ng/l							
Initial Cal Check (2404094-ICV1)				Prepared & Analyzed: 04/30/24						
Antimony	19700		ng/l	20000		98.5	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	195000		ng/l	200000		97.7	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	49600		ng/l	50000		99.1	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Manganese	495000		ng/l	500000		99.1	90-110			
Molybdenum	48300		ng/l	50000		96.6	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	516		ng/l	500.00		103	90-110			
Vanadium	19700		ng/l	20000		98.4	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Interference Check A (2404094-IFA1)				Prepared & Analyzed: 04/30/24						
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	298000		ng/l	300000		99.3	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 2404094 - B4D3006										
Interference Check B (2404094-IFB1)				Prepared & Analyzed: 04/30/24						
Antimony	19900		ng/l	20000		99.7	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	5250		ng/l	5000.0		105	80-120			
Cadmium	18800		ng/l	20000		94.1	80-120			
Chromium	250000		ng/l	240000		104	80-120			
Cobalt	48800		ng/l	50000		97.7	80-120			
Copper	1.86E6		ng/l	2.0000E6		93.0	80-120			
Lead	204000		ng/l	200000		102	80-120			
Manganese	531000		ng/l	500000		106	80-120			
Molybdenum	345000		ng/l	350000		98.6	80-120			
Nickel	114000		ng/l	120000		95.2	80-120			
Selenium	19100		ng/l	20000		95.6	80-120			
Thallium	525		ng/l	500.00		105	80-120			
Vanadium	21900		ng/l	20000		110	80-120			
Zinc	445000		ng/l	500000		88.9	80-120			
Batch 2405002 - B4D3006										
Calibration Blank (2405002-CCB1)				Prepared & Analyzed: 05/01/24						
Antimony	0.659		ng/l							
Arsenic	0.776		ng/l							
Barium	2.16		ng/l							
Beryllium	0.247		ng/l							
Cadmium	0.184		ng/l							
Chromium	4.39		ng/l							
Cobalt	0.362		ng/l							
Copper	48.8		ng/l							
Lead	10.2		ng/l							
Manganese	7.75		ng/l							
Molybdenum	12.4		ng/l							
Nickel	-0.600		ng/l							U
Selenium	0.00885		ng/l							
Thallium	1.17		ng/l							
Vanadium	-40.1		ng/l							U
Zinc	2.03		ng/l							
Calibration Blank (2405002-CCB2)				Prepared & Analyzed: 05/01/24						
Antimony	0.658		ng/l							
Arsenic	0.106		ng/l							
Barium	0.629		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405002 - B4D3006										
Calibration Blank (2405002-CCB2) Contin				Prepared & Analyzed: 05/01/24						
Beryllium	0.0983		ng/l							
Cadmium	0.125		ng/l							
Chromium	3.75		ng/l							
Cobalt	0.128		ng/l							
Copper	27.8		ng/l							
Lead	6.36		ng/l							
Manganese	5.57		ng/l							
Molybdenum	5.13		ng/l							
Nickel	-1.31		ng/l							U
Selenium	-0.927		ng/l							U
Thallium	0.918		ng/l							
Vanadium	-41.3		ng/l							U
Zinc	-3.59		ng/l							U
Calibration Blank (2405002-CCB3)				Prepared & Analyzed: 05/01/24						
Antimony	0.670		ng/l							
Arsenic	0.244		ng/l							
Barium	1.97		ng/l							
Beryllium	-0.0542		ng/l							U
Cadmium	0.160		ng/l							
Chromium	3.82		ng/l							
Cobalt	0.175		ng/l							
Copper	21.3		ng/l							
Lead	6.42		ng/l							
Manganese	5.18		ng/l							
Molybdenum	6.07		ng/l							
Nickel	-0.843		ng/l							U
Selenium	-0.00745		ng/l							U
Thallium	1.16		ng/l							
Vanadium	-40.2		ng/l							U
Zinc	-4.26		ng/l							U
Calibration Blank (2405002-CCB4)				Prepared & Analyzed: 05/01/24						
Antimony	0.559		ng/l							
Arsenic	0.319		ng/l							
Barium	0.115		ng/l							
Beryllium	-0.513		ng/l							U
Cadmium	0.0118		ng/l							
Chromium	2.32		ng/l							
Cobalt	0.0634		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2405002 - B4D3006										
Calibration Blank (2405002-CCB4) Contin				Prepared & Analyzed: 05/01/24						
Copper	22.5		ng/l							
Lead	7.43		ng/l							
Manganese	3.51		ng/l							
Molybdenum	5.38		ng/l							
Nickel	-1.20		ng/l							U
Selenium	-4.23		ng/l							U
Thallium	1.06		ng/l							
Vanadium	-41.9		ng/l							U
Zinc	4.81		ng/l							
Calibration Blank (2405002-CCB5)				Prepared: 05/01/24 Analyzed: 05/02/24						
Antimony	0.720		ng/l							
Arsenic	0.0824		ng/l							
Barium	0.622		ng/l							
Beryllium	-0.414		ng/l							U
Cadmium	-0.00628		ng/l							U
Chromium	4.29		ng/l							
Cobalt	0.0188		ng/l							
Copper	20.0		ng/l							
Lead	7.06		ng/l							
Manganese	3.28		ng/l							
Molybdenum	5.96		ng/l							
Nickel	-1.33		ng/l							U
Selenium	-10.2		ng/l							U
Thallium	1.12		ng/l							
Vanadium	-41.2		ng/l							U
Zinc	-7.34		ng/l							U
Calibration Check (2405002-CCV1)				Prepared & Analyzed: 05/01/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	196000		ng/l	200000		97.8	90-110			
Beryllium	4940		ng/l	5000.0		98.9	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	194000		ng/l	200000		97.1	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	49000		ng/l	50000		98.1	90-110			

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REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2405002 - B4D3006										
Calibration Check (2405002-CCV1) Contin				Prepared & Analyzed: 05/01/24						
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	19500		ng/l	20000		97.6	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2405002-CCV2)				Prepared & Analyzed: 05/01/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	194000		ng/l	200000		96.9	90-110			
Beryllium	4960		ng/l	5000.0		99.3	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	196000		ng/l	200000		97.9	90-110			
Manganese	497000		ng/l	500000		99.3	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19600		ng/l	20000		98.2	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	19100		ng/l	20000		95.4	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2405002-CCV3)				Prepared & Analyzed: 05/01/24						
Antimony	19900		ng/l	20000		99.4	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	195000		ng/l	200000		97.7	90-110			
Beryllium	4960		ng/l	5000.0		99.3	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	49800		ng/l	50000		99.5	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	19200		ng/l	20000		95.8	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 2405002 - B4D3006										
Calibration Check (2405002-CCV3) Contin					Prepared & Analyzed: 05/01/24					
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2405002-CCV4)					Prepared & Analyzed: 05/01/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19500		ng/l	20000		97.7	90-110			
Barium	195000		ng/l	200000		97.5	90-110			
Beryllium	4910		ng/l	5000.0		98.2	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19700		ng/l	20000		98.7	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	19200		ng/l	20000		95.9	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2405002-CCV5)					Prepared: 05/01/24 Analyzed: 05/02/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	194000		ng/l	200000		97.1	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	196000		ng/l	200000		97.9	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19400		ng/l	20000		97.1	90-110			
Thallium	484		ng/l	500.00		96.7	90-110			
Vanadium	19600		ng/l	20000		98.1	90-110			
Zinc	516000		ng/l	500000		103	90-110			
High Cal Check (2405002-HCV1)					Prepared & Analyzed: 05/01/24					
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	39900		ng/l	40000		99.7	95-105			

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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 2405002 - B4D3006										
High Cal Check (2405002-HCV1) Continue					Prepared & Analyzed: 05/01/24					
Barium	402000		ng/l	400000		101	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39700		ng/l	40000		99.4	95-105			
Chromium	467000		ng/l	480000		97.3	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.87E6		ng/l	4.0000E6		96.7	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	975000		ng/l	1.0000E6		97.5	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	231000		ng/l	240000		96.4	95-105			
Selenium	39900		ng/l	40000		99.6	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	976000		ng/l	1.0000E6		97.6	95-105			
Initial Cal Blank (2405002-ICB1)					Prepared & Analyzed: 05/01/24					
Antimony	0.832		ng/l							
Arsenic	0.343		ng/l							
Barium	1.38		ng/l							
Beryllium	-0.0474		ng/l							U
Cadmium	0.173		ng/l							
Chromium	5.03		ng/l							
Cobalt	0.163		ng/l							
Copper	56.7		ng/l							
Lead	13.9		ng/l							
Manganese	6.96		ng/l							
Molybdenum	7.66		ng/l							
Nickel	-1.13		ng/l							U
Selenium	10.5		ng/l							
Thallium	0.993		ng/l							
Vanadium	-36.6		ng/l							U
Zinc	9.12		ng/l							
Initial Cal Check (2405002-ICV1)					Prepared & Analyzed: 05/01/24					
Antimony	20000		ng/l	20000		99.9	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	239000		ng/l	240000		99.4	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 2405002 - B4D3006										
Initial Cal Check (2405002-ICV1) Continu				Prepared & Analyzed: 05/01/24						
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	498000		ng/l	500000		99.5	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	514		ng/l	500.00		103	90-110			
Vanadium	19200		ng/l	20000		96.0	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Interference Check A (2405002-IFA1)				Prepared & Analyzed: 05/01/24						
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	293000		ng/l	300000		97.8	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
Interference Check B (2405002-IFB1)				Prepared & Analyzed: 05/01/24						
Antimony	20100		ng/l	20000		100	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	204000		ng/l	200000		102	80-120			
Beryllium	5350		ng/l	5000.0		107	80-120			
Cadmium	19000		ng/l	20000		95.1	80-120			
Chromium	252000		ng/l	240000		105	80-120			
Cobalt	48400		ng/l	50000		96.8	80-120			
Copper	1.86E6		ng/l	2.0000E6		92.8	80-120			
Lead	201000		ng/l	200000		100	80-120			
Manganese	533000		ng/l	500000		107	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 2405002 - B4D3006										
Interference Check B (2405002-IFB1) Co					Prepared & Analyzed: 05/01/24					
Molybdenum	341000		ng/l	350000		97.4	80-120			
Nickel	113000		ng/l	120000		94.4	80-120			
Selenium	19200		ng/l	20000		96.0	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	21400		ng/l	20000		107	80-120			
Zinc	449000		ng/l	500000		89.7	80-120			
Batch B4D3006 - ICP-MS Extraction										
Blank (B4D3006-BLK1)					Prepared & Analyzed: 04/30/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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 (B4D3006-BS1)					Prepared & Analyzed: 04/30/24					
Antimony	0.712	0.0386	ng/m³ Air	1.3829		51.5	80-120			SL
Arsenic	2.58	0.00937	ng/m³ Air	2.7658		93.3	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.3	80-120			QB-01
Beryllium	1.28	0.00320	ng/m³ Air	1.3829		92.7	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.3	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.41	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	29.1	2.63	ng/m³ Air	27.658		105	80-120			
Lead	12.9	0.214	ng/m³ Air	13.829		93.2	80-120			
Manganese	7.97	1.89	ng/m³ Air	8.2975		96.1	80-120			
Molybdenum	1.42	0.359	ng/m³ Air	1.3829		102	80-120			
Nickel	3.28	0.652	ng/m³ Air	2.7658		118	80-120			
Selenium	2.62	0.00896	ng/m³ Air	2.7658		94.9	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 B4D3006 - ICP-MS Extraction										
LCS (B4D3006-BS1) Continued					Prepared & Analyzed: 04/30/24					
Thallium	0.132	5.89E-4	ng/m³ Air	0.13829		95.3	80-120			
Vanadium	2.65	0.0529	ng/m³ Air	2.7658		95.8	80-120			
Zinc	140	76.8	ng/m³ Air	82.975		168	80-120			
LCS (B4D3006-BS2)					Prepared & Analyzed: 04/30/24					
Antimony	0.681	0.0386	ng/m³ Air	1.3829		49.3	80-120			SL
Arsenic	2.61	0.00937	ng/m³ Air	2.7658		94.4	80-120			
Barium	27.2	1.07	ng/m³ Air	27.658		98.3	80-120			QB-01
Beryllium	1.28	0.00320	ng/m³ Air	1.3829		92.6	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.7	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.7	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.1	0.214	ng/m³ Air	13.829		94.4	80-120			
Manganese	8.00	1.89	ng/m³ Air	8.2975		96.4	80-120			
Molybdenum	1.42	0.359	ng/m³ Air	1.3829		103	80-120			
Nickel	3.28	0.652	ng/m³ Air	2.7658		119	80-120			
Selenium	2.59	0.00896	ng/m³ Air	2.7658		93.5	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.7	80-120			
Vanadium	2.70	0.0529	ng/m³ Air	2.7658		97.6	80-120			
Zinc	138	76.8	ng/m³ Air	82.975		166	80-120			
Duplicate (B4D3006-DUP1)		**Source: 4042941-19**			Prepared & Analyzed: 04/30/24					
Antimony	0.0602	0.0314	ng/m³ Air		0.0636			5.45	10	SL
Arsenic	0.647	0.00763	ng/m³ Air		0.662			2.32	10	
Barium	4.27	0.872	ng/m³ Air		3.84			10.6	10	QB-01
Beryllium	0.0136	0.00261	ng/m³ Air		0.0140			2.95	10	
Cadmium	ND	0.0604	ng/m³ Air		ND				10	U
Chromium	2.92	1.80	ng/m³ Air		2.65			9.44	10	
Cobalt	0.597	0.0355	ng/m³ Air		0.563			5.94	10	
Copper	73.3	2.14	ng/m³ Air		70.3			4.09	10	
Lead	0.497	0.174	ng/m³ Air		0.451			9.57	10	
Manganese	15.3	1.54	ng/m³ Air		14.6			4.61	10	
Molybdenum	2.35	0.292	ng/m³ Air		2.30			2.16	10	
Nickel	2.13	0.531	ng/m³ Air		2.00			6.20	10	
Selenium	0.169	0.00730	ng/m³ Air		0.167			1.09	10	
Thallium	0.00252	4.80E-4	ng/m³ Air		0.00258			2.10	10	
Vanadium	1.51	0.0431	ng/m³ Air		1.43			5.46	10	
Zinc	ND	62.6	ng/m³ Air		ND				10	U
Duplicate (B4D3006-DUP2)		**Source: 4042941-02**			Prepared & Analyzed: 04/30/24					

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Duplicate (B4D3006-DUP2) Continued			**Source: 4042941-02**		Prepared & Analyzed: 04/30/24					
Antimony	0.195	0.0306	ng/m³ Air		0.185			5.56	10	SL
Arsenic	0.295	0.00742	ng/m³ Air		0.284			3.64	10	
Barium	5.70	0.847	ng/m³ Air		5.45			4.49	10	QB-01
Beryllium	0.0122	0.00253	ng/m³ Air		0.0126			3.30	10	
Cadmium	ND	0.0587	ng/m³ Air		ND				10	U
Chromium	2.04	1.75	ng/m³ Air		2.16			5.69	10	
Cobalt	0.367	0.0345	ng/m³ Air		0.377			2.66	10	
Copper	35.9	2.08	ng/m³ Air		35.3			1.76	10	
Lead	0.985	0.169	ng/m³ Air		1.07			8.64	10	
Manganese	12.0	1.50	ng/m³ Air		12.1			0.897	10	
Molybdenum	1.48	0.284	ng/m³ Air		1.47			0.698	10	
Nickel	1.39	0.516	ng/m³ Air		1.45			4.34	10	
Selenium	0.161	0.00709	ng/m³ Air		0.166			3.37	10	
Thallium	9.49E-4	4.66E-4	ng/m³ Air		9.82E-4			3.43	10	
Vanadium	1.12	0.0419	ng/m³ Air		1.16			3.41	10	
Zinc	ND	60.8	ng/m³ Air		ND				10	U
Duplicate (B4D3006-DUP3)			**Source: 4042941-25**		Prepared: 04/30/24 Analyzed: 05/01/24					
Antimony	0.0829	0.0347	ng/m³ Air		0.0826			0.305	10	SL
Arsenic	0.253	0.00841	ng/m³ Air		0.251			0.631	10	
Barium	2.98	0.961	ng/m³ Air		2.98			0.0409	10	QB-01
Beryllium	0.0144	0.00287	ng/m³ Air		0.0143			0.293	10	
Cadmium	ND	0.0665	ng/m³ Air		ND				10	U
Chromium	2.27	1.98	ng/m³ Air		2.27			0.0869	10	
Cobalt	0.336	0.0392	ng/m³ Air		0.336			0.181	10	
Copper	82.8	2.36	ng/m³ Air		82.4			0.511	10	
Lead	0.531	0.192	ng/m³ Air		0.527			0.734	10	
Manganese	8.58	1.70	ng/m³ Air		8.50			0.957	10	
Molybdenum	2.41	0.322	ng/m³ Air		2.33			3.23	10	
Nickel	1.23	0.585	ng/m³ Air		1.22			0.704	10	
Selenium	0.124	0.00805	ng/m³ Air		0.131			5.35	10	
Thallium	0.00121	5.29E-4	ng/m³ Air		0.00120			1.17	10	
Vanadium	0.801	0.0475	ng/m³ Air		0.804			0.376	10	
Zinc	ND	69.0	ng/m³ Air		ND				10	U
Duplicate (B4D3006-DUP4)			**Source: 4042941-12**		Prepared: 04/30/24 Analyzed: 05/01/24					
Antimony	0.0640	0.0325	ng/m³ Air		0.0645			0.698	10	SL
Arsenic	0.130	0.00790	ng/m³ Air		0.127			1.97	10	
Barium	2.31	0.902	ng/m³ Air		2.30			0.551	10	QB-01
Beryllium	0.00871	0.00270	ng/m³ Air		0.00891			2.27	10	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Duplicate (B4D3006-DUP4) Continued		**Source: 4042941-12**		Prepared: 04/30/24 Analyzed: 05/01/24						
Cadmium	ND	0.0625	ng/m³ Air		ND				10	U
Chromium	ND	1.86	ng/m³ Air		ND				10	U
Cobalt	0.195	0.0368	ng/m³ Air		0.193			0.749	10	
Copper	52.4	2.22	ng/m³ Air		52.0			0.747	10	
Lead	0.443	0.180	ng/m³ Air		0.448			1.15	10	
Manganese	5.13	1.59	ng/m³ Air		5.07			1.06	10	
Molybdenum	2.45	0.303	ng/m³ Air		2.46			0.621	10	
Nickel	1.00	0.550	ng/m³ Air		0.996			0.543	10	
Selenium	0.148	0.00755	ng/m³ Air		0.148			0.0669	10	
Thallium	0.00111	4.96E-4	ng/m³ Air		0.00117			5.08	10	
Vanadium	0.569	0.0446	ng/m³ Air		0.557			2.15	10	
Zinc	ND	64.7	ng/m³ Air		ND				10	U
Duplicate (B4D3006-DUP5)		**Source: 4042941-19R**		Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.0612	0.0314	ng/m³ Air		0.0640			4.52	10	
Arsenic	0.647	0.00763	ng/m³ Air		0.653			0.925	10	
Barium	4.25	0.872	ng/m³ Air		3.78			11.8	10	
Beryllium	0.0134	0.00261	ng/m³ Air		0.0135			0.907	10	
Cadmium	ND	0.0604	ng/m³ Air		ND				10	U
Chromium	2.83	1.80	ng/m³ Air		2.58			9.30	10	
Cobalt	0.591	0.0355	ng/m³ Air		0.558			5.70	10	
Copper	73.0	2.14	ng/m³ Air		70.7			3.07	10	
Lead	0.499	0.174	ng/m³ Air		0.452			10.0	10	
Manganese	15.1	1.54	ng/m³ Air		14.4			4.85	10	
Molybdenum	2.42	0.292	ng/m³ Air		2.33			3.65	10	
Nickel	2.09	0.531	ng/m³ Air		1.99			5.38	10	
Selenium	0.175	0.00730	ng/m³ Air		0.171			2.74	10	
Thallium	0.00243	4.80E-4	ng/m³ Air		0.00256			5.32	10	
Vanadium	1.44	0.0431	ng/m³ Air		1.37			5.15	10	
Zinc	ND	62.6	ng/m³ Air		ND				10	U
Matrix Spike (B4D3006-MS1)		**Source: 4042941-19**		Prepared & Analyzed: 04/30/24						
Antimony	0.643	0.0314	ng/m³ Air	1.1266	0.0636	51.4	80-120			SL
Arsenic	2.70	0.00763	ng/m³ Air	2.2532	0.662	90.6	80-120			
Barium	24.7	0.872	ng/m³ Air	22.532	3.84	92.7	80-120			QB-01
Beryllium	1.08	0.00261	ng/m³ Air	1.1266	0.0140	94.6	80-120			
Cadmium	1.10	0.0604	ng/m³ Air	1.1266	ND	98.1	80-120			
Chromium	14.9	1.80	ng/m³ Air	11.266	2.65	109	80-120			
Cobalt	1.75	0.0355	ng/m³ Air	1.1266	0.563	105	80-120			
Copper	97.4	2.14	ng/m³ Air	22.532	70.3	120	80-120			QM-07

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Matrix Spike (B4D3006-MS1) Continued Source: 4042941-19 Prepared & Analyzed: 04/30/24										
Lead	10.9	0.174	ng/m³ Air	11.266	0.451	93.1	80-120			
Manganese	21.7	1.54	ng/m³ Air	6.7597	14.6	105	80-120			
Molybdenum	3.27	0.292	ng/m³ Air	1.1266	2.30	86.1	80-120			
Nickel	4.41	0.531	ng/m³ Air	2.2532	2.00	107	80-120			
Selenium	2.17	0.00730	ng/m³ Air	2.2532	0.167	88.8	80-120			
Thallium	0.107	4.80E-4	ng/m³ Air	0.11266	0.00258	93.1	80-120			
Vanadium	3.76	0.0431	ng/m³ Air	2.2532	1.43	103	80-120			
Zinc	96.8	62.6	ng/m³ Air	67.597	ND	143	80-120			
Matrix Spike (B4D3006-MS2) Source: 4042941-02 Prepared & Analyzed: 04/30/24										
Antimony	0.769	0.0306	ng/m³ Air	1.0947	0.185	53.4	80-120			SL
Arsenic	2.31	0.00742	ng/m³ Air	2.1894	0.284	92.5	80-120			
Barium	26.3	0.847	ng/m³ Air	21.894	5.45	95.0	80-120			QB-01
Beryllium	1.05	0.00253	ng/m³ Air	1.0947	0.0126	94.3	80-120			
Cadmium	1.08	0.0587	ng/m³ Air	1.0947	ND	98.3	80-120			
Chromium	14.5	1.75	ng/m³ Air	10.947	2.16	113	80-120			
Cobalt	1.55	0.0345	ng/m³ Air	1.0947	0.377	107	80-120			
Copper	60.9	2.08	ng/m³ Air	21.894	35.3	117	80-120			
Lead	11.0	0.169	ng/m³ Air	10.947	1.07	91.0	80-120			
Manganese	19.1	1.50	ng/m³ Air	6.5681	12.1	107	80-120			
Molybdenum	2.36	0.284	ng/m³ Air	1.0947	1.47	81.5	80-120			
Nickel	3.81	0.516	ng/m³ Air	2.1894	1.45	108	80-120			
Selenium	2.05	0.00709	ng/m³ Air	2.1894	0.166	86.0	80-120			
Thallium	0.0998	4.66E-4	ng/m³ Air	0.10947	9.82E-4	90.3	80-120			
Vanadium	3.51	0.0419	ng/m³ Air	2.1894	1.16	107	80-120			
Zinc	112	60.8	ng/m³ Air	65.681	ND	170	80-120			
Matrix Spike (B4D3006-MS3) Source: 4042941-19R Prepared: 04/30/24 Analyzed: 05/01/24										
Antimony	0.643	0.0314	ng/m³ Air	1.1266	0.0640	51.4	80-120			SL
Arsenic	2.69	0.00763	ng/m³ Air	2.2532	0.653	90.6	80-120			
Barium	24.9	0.872	ng/m³ Air	22.532	3.78	93.6	80-120			QB-01
Beryllium	1.08	0.00261	ng/m³ Air	1.1266	0.0135	94.8	80-120			
Cadmium	1.12	0.0604	ng/m³ Air	1.1266	ND	99.1	80-120			
Chromium	14.8	1.80	ng/m³ Air	11.266	2.58	108	80-120			
Cobalt	1.74	0.0355	ng/m³ Air	1.1266	0.558	105	80-120			
Copper	96.9	2.14	ng/m³ Air	22.532	70.7	116	80-120			
Lead	11.0	0.174	ng/m³ Air	11.266	0.452	93.3	80-120			
Manganese	21.6	1.54	ng/m³ Air	6.7597	14.4	107	80-120			
Molybdenum	3.30	0.292	ng/m³ Air	1.1266	2.33	86.2	80-120			
Nickel	4.38	0.531	ng/m³ Air	2.2532	1.99	106	80-120			

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Matrix Spike (B4D3006-MS3) Continued Source: 4042941-19R Prepared: 04/30/24 Analyzed: 05/01/24										
Selenium	2.17	0.00730	ng/m³ Air	2.2532	0.171	88.5	80-120			
Thallium	0.105	4.80E-4	ng/m³ Air	0.11266	0.00256	91.4	80-120			
Vanadium	3.62	0.0431	ng/m³ Air	2.2532	1.37	100	80-120			
Zinc	97.5	62.6	ng/m³ Air	67.597	ND	144	80-120			
Matrix Spike Dup (B4D3006-MSD1) Source: 4042941-19 Prepared & Analyzed: 04/30/24										
Antimony	0.636	0.0314	ng/m³ Air	1.1266	0.0636	50.8	80-120	1.05	20	SL
Arsenic	2.64	0.00763	ng/m³ Air	2.2532	0.662	87.6	80-120	2.52	20	
Barium	25.1	0.872	ng/m³ Air	22.532	3.84	94.3	80-120	1.43	20	QB-01
Beryllium	1.09	0.00261	ng/m³ Air	1.1266	0.0140	95.1	80-120	0.533	20	
Cadmium	1.10	0.0604	ng/m³ Air	1.1266	ND	97.9	80-120	0.162	20	
Chromium	14.8	1.80	ng/m³ Air	11.266	2.65	108	80-120	0.683	20	
Cobalt	1.75	0.0355	ng/m³ Air	1.1266	0.563	106	80-120	0.0431	20	
Copper	99.8	2.14	ng/m³ Air	22.532	70.3	131	80-120	2.39	20	QM-07
Lead	10.9	0.174	ng/m³ Air	11.266	0.451	92.6	80-120	0.530	20	
Manganese	21.9	1.54	ng/m³ Air	6.7597	14.6	108	80-120	1.14	20	
Molybdenum	3.37	0.292	ng/m³ Air	1.1266	2.30	95.3	80-120	3.13	20	
Nickel	4.39	0.531	ng/m³ Air	2.2532	2.00	106	80-120	0.517	20	
Selenium	2.16	0.00730	ng/m³ Air	2.2532	0.167	88.3	80-120	0.465	20	
Thallium	0.107	4.80E-4	ng/m³ Air	0.11266	0.00258	93.0	80-120	0.0937	20	
Vanadium	3.74	0.0431	ng/m³ Air	2.2532	1.43	102	80-120	0.493	20	
Zinc	101	62.6	ng/m³ Air	67.597	ND	149	80-120	3.73	20	
Matrix Spike Dup (B4D3006-MSD2) Source: 4042941-02 Prepared & Analyzed: 04/30/24										
Antimony	0.792	0.0306	ng/m³ Air	1.0947	0.185	55.5	80-120	2.94	20	SL
Arsenic	2.33	0.00742	ng/m³ Air	2.1894	0.284	93.6	80-120	1.02	20	
Barium	26.5	0.847	ng/m³ Air	21.894	5.45	96.3	80-120	1.08	20	QB-01
Beryllium	1.08	0.00253	ng/m³ Air	1.0947	0.0126	97.7	80-120	3.44	20	
Cadmium	1.06	0.0587	ng/m³ Air	1.0947	ND	96.9	80-120	1.45	20	
Chromium	15.0	1.75	ng/m³ Air	10.947	2.16	118	80-120	3.77	20	
Cobalt	1.58	0.0345	ng/m³ Air	1.0947	0.377	110	80-120	2.53	20	
Copper	62.8	2.08	ng/m³ Air	21.894	35.3	126	80-120	3.11	20	QM-07
Lead	11.2	0.169	ng/m³ Air	10.947	1.07	92.7	80-120	1.65	20	
Manganese	19.6	1.50	ng/m³ Air	6.5681	12.1	114	80-120	2.53	20	
Molybdenum	2.47	0.284	ng/m³ Air	1.0947	1.47	91.8	80-120	4.64	20	
Nickel	3.97	0.516	ng/m³ Air	2.1894	1.45	115	80-120	4.05	20	
Selenium	2.11	0.00709	ng/m³ Air	2.1894	0.166	88.9	80-120	3.05	20	
Thallium	0.102	4.66E-4	ng/m³ Air	0.10947	9.82E-4	92.1	80-120	2.02	20	
Vanadium	3.61	0.0419	ng/m³ Air	2.1894	1.16	112	80-120	2.92	20	
Zinc	108	60.8	ng/m³ Air	65.681	ND	165	80-120	3.50	20	

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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 B4D3006 - ICP-MS Extraction										
Matrix Spike Dup (B4D3006-MSD3)		**Source: 4042941-19R**		Prepared: 04/30/24	Analyzed: 05/01/24					
Antimony	0.632	0.0314	ng/m³ Air	1.1266	0.0640	50.4	80-120	1.69	20	
Arsenic	2.62	0.00763	ng/m³ Air	2.2532	0.653	87.4	80-120	2.70	20	
Barium	24.5	0.872	ng/m³ Air	22.532	3.78	92.1	80-120	1.34	20	
Beryllium	1.08	0.00261	ng/m³ Air	1.1266	0.0135	94.9	80-120	0.0577	20	
Cadmium	1.09	0.0604	ng/m³ Air	1.1266	ND	97.1	80-120	2.00	20	
Chromium	14.8	1.80	ng/m³ Air	11.266	2.58	108	80-120	0.0652	20	
Cobalt	1.74	0.0355	ng/m³ Air	1.1266	0.558	105	80-120	0.00880	20	
Copper	99.7	2.14	ng/m³ Air	22.532	70.7	128	80-120	2.88	20	
Lead	11.0	0.174	ng/m³ Air	11.266	0.452	93.3	80-120	0.0293	20	
Manganese	21.9	1.54	ng/m³ Air	6.7597	14.4	110	80-120	1.03	20	
Molybdenum	3.42	0.292	ng/m³ Air	1.1266	2.33	96.3	80-120	3.39	20	
Nickel	4.35	0.531	ng/m³ Air	2.2532	1.99	105	80-120	0.871	20	
Selenium	2.16	0.00730	ng/m³ Air	2.2532	0.171	88.2	80-120	0.324	20	
Thallium	0.105	4.80E-4	ng/m³ Air	0.11266	0.00256	90.8	80-120	0.647	20	
Vanadium	3.63	0.0431	ng/m³ Air	2.2532	1.37	100	80-120	0.231	20	
Zinc	102	62.6	ng/m³ Air	67.597	ND	151	80-120	4.64	20	
Post Spike (B4D3006-PS1)		**Source: 4042941-19**		Prepared & Analyzed: 04/30/24						
Antimony	0.286	0.0314	ng/m³ Air	0.22532	0.0636	98.5	75-125			SL
Arsenic	1.73	0.00763	ng/m³ Air	1.1266	0.662	94.9	75-125			
Barium	5.98	0.872	ng/m³ Air	2.2532	3.84	94.8	75-125			QB-01
Beryllium	0.236	0.00261	ng/m³ Air	0.22532	0.0140	98.6	75-125			
Cadmium	0.123	0.0604	ng/m³ Air	0.11266	ND	110	75-125			
Chromium	4.07	1.80	ng/m³ Air	1.1266	2.65	125	75-125			PS-01
Cobalt	0.828	0.0355	ng/m³ Air	0.22532	0.563	118	75-125			
Copper	85.6	2.14	ng/m³ Air	11.266	70.3	135	75-125			A-01
Lead	21.5	0.174	ng/m³ Air	22.532	0.451	93.5	75-125			
Manganese	17.8	1.54	ng/m³ Air	2.2532	14.6	141	75-125			A-01
Molybdenum	3.19	0.292	ng/m³ Air	1.1266	2.30	79.2	75-125			
Nickel	4.55	0.531	ng/m³ Air	2.2532	2.00	113	75-125			
Selenium	1.18	0.00730	ng/m³ Air	1.1266	0.167	90.1	75-125			
Thallium	0.0563	4.80E-4	ng/m³ Air	5.6331E-2	0.00258	95.3	75-125			
Vanadium	2.70	0.0431	ng/m³ Air	1.1266	1.43	113	75-125			
Zinc	ND	62.6	ng/m³ Air	22.532	ND		75-125			U
Post Spike (B4D3006-PS2)		**Source: 4042941-02**		Prepared & Analyzed: 04/30/24						
Antimony	0.406	0.0306	ng/m³ Air	0.21894	0.185	101	75-125			SL
Arsenic	1.33	0.00742	ng/m³ Air	1.0947	0.284	95.7	75-125			
Barium	7.62	0.847	ng/m³ Air	2.1894	5.45	99.3	75-125			QB-01
Beryllium	0.230	0.00253	ng/m³ Air	0.21894	0.0126	99.3	75-125			

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Post Spike (B4D3006-PS2) Continued			**Source: 4042941-02**		Prepared & Analyzed: 04/30/24					
Cadmium	0.121	0.0587	ng/m³ Air	0.10947	ND	111	75-125			
Chromium	3.48	1.75	ng/m³ Air	1.0947	2.16	120	75-125			
Cobalt	0.620	0.0345	ng/m³ Air	0.21894	0.377	111	75-125			
Copper	48.1	2.08	ng/m³ Air	10.947	35.3	116	75-125			
Lead	21.6	0.169	ng/m³ Air	21.894	1.07	93.6	75-125			
Manganese	14.7	1.50	ng/m³ Air	2.1894	12.1	121	75-125			
Molybdenum	2.39	0.284	ng/m³ Air	1.0947	1.47	84.3	75-125			
Nickel	3.84	0.516	ng/m³ Air	2.1894	1.45	109	75-125			
Selenium	1.15	0.00709	ng/m³ Air	1.0947	0.166	89.6	75-125			
Thallium	0.0539	4.66E-4	ng/m³ Air	5.4734E-2	9.82E-4	96.7	75-125			
Vanadium	2.40	0.0419	ng/m³ Air	1.0947	1.16	114	75-125			
Zinc	66.5	60.8	ng/m³ Air	21.894	ND	304	75-125			
Post Spike (B4D3006-PS3)			**Source: 4042941-19R**		Prepared: 04/30/24 Analyzed: 05/01/24					
Antimony	0.291	0.0314	ng/m³ Air	0.22532	0.0640	101	75-125			
Arsenic	1.73	0.00763	ng/m³ Air	1.1266	0.653	95.9	75-125			
Barium	5.94	0.872	ng/m³ Air	2.2532	3.78	96.0	75-125			
Beryllium	0.237	0.00261	ng/m³ Air	0.22532	0.0135	99.2	75-125			
Cadmium	0.125	0.0604	ng/m³ Air	0.11266	ND	111	75-125			
Chromium	3.99	1.80	ng/m³ Air	1.1266	2.58	125	75-125			
Cobalt	0.821	0.0355	ng/m³ Air	0.22532	0.558	117	75-125			
Copper	85.5	2.14	ng/m³ Air	11.266	70.7	131	75-125			
Lead	22.2	0.174	ng/m³ Air	22.532	0.452	96.4	75-125			
Manganese	17.7	1.54	ng/m³ Air	2.2532	14.4	146	75-125			
Molybdenum	3.30	0.292	ng/m³ Air	1.1266	2.33	86.1	75-125			
Nickel	4.41	0.531	ng/m³ Air	2.2532	1.99	108	75-125			
Selenium	1.21	0.00730	ng/m³ Air	1.1266	0.171	92.2	75-125			
Thallium	0.0569	4.80E-4	ng/m³ Air	5.6331E-2	0.00256	96.5	75-125			
Vanadium	2.65	0.0431	ng/m³ Air	1.1266	1.37	113	75-125			
Zinc	ND	62.6	ng/m³ Air	22.532	ND		75-125			U
Dilution Check (B4D3006-SRL1)			**Source: 4042941-19**		Prepared & Analyzed: 04/30/24					
Antimony	ND	0.157	ng/m³ Air		ND				10	SL, U
Arsenic	0.672	0.0382	ng/m³ Air		0.662			1.51	10	
Barium	ND	4.36	ng/m³ Air		ND				10	QB-01, U
Beryllium	0.0151	0.0130	ng/m³ Air		0.0140			7.11	10	
Cadmium	ND	0.302	ng/m³ Air		ND				10	U
Chromium	ND	9.00	ng/m³ Air		ND				10	U
Cobalt	0.595	0.178	ng/m³ Air		0.563			5.61	10	
Copper	74.7	10.7	ng/m³ Air		70.3			6.02	10	

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Dilution Check (B4D3006-SRL1) Continue				**Source: 4042941-19**		Prepared & Analyzed: 04/30/24				
Lead	ND	0.872	ng/m³ Air		ND				10	U
Manganese	15.7	7.70	ng/m³ Air		14.6			7.02	10	
Molybdenum	2.61	1.46	ng/m³ Air		2.30			12.6	10	
Nickel	ND	2.66	ng/m³ Air		ND				10	U
Selenium	0.179	0.0365	ng/m³ Air		0.167			6.97	10	
Thallium	0.00345	0.00240	ng/m³ Air		0.00258			28.9	10	
Vanadium	1.48	0.215	ng/m³ Air		1.43			3.15	10	
Zinc	ND	313	ng/m³ Air		ND				10	U
Dilution Check (B4D3006-SRL2)				**Source: 4042941-02**		Prepared & Analyzed: 04/30/24				
Antimony	0.179	0.153	ng/m³ Air		0.185			3.14	10	SL
Arsenic	0.296	0.0371	ng/m³ Air		0.284			3.90	10	
Barium	5.53	4.23	ng/m³ Air		5.45			1.40	10	QB-01
Beryllium	ND	0.0127	ng/m³ Air		ND				10	U
Cadmium	ND	0.293	ng/m³ Air		ND				10	U
Chromium	ND	8.75	ng/m³ Air		ND				10	U
Cobalt	0.390	0.173	ng/m³ Air		0.377			3.43	10	
Copper	37.2	10.4	ng/m³ Air		35.3			5.05	10	
Lead	1.11	0.847	ng/m³ Air		1.07			3.44	10	
Manganese	12.5	7.48	ng/m³ Air		12.1			3.37	10	
Molybdenum	1.60	1.42	ng/m³ Air		1.47			8.63	10	
Nickel	ND	2.58	ng/m³ Air		ND				10	U
Selenium	0.188	0.0355	ng/m³ Air		0.166			11.9	10	
Thallium	ND	0.00233	ng/m³ Air		ND				10	U
Vanadium	1.16	0.209	ng/m³ Air		1.16			0.516	10	
Zinc	ND	304	ng/m³ Air		ND				10	U

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-01	Analyte exceeds method blank criteria
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
A-01	Parent sample >4x post spike amount
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 05/09/2024 and Shanna Vasser 05/10/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 04/15/2024 and 04/18/2024 – 04/24/2024
Report No: 4042941

√	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 barium in MFL-FB01-041924-HM and MFL-FB01-042124-HM.

Notes:

1. Samples MFL-AM04-042424-HM and MFL-AM02-041524-HM had sample volumes below the acceptance criteria.

Ambient Community Air Monitoring Weekly Report
For the Hawaii Department of Health – Clean Air Branch

Lahaina, Maui

4/18/2024 – 4/24/2024

Due to ongoing debris removal operations in response to the Maui Wildfires, a Community Air Monitoring and Sampling Plan (CAMSP) has been drafted and sampling is being performed at 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)

This approach includes ambient community air monitoring and sampling to monitor 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 HDOH via online shared site and this weekly report. This approach to air monitoring and sampling will continue until debris removal activities are complete or until HDOH CAB advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the draft CAMSP. Additionally, daily air samples were collected at all community locations, as depicted in **Figure 1**. Summary analytical data is presented in **Tables 1 and 2**. **Appendix 1** provides detailed analytical results for all community locations where air sampling was performed. Analytical results were compared to site-specific screening levels for particulate matter, asbestos, and heavy metals as described in the draft CAMSP. A summary of meteorological data is presented in **Table 3.** Overall wind conditions show approximately 1.1 mph in a generally average SSE direction.

Results for Community Locations:
Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), as this is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week at each of the following locations: Leialii Hawaiian Homelands (April 18-April 24), WW Pump Station #4 (April 18-April 24), Lahaina Intermediate School (April 18-April 24), Lahaina Boys & Girls Club (April 18-April 24).

The PM_{10} monitoring results were not found to have exceeded the screening level during this reporting period, as shown in **Table 2**.

Please note that ambient air monitoring for fine particulate matter, with a particle size diameter of 2.5 micrometers or less ($PM_{2.5}$) is not included in this report. This monitoring is being performed by the Department of Health/EPA at six locations in Lahaina and can be viewed at: https://fire.airnow.gov/.

There were 28 samples collected for asbestos fibers at community monitoring locations throughout this reporting period. Of the 28 samples collected, three samples collected at Leialii Hawaiian Homelands on April 19, 22 and 23, and one sample collected at Lahaina Boys & Girls Club on April 20, were voided due to a greater than 10 percent (%) discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling standard operating procedure (SOP). All asbestos results were below the Site Screening Action Level (SSAL) of 0.003 fibers per cubic centimeter (fibers/cc) and less than the laboratory's analytical sensitivity (see Table 1).

Low levels of heavy metals were detected in ambient air samples at all community sampling locations. Although heavy metals were detected, all concentrations were below the SSALs (see Table 1). The laboratory data sheets for the metals and asbestos samples collected from the community locations are found in **Appendix 1.**

Quality Control:

This section briefly discusses the quality control efforts made by Tetra Tech throughout the air monitoring and sampling process. All references and SOPs can be found provided with the CAMSP.

Tetra Tech is utilizing Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the National Ambient Air Quality Standards (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 prior to monitoring according to the manufacturer's procedures.

For asbestos sampling, Tetra Tech uses 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 using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Tetra Tech is using Tisch Environmental High Volume Air Samplers, or equivalent, collocated with the real-time particulate monitors and asbestos samplers described above. Air samples for elemental metals at community locations are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a 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 the off-site analytical laboratories, analytical data is maintained in an electronic database and compared to the SSALs. Level 1 data verification is completed on all analytical data and results are reviewed by an industrial hygienist.

Attachments

Basemap: ESRI ArcGIS World Street Map

Table 1
HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results by Date
Maui Wildfire, Lahaina
4/18/2024-4/24/2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
4/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000600	0.000211	0.00228	0.00000450	ND	ND	0.000184	0.0725	0.000323	0.00556	0.00394	0.000899	0.000118	0.000000782	0.000485	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000185	0.000284	0.00545	0.0000126	ND	0.00216	0.000377	0.0353	0.00107	0.0121	0.00147	0.00145	0.000166	0.000000982	0.00116	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000886	0.000171	0.00430	0.0000141	ND	0.00202	0.000288	0.0490	0.00101	0.00727	0.00241	0.00118	0.000146	0.00000110	0.000741	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000101	0.000374	0.00388	0.0000131	ND	0.00253	0.000419	0.0326	0.000840	0.0133	0.00134	0.00140	0.000166	0.000000913	0.00104	ND
4/19/2024	Leialii Hawaiian Homelands (AM-01)		0.0000604	0.000356	0.00256	0.00000527	ND	0.00186	0.000245	0.0971	0.000411	0.00645	0.00404	0.00114	0.000110	0.000000748	0.000647	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000150	0.000178	0.00385	0.00000692	ND	0.00190	0.000226	0.0410	0.000552	0.00699	0.00180	0.00104	0.000142	0.000000747	0.000747	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000980	0.000157	0.00281	0.0000160	ND	0.00202	0.000307	0.0427	0.0162	0.00823	0.00202	0.00111	0.000145	0.000000880	0.000823	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000919	0.000192	0.00329	0.00000786	ND	0.00250	0.000263	0.0395	0.000520	0.00814	0.00159	0.00156	0.000157	0.000000680	0.000750	ND
4/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000650	0.000359	0.00333	0.00000798	ND	0.00236	0.000313	0.101	0.000665	0.00917	0.00368	0.00143	0.000134	0.00000123	0.000871	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000104	0.000315	0.00594	0.00000802	ND	0.00199	0.000288	0.0532	0.000845	0.00822	0.00187	0.00127	0.000147	0.00000133	0.000887	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000645	0.000127	0.00230	0.00000891	ND	ND	0.000193	0.0520	0.000448	0.00507	0.00246	0.000996	0.000148	0.00000117	0.000557	ND
	Lahaina Boys & Girls Club (AM-04)		0.000102	0.000270	0.00359	0.0000109	ND	0.00204	0.000334	0.0301	0.000899	0.0103	0.00111	0.00121	0.000178	0.00000116	0.000924	ND
4/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0030	0.000105	0.000478	0.00318	0.00000666	ND	0.00197	0.000233	0.112	0.000779	0.00686	0.00400	0.000930	0.000156	0.00000202	0.000699	0.0861
	WW Pump Station #4 (AM-02)	<0.0024	0.000165	0.000257	0.0491	0.00000576	ND	ND	0.000143	0.153	0.000853	0.00477	0.00201	0.000967	0.000169	0.00000171	0.000497	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000104	0.000143	0.00234	0.00000640	ND	ND	0.000172	0.0580	0.000848	0.00461	0.00219	0.000884	0.000156	0.00000180	0.000456	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000150	0.000245	0.00364	0.00000838	ND	ND	0.000295	0.0403	0.00107	0.00850	0.00140	0.00106	0.000176	0.00000164	0.000688	ND
4/22/2024	Leialii Hawaiian Homelands (AM-01)		0.0000636	0.000662	0.00384	0.0000140	ND	0.00265	0.000563	0.0703	0.000451	0.0146	0.00230	0.00200	0.000167	0.00000258	0.00143	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000965	0.000293	0.00523	0.0000127	ND	0.00287	0.000496	0.0517	0.000725	0.0130	0.00152	0.00184	0.000162	0.00000236	0.00145	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000535	0.000154	0.00271	0.0000120	ND	0.00217	0.000267	0.0643	0.000355	0.00699	0.00214	0.00112	0.000150	0.00000218	0.000694	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000148	0.000452	0.00421	0.0000119	ND	0.00224	0.000375	0.0364	0.000882	0.0122	0.00129	0.00126	0.000193	0.00000223	0.000978	ND
4/23/2024	Leialii Hawaiian Homelands (AM-01)		0.0000738	0.000594	0.00450	0.0000161	ND	0.00296	0.000607	0.0885	0.000470	0.0178	0.00274	0.00166	0.000157	0.00000179	0.00168	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000112	0.000333	0.00469	0.0000107	ND	0.00219	0.000367	0.0504	0.000910	0.0108	0.00146	0.00136	0.000132	0.00000135	0.00108	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000826	0.000251	0.00298	0.0000143	ND	0.00227	0.000336	0.0824	0.000527	0.00850	0.00233	0.00122	0.000131	0.00000120	0.000804	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000900	0.000352	0.00361	0.0000104	ND	0.00209	0.000317	0.0373	0.000748	0.0100	0.00145	0.00108	0.000135	0.00000120	0.000843	ND
4/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000615	0.000420	0.00350	0.0000116	ND	0.00302	0.000591	0.0951	0.000353	0.0146	0.00311	0.00221	0.000167	0.00000231	0.00147	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000109	0.000273	0.00355	0.00000875	ND	0.00191	0.000319	0.0499	0.000644	0.00903	0.00155	0.00122	0.000151	0.00000216	0.000897	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000787	0.000239	0.00325	0.0000191	ND	0.00283	0.000433	0.0657	0.000722	0.0108	0.00218	0.00145	0.000178	0.00000216	0.00108	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000133	0.000503	0.00556	0.0000170	ND	0.00320	0.000534	0.0499	0.00133	0.0170	0.00160	0.00166	0.000210	0.00000261	0.00141	ND
95% Upper Confidence Limit[2]		NA	0.000110	0.000360	0.00570	0.0000120	NA	0.00248	0.000390	0.0724	0.00128	0.0111	0.00248	0.00142	0.000160	0.00000180	0.00104	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. Phase Contrast Microscopy equivalent (PCMe) results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test.
< = less than
s/cc = structures per cubic centimeter
µg/m^3 = 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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs.
Asbestos samples voided due to a greater than 10% discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling standard operating procedure (SOP).

Table 2
HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results for PM_{10}
Maui Wildfire, Lahaina
4/18/2024 - 4/24/2024

Screening Level		**150 µg/m^3**
4/18/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	5.5
	Lahaina Boys & Girls Club (AM-04)	6.6
4/19/2024	Leialii Hawaiian Homelands (AM-01)	7.3
	WW Pump Station #4 (AM-02)	8.2
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Boys & Girls Club (AM-04)	4.6
4/20/2024	Leialii Hawaiian Homelands (AM-01)	5.9
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	5.1
	Lahaina Boys & Girls Club (AM-04)	5.7
4/21/2024	Leialii Hawaiian Homelands (AM-01)	8.4
	WW Pump Station #4 (AM-02)	7.2
	Lahaina Intermediate School (AM-03)	8.0
	Lahaina Boys & Girls Club (AM-04)	5.3
4/22/2024	Leialii Hawaiian Homelands (AM-01)	7.1
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Boys & Girls Club (AM-04)	5.8
4/23/2024	Leialii Hawaiian Homelands (AM-01)	6.2
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	6.0
	Lahaina Boys & Girls Club (AM-04)	5.9
4/24/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	5.9
	Lahaina Intermediate School (AM-03)	6.9
	Lahaina Boys & Girls Club (AM-04)	6.1

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation except for the following:
Results for Lahaina Boys & Girls Club (AM-04) on 4/22 are based on a 23 hr TWA because of equipment error.
Results for Lahaina Boys & Girls Club (AM-04) on 4/24 are based on a 19 hr TWA because of a equipment error.

Table 3
Maui Wildfire - Lahaina
Meteorological Data
4/18/2024-4/24/2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
4/18/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	79	58	761.6
4/18/2024	AM-02	WW Pump Station #4	1.1	SE	77	63	763.9
4/18/2024	AM-03	Lahaina Intermediate School	1.1	ESE	75	64	754.6
4/18/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	75	66	763.4
4/19/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	77	64	762.1
4/19/2024	AM-02	WW Pump Station #4	1.0	SSE	77	68	764.3
4/19/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	70	755.0
4/19/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	75	69	763.9
4/20/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	79	62	761.8
4/20/2024	AM-02	WW Pump Station #4	0.9	S	77	67	764.1
4/20/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	70	754.7
4/20/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	76	68	763.6
4/21/2024	AM-01	Leialii Hawaiian Homelands	1.4	ESE	77	60	762.3
4/21/2024	AM-02	WW Pump Station #4	1.0	SSE	77	64	764.6
4/21/2024	AM-03	Lahaina Intermediate School	1.1	SE	74	67	755.2
4/21/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	75	67	764.1
4/22/2024	AM-01	Leialii Hawaiian Homelands	1.5	SSE	79	57	762.0
4/22/2024	AM-02	WW Pump Station #4	1.2	SSE	78	61	764.2
4/22/2024	AM-03	Lahaina Intermediate School	1.3	SE	76	64	754.9
4/22/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSW	76	64	763.8
4/23/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	80	55	761.8
4/23/2024	AM-02	WW Pump Station #4	1.0	SSE	78	61	764.1
4/23/2024	AM-03	Lahaina Intermediate School	1.1	SE	76	63	754.7
4/23/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	77	63	763.8
4/24/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	78	61	762.7
4/24/2024	AM-02	WW Pump Station #4	1.0	SSE	77	65	764.9
4/24/2024	AM-03	Lahaina Intermediate School	1.0	SE	75	67	755.6
4/24/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	75	68	764.5

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042408316
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-041824-AB**	**Sample Description:**	**DK796807**
EMSL Sample Number:	042408316-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7014.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	2		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0001 **Customer Sample:** MFL-AM01-041824-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					
A6	A6	None Detected									
A6	D7	None Detected									
A6	G10	None Detected									
A7	J3	None Detected									
A7	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 ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-041824-AB**		**Sample Description:**	**DK796919**
EMSL Sample Number:	042408316-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7179.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0002 **Customer Sample:** MFL-AM02-041824-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	B9	None Detected									
B2	E8	None Detected									
B2	G5	None Detected									
B3	H6	None Detected									
B3	B8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Wildfires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-041824-AB**		**Sample Description:**	**DK797286**
EMSL Sample Number:	042408316-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7279.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0003 **Customer Sample:** MFL-AM03-041824-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					
B7	C7	None Detected									
B7	E8	None Detected									
B7	H10	None Detected									
B8	D8	None Detected									
B8	G5	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:	042408316
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfires - Lahaina**

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Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-041824-AB**		**Sample Description:**	**DK796994**
EMSL Sample Number:	042408316-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7291.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0004 **Customer Sample:** MFL-AM04-041824-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	F2	None Detected									
C1	H5	None Detected									
C1	J3	None Detected									
C2	B5	None Detected									
C2	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Wildfires - Lahaina**

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Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-041824-AB** **Sample Description: DK796904**

EMSL Sample Number:	042408316-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0005 **Customer Sample:** MFL-FB01-041824-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					
C6	J7	None Detected									
C6	H5	None Detected									
C6	F3	None Detected									
C6	D4	None Detected									
C6	B6	None Detected									
C7	A7	None Detected									
C7	C8	None Detected									
C7	E4	None Detected									
C7	G5	None Detected									
C7	I7	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-AM02-041924-AB**	**Sample Description:**	**Dk796830**
EMSL Sample Number:	042408316-0006	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6739.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0006 **Customer Sample:** MFL-AM02-041924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	I4	None Detected									
D2	F2	None Detected									
D2	C4	None Detected									
D3	I6	None Detected									
D3	B4	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-AM03-041924-AB** **Sample Description:** **Dk796827**

EMSL Sample Number:	042408316-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7194.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0007 **Customer Sample:** MFL-AM03-041924-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	C10	None Detected									
D5	E7	None Detected									
D5	H6	None Detected									
D6	I3	None Detected									
D6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-041924-AB** **Sample Description: Dk796823**

EMSL Sample Number:	042408316-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7443.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0008 **Customer Sample:** MFL-AM04-041924-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	G7	None Detected									
E1	J6	None Detected									
E2	B4	None Detected									
E2	D6	None Detected									
E2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408316
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 Wildfires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-041924-AB** **Sample Description:** **Dk796887**

EMSL Sample Number:	042408316-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0009 **Customer Sample:** MFL-FB01-041924-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	A4	None Detected									
E5	C6	None Detected									
E5	E7	None Detected									
E5	G8	None Detected									
E5	I7	None Detected									
E7	J6	None Detected									
E7	H4	None Detected									
E7	G3	None Detected									
E7	E4	None Detected									
E7	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408316
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Wildfires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-042024-AB** **Sample Description:** **Dk796828**

EMSL Sample Number:	042408316-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6703.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0010 **Customer Sample:** MFL-AM01-042024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	D2	None Detected									
F1	F4	None Detected									
F1	H6	None Detected									
F2	C6	None Detected									
F2	G8	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:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-042024-AB**	**Sample Description:**	**Dk796920**
EMSL Sample Number:	042408316-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7197.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	3		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0011 **Customer Sample:** MFL-AM02-042024-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	I2	None Detected									
F5	F1	None Detected									
F5	D3	None Detected									
F6	G4	None Detected									
F6	D7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408316
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Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042024-AB** **Sample Description: Dk796899**

EMSL Sample Number:	042408316-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7223.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0012 **Customer Sample:** MFL-AM03-042024-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	A7	None Detected									
G1	E10	None Detected									
G1	I8	None Detected									
G2	B6	None Detected									
G2	H8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408316
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfires - Lahaina**

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Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042024-AB** **Sample Description:** **Dk797028**

EMSL Sample Number:	042408316-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0013 **Customer Sample:** MFL-FB01-042024-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	J5	None Detected									
G5	H4	None Detected									
G5	F1	None Detected									
G5	D2	None Detected									
G5	B2	None Detected									
G6	J4	None Detected									
G6	H2	None Detected									
G6	F1	None Detected									
G6	E4	None Detected									
G6	C3	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:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-042124-AB** **Sample Description:** **Dk797052**

EMSL Sample Number:	042408316-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7543.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	4
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):	**0.0010**		**Limit of Detection (Structures/cc):**	**0.0030**

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**	**< 58.40**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole	**ADX**	**0**	**0**	**< 58.40**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 58.40**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Total All Structures	**-**	**0**	**0**	**< 58.40**	**< 0.0030**	**Not Applicable**	**0.0030**

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**	**< 58.40**	**< 0.0030**	**Not Applicable**	**0.0030**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 58.40**	**< 0.0030**	**Not Applicable**	**0.0030**
Actinolite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Amosite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Anthophyllite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Crocidolite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Tremolite	ADX	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 58.40**	**< 0.0030**	**Not Applicable**	**0.0030**
Other Minerals	-	0	0	< 58.40	< 0.0030	Not Applicable	0.0030
Total All Structures (PCMe)	**-**	**0**	**0**	**< 58.40**	**< 0.0030**	**Not Applicable**	**0.0030**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0014 **Customer Sample:** MFL-AM01-042124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	B6	None Detected									
H2	G9	None Detected									
H3	H4	None Detected									
H3	E4	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:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-042124-AB** **Sample Description:** **Dk797060**

EMSL Sample Number:	042408316-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0015 **Customer Sample:** MFL-AM02-042124-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	E3	None Detected									
H5	C2	None Detected									
H5	A5	None Detected									
H6	A7	None Detected									
H6	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-042124-AB**		**Sample Description:**	**Dk797047**
EMSL Sample Number:	042408316-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7506.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0016 **Customer Sample:** MFL-AM03-042124-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	B2	None Detected									
I1	E7	None Detected									
I1	J8	None Detected									
I2	F2	None Detected									
I2	A1	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-AM04-042124-AB**		**Sample Description:**	**Dk797032**
EMSL Sample Number:	042408316-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0017 **Customer Sample:** MFL-AM04-042124-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	A9	None Detected									
I5	D6	None Detected									
I5	I5	None Detected									
I6	H5	None Detected									
I6	B2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042408316
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-042124-AB**		**Sample Description:**	**Dk797039**
EMSL Sample Number:	042408316-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0018 **Customer Sample:** MFL-FB01-042124-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	A7	None Detected									
J1	C8	None Detected									
J1	E7	None Detected									
J1	G8	None Detected									
J1	I8	None Detected									
J2	A7	None Detected									
J2	C10	None Detected									
J2	E7	None Detected									
J2	G5	None Detected									
J2	I7	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:	042408316
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/24/2024 09:24 AM
Analysis Date:	04/30/2024
Report Date:	05/01/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042408316-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	P. Harrison
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408316**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408316-0019 **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	J4	None Detected									
A1	H3	None Detected									
A1	F2	None Detected									
A1	D4	None Detected									
A1	B6	None Detected									
A4	A5	None Detected									
A4	C9	None Detected									
A4	E7	None Detected									
A4	G5	None Detected									
A4	I2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042408316

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042408316

RECEIVED EMSL CINNAMINSON, NJ 24 APR 24 AM 11:41

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway, STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Wildfires - 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: Isabelle Von Busen
Sampled By Signature:
No. of Samples in Shipment: 18

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-AM01-041824-AB	DK796807	7014.816	04/18/24 1105
MFL-AM02-041824-AB	DK796919	7179.264	04/18/24 1123
MFL-AM03-041824-AB	DK797286	7279.515	04/18/24 1308
MFL-AM04-041824-AB	DK796994	7291.192	04/18/24 1329
MFL-FB01-041824-AB	DK796904	0	04/18/24 1200
~~MFL-AM01-041924-AB~~	VOID DK796924	~~6167.478~~	~~04/19/24~~ 1112 (2)
MFL-AM02-041924-AB	DK796830	6739.185	04/19/24 1134
MFL-AM03-041924-AB	DK796827	7194.233	04/19/24 1306

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

MFL-AM01-041924-AB and MFL-AM04-042024-AB voided because post-cal values ~~was~~ were greater than 10% deviation from pre-cal values. (1)

Method of Shipment: FedEx

Relinquished by: Date/Time: 4/22/24 1102
Relinquished by: Date/Time:

Sample Condition Upon Receipt:
Received by: FedEx Date/Time 4/24/24 9:24 AM
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.

18

All samples received acceptable for analysis.

OrderID: 042408316

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042408316

RECEIVED
EMSL
CINNAMINSON, NJ

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAslab@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.)

24 APR 24 AM11:47

Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-041924-AB		DK796823	7443.248	04/19/24 1327
MFL-FB01-041924-AB		DK796887	0	04/19/24 1200
MFL-AM01-042024-AB		DK796828	6703.915	04/20/24 1052
MFL-AM02-042024-AB		DK796920	7197.107	04/20/24 1119
MFL-AM03-042024-AB		DK796899	7223.073	04/20/24 1259
~~MFL-AM04-042024-AB~~	VOID	~~DK797021~~	~~7604.208~~	~~04/20/24 1331~~ (L)
MFL-FB01-042024-AB		DK797028	0	04/20/24 1200
MFL-AM01-042124-AB		DK797052	7543.152	04/21/24 1057
MFL-AM02-042124-AB		DK797060	7231.826	04/21/24 1119
MFL-AM03-042124-AB		DK797047	7506.400	04/21/24 1303
MFL-AM04-042124-AB		DK797032	7149.536	04/21/24 1326
MFL-FB01-042124-AB		DK797039	0	04/21/24 1200

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 4/22/24 1100	Received by:	Date/Time
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 05/02/2024 and Shanna Vasser 05/03/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 04/18/2024 – 04/21/2024
Report No: 42408316

√	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:

4. MFL-AM01-041924-AB and MFL-AM04-042024-AB were listed on the CoC, crossed out, and voided due to post-cal value exceeding criteria. The samples were not shipped to the laboratory.

Notes: None.

EMSL Analytical, Inc.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042408734
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfire - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/29/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-042224-AB**	**Sample Description:**	**DK797057**
EMSL Sample Number:	042408734-0001	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7356.2
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	10		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0001 **Customer Sample:** MFL-AM02-042224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	H8	None Detected									
H2	E4	None Detected									
H2	A2	None Detected									
H3	H5	None Detected									
H3	C7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408734
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfire - Lahaina**

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Fax:	N/A
Received Date:	04/29/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042224-AB** **Sample Description: DK797050**

EMSL Sample Number:	042408734-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7282.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0002 **Customer Sample:** MFL-AM03-042224-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	C3	None Detected									
H5	F8	None Detected									
H5	I6	None Detected									
H6	A4	None Detected									
H6	D7	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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Project: **Maui Wildfire - Lahaina**

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Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-042224-AB** **Sample Description: DK797024**

EMSL Sample Number:	042408734-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7209.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0003 **Customer Sample:** MFL-AM04-042224-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	A6	None Detected									
B2	D8	None Detected									
B2	I5	None Detected									
B3	G4	None Detected									
B3	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Project ID:	N/A

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Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042224-AB** **Sample Description:** **DK797027**

EMSL Sample Number:	042408734-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0004 **Customer Sample:** MFL-FB01-042224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	J3	None Detected									
B5	H7	None Detected									
B5	E5	None Detected									
B5	C8	None Detected									
B6	D7	None Detected									
B6	G7	None Detected									
B6	J7	None Detected									
B7	A5	None Detected									
B7	F4	None Detected									
B7	I6	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-AM02-042324-AB** **Sample Description: DK797035**

EMSL Sample Number:	042408734-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7261.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0005 **Customer Sample:** MFL-AM02-042324-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	A6	None Detected									
C2	C3	None Detected									
C2	G7	None Detected									
C3	D7	None Detected									
C3	H6	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-AM03-042324-AB** **Sample Description: DK797020**

EMSL Sample Number:	042408734-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7397.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0006 **Customer Sample:** MFL-AM03-042324-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					
C6	B4	None Detected									
C6	E7	None Detected									
C6	G3	None Detected									
C7	A2	None Detected									
C7	F3	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:	042408734
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfire - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/29/2024 09:30 AM
Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-042324-AB**		**Sample Description:**	**DK797042**
EMSL Sample Number:	042408734-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7221.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0007 **Customer Sample:** MFL-AM04-042324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	C6	None Detected									
D2	E3	None Detected									
D2	H7	None Detected									
D3	D4	None Detected									
D3	F9	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 Wildfire - Lahaina**

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Fax:	N/A
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Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042324-AB** **Sample Description: DK797043**

EMSL Sample Number:	042408734-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0008 **Customer Sample:** MFL-FB01-042324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	J5	None Detected									
D5	H8	None Detected									
D5	F4	None Detected									
D5	A6	None Detected									
D6	B3	None Detected									
D6	D7	None Detected									
D6	G5	None Detected									
D7	A3	None Detected									
D7	E2	None Detected									
D7	G8	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:	04/29/2024 09:30 AM
Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-042424-AB**	**Sample Description:**	**DK797030**
EMSL Sample Number:	042408734-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6937.5
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0009 **Customer Sample:** MFL-AM01-042424-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	I7	None Detected									
E2	E4	None Detected									
E2	A5	None Detected									
E3	H3	None Detected									
E3	E5	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:	042408734
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Project ID:	N/A

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Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-042424-AB** **Sample Description: DK797055**

EMSL Sample Number:	042408734-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7113.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0010 **Customer Sample:** MFL-AM02-042424-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	J6	None Detected									
E6	E9	None Detected									
E6	B7	None Detected									
E7	D3	None Detected									
E7	G8	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:	042408734
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfire - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/29/2024 09:30 AM
Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042424-AB** **Sample Description: DK797039**

EMSL Sample Number:	042408734-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7358.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0011 **Customer Sample:** MFL-AM03-042424-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	C8	None Detected									
E2	D3	None Detected									
E2	H5	None Detected									
E3	I4	None Detected									
E3	E7	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:	042408734
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfire - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/29/2024 09:30 AM
Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-042424-AB** **Sample Description: DK797036**

EMSL Sample Number:	042408734-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0012 **Customer Sample:** MFL-AM04-042424-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	B9	None Detected									
F5	E5	None Detected									
F5	I6	None Detected									
F6	D4	None Detected									
F6	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408734
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfire - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/29/2024 09:30 AM
Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042424-AB** **Sample Description:** **DK797038**

EMSL Sample Number:	042408734-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0013 **Customer Sample:** MFL-FB01-042424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	I4	None Detected									
G2	I8	None Detected									
G2	E4	None Detected									
G2	C6	None Detected									
G3	J7	None Detected									
G3	F3	None Detected									
G3	D6	None Detected									
G4	H5	None Detected									
G4	E9	None Detected									
G4	B7	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:	042408734
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Wildfire - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	04/29/2024 09:30 AM
Analysis Date:	05/01/2024
Report Date:	05/03/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042408734-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	9
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**	**< 25.95**			
Total Amphibole	**ADX**	**0**	**0**	**< 25.95**			
Actinolite	ADX	0	0	< 25.95			
Amosite	ADX	0	0	< 25.95			
Anthophyllite	ADX	0	0	< 25.95			
Crocidolite	ADX	0	0	< 25.95			
Tremolite	ADX	0	0	< 25.95			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 25.95**			
Other Minerals	-	0	0	< 25.95			
Total All Structures	**-**	**0**	**0**	**< 25.95**			

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**	**< 25.95**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 25.95**			
Actinolite	ADX	0	0	< 25.95			
Amosite	ADX	0	0	< 25.95			
Anthophyllite	ADX	0	0	< 25.95			
Crocidolite	ADX	0	0	< 25.95			
Tremolite	ADX	0	0	< 25.95			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 25.95**			
Other Minerals	-	0	0	< 25.95			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 25.95**			

Comment

Approved Signatory

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EMSL Order ID:	**042408734**
Client:	**Tetra Tech**
Project ID:	**Maui Wildfire - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042408734-0014 **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					
G5	I6	None Detected									
G5	H3	None Detected									
G5	D7	None Detected									
G5	A4	None Detected									
G6	J4	None Detected									
G6	F9	None Detected									
G6	C5	None Detected									
G7	B7	None Detected									
G7	E5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042408734

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042408734

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EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Tetra Tech	Company Name:	
Contact Name:	Chelsea Saber	Billing Contact:	
Street Address:	1560 Broadway STE 1400	Street Address:	
City, State, Zip:	Denver, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No: Mavi Wildfire - 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: Elia Vargas Saldaña
Sampled By Signature:
No. of Samples in Shipment: 13

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

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*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-AM01-042224-AB~~	~~DK797052~~ 33 (IV)	~~6570.653~~	~~04/22/24~~	~~1102~~ VOID (EKS)
MFL-AM02-042224-AB	DK797057	7356.240	04/22/24	1121
MFL-AM03-042224-AB	DK797050	7282.463	04/22/24	1306
MFL-AM04-042224-AB	DK797024	7209.438	04/22/24	1327
MFL-FB01-042224-AB	DK797039 27 (IV)	0	04/22/24	1200
~~MFL-AM01-042324-AB~~	~~DK797046~~	~~7574.648~~	~~04/23/24~~	~~1109~~ VOID (EKS)
MFL-AM02-042324-AB	DK797035	7261.181	04/23/24	1122
MFL-AM03-042324-AB	DK797020	7396.980	04/23/24	1305

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Samples MFL-AM01-042224-AB and MFL-AM01-042324-AB voided because post-cal value was greater than 10% deviation from pre-cal value

All samples received acceptable for analysis.

Method of Shipment: FedEx

Relinquished by:	Date/Time: 04/25/24 1100	Received by:	FX	Date/Time: 4/25/24	930
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.

13 ok

OrderID: 042408734

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042408734

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-AM04-042324-AB	DK797042	7,221.348	04/23/24 1326
MFL-FB01-042324-AB	DK797043	0	04/23/24 1200
MFL-AM01-042424-AB	DK797030	6,937.549	04/24/24 1105
MFL-AM02-042424-AB	DK797055	7,113.744	04/24/24 1125
MFL-AM03-042424-AB	DK797029	7,358.677	04/24/24 1307
MFL-AM04-042424-AB	DK797036	7,159.680	04/24/24 1329
MFL-FB01-042424-AB	DK797038	0	04/24/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 APR 29 A 11:25

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 04/25/24 400	Received by: FX	Date/Time: 4/29/24
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 05/06/2024 and Shanna Vasser 05/08/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 04/22/2024 – 04/24/2024
Report No: 42408734

√	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-AM01-042224-AB and MFL-AM01-042324-AB were listed on the CoC, crossed out, voided (due to post-cal value exceeding the criteria), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None.

[redacted]

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

May 08, 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 04/29/24 14:32.

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.

[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-041824-HM	4042941-01	Air	04/18/24 23:59	04/29/24 14:32
MFL-AM02-041824-HM	4042941-02	Air	04/18/24 23:59	04/29/24 14:32
MFL-AM03-041824-HM	4042941-03	Air	04/18/24 23:59	04/29/24 14:32
MFL-AM04-041824-HM	4042941-04	Air	04/18/24 23:59	04/29/24 14:32
MFL-AM01-041924-HM	4042941-05	Air	04/19/24 23:59	04/29/24 14:32
MFL-AM02-041924-HM	4042941-06	Air	04/19/24 23:59	04/29/24 14:32
MFL-AM03-041924-HM	4042941-07	Air	04/19/24 23:59	04/29/24 14:32
MFL-AM04-041924-HM	4042941-08	Air	04/19/24 23:59	04/29/24 14:32
MFL-FB01-041924-HM	4042941-09	Air	04/19/24 00:00	04/29/24 14:32
MFL-AM01-042024-HM	4042941-10	Air	04/20/24 23:59	04/29/24 14:32
MFL-AM02-042024-HM	4042941-11	Air	04/20/24 23:59	04/29/24 14:32
MFL-AM03-042024-HM	4042941-12	Air	04/20/24 23:59	04/29/24 14:32
MFL-AM04-042024-HM	4042941-13	Air	04/20/24 23:59	04/29/24 14:32
MFL-AM01-042124-HM	4042941-14	Air	04/21/24 23:59	04/29/24 14:32
MFL-AM02-042124-HM	4042941-15	Air	04/21/24 23:59	04/29/24 14:32
MFL-AM03-042124-HM	4042941-16	Air	04/21/24 23:59	04/29/24 14:32
MFL-AM04-042124-HM	4042941-17	Air	04/21/24 23:59	04/29/24 14:32
MFL-FB01-042124-HM	4042941-18	Air	04/21/24 00:00	04/29/24 14:32
MFL-AM01-042224-HM/MS/I	4042941-19	Air	04/22/24 23:59	04/29/24 14:32
MFL-AM02-042224-HM	4042941-20	Air	04/22/24 23:59	04/29/24 14:32
MFL-AM03-042224-HM	4042941-21	Air	04/22/24 23:59	04/29/24 14:32

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.

[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-042224-HM	4042941-22	Air	04/22/24 23:59	04/29/24 14:32
MFL-AM01-042324-HM	4042941-23	Air	04/23/24 23:59	04/29/24 14:32
MFL-AM02-042324-HM	4042941-24	Air	04/23/24 23:59	04/29/24 14:32
MFL-AM03-042324-HM	4042941-25	Air	04/23/24 23:59	04/29/24 14:32
MFL-AM04-042324-HM	4042941-26	Air	04/23/24 23:59	04/29/24 14:32
MFL-FB01-042324-HM	4042941-27	Air	04/23/24 00:00	04/29/24 14:32
MFL-AM01-042424-HM	4042941-28	Air	04/24/24 23:59	04/29/24 14:32
MFL-AM02-042424-HM	4042941-29	Air	04/24/24 23:59	04/29/24 14:32
MFL-AM03-042424-HM	4042941-30	Air	04/24/24 23:59	04/29/24 14:32
MFL-AM04-042424-HM	4042941-31	Air	04/24/24 23:59	04/29/24 14:32
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

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[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-041824-HM
Matrix: Air
Lab ID: 4042941-01
Sample Volume: 2054.28 m³
Filter ID:
Sampled: 04/18/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 22:32

Comments: Q8521163 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0600**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.211**		**0.00742**
Barium	**7440-39-3**	**2.28**	QB-01	**0.847**
Beryllium	**7440-41-7**	**0.00450**		**0.00253**
Cadmium	7440-43-9	0.00597	U	0.0587
Chromium	7440-47-3	1.49	U	1.75
Cobalt	**7440-48-4**	**0.184**		**0.0345**
Copper	**7440-50-8**	**72.5**		**2.08**
Lead	**7439-92-1**	**0.323**		**0.169**
Manganese	**7439-96-5**	**5.56**		**1.50**
Molybdenum	**7439-98-7**	**3.94**		**0.284**
Nickel	**7440-02-0**	**0.899**		**0.516**
Selenium	**7782-49-2**	**0.118**		**0.00710**
Thallium	**7440-28-0**	**7.82E-4**		**4.66E-4**
Vanadium	**7440-62-2**	**0.485**		**0.0419**
Zinc	7440-66-6	40.4	U	60.8

[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041824-HM
Matrix: Air
Lab ID: 4042941-02
Sample Volume: 2055.379 m³
Filter ID:
Sampled: 04/18/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 20:48

Comments: Q8521161 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.185**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.284**		**0.00742**
Barium	**7440-39-3**	**5.45**	QB-01	**0.847**
Beryllium	**7440-41-7**	**0.0126**		**0.00253**
Cadmium	7440-43-9	0.0128	U	0.0587
Chromium	**7440-47-3**	**2.16**		**1.75**
Cobalt	**7440-48-4**	**0.377**		**0.0345**
Copper	**7440-50-8**	**35.3**	QM-07	**2.08**
Lead	**7439-92-1**	**1.07**		**0.169**
Manganese	**7439-96-5**	**12.1**		**1.50**
Molybdenum	**7439-98-7**	**1.47**		**0.284**
Nickel	**7440-02-0**	**1.45**		**0.516**
Selenium	**7782-49-2**	**0.166**		**0.00709**
Thallium	**7440-28-0**	**9.82E-4**		**4.66E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0419**
Zinc	7440-66-6	43.4	U	60.8

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.

[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041824-HM
Matrix: Air
Lab ID: 4042941-03
Sample Volume: 1939.986 m³
Filter ID:
Sampled: 04/18/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 22:43

Comments: Q8521159 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0886**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.171**		**0.00786**
Barium	**7440-39-3**	**4.30**	QB-01	**0.897**
Beryllium	**7440-41-7**	**0.0141**		**0.00268**
Cadmium	7440-43-9	0.00670	U	0.0621
Chromium	**7440-47-3**	**2.02**		**1.85**
Cobalt	**7440-48-4**	**0.288**		**0.0366**
Copper	**7440-50-8**	**49.0**		**2.21**
Lead	**7439-92-1**	**1.01**		**0.179**
Manganese	**7439-96-5**	**7.27**		**1.59**
Molybdenum	**7439-98-7**	**2.41**		**0.301**
Nickel	**7440-02-0**	**1.18**		**0.547**
Selenium	**7782-49-2**	**0.146**		**0.00751**
Thallium	**7440-28-0**	**0.00110**		**4.94E-4**
Vanadium	**7440-62-2**	**0.741**		**0.0444**
Zinc	7440-66-6	34.6	U	64.4

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[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041824-HM
Matrix: Air
Lab ID: 4042941-04
Sample Volume: 1982.558 m³
Filter ID:
Sampled: 04/18/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 22:53

Comments: Q8521154 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.374**		**0.00769**
Barium	**7440-39-3**	**3.88**	QB-01	**0.878**
Beryllium	**7440-41-7**	**0.0131**		**0.00263**
Cadmium	7440-43-9	0.0122	U	0.0608
Chromium	**7440-47-3**	**2.53**		**1.81**
Cobalt	**7440-48-4**	**0.419**		**0.0358**
Copper	**7440-50-8**	**32.6**		**2.16**
Lead	**7439-92-1**	**0.840**		**0.176**
Manganese	**7439-96-5**	**13.3**		**1.55**
Molybdenum	**7439-98-7**	**1.34**		**0.295**
Nickel	**7440-02-0**	**1.40**		**0.535**
Selenium	**7782-49-2**	**0.166**		**0.00735**
Thallium	**7440-28-0**	**9.13E-4**		**4.83E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0434**
Zinc	7440-66-6	36.7	U	63.0

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.

[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-041924-HM
Matrix: Air
Lab ID: 4042941-05
Sample Volume: 2024.351 m³
Filter ID:
Sampled: 04/19/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 23:03

Comments: Q8521153 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0604**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.356**		**0.00753**
Barium	**7440-39-3**	**2.56**	QB-01	**0.860**
Beryllium	**7440-41-7**	**0.00527**		**0.00257**
Cadmium	7440-43-9	0.00803	U	0.0596
Chromium	**7440-47-3**	**1.86**		**1.78**
Cobalt	**7440-48-4**	**0.245**		**0.0350**
Copper	**7440-50-8**	**97.1**		**2.11**
Lead	**7439-92-1**	**0.411**		**0.172**
Manganese	**7439-96-5**	**6.45**		**1.52**
Molybdenum	**7439-98-7**	**4.04**		**0.289**
Nickel	**7440-02-0**	**1.14**		**0.524**
Selenium	**7782-49-2**	**0.110**		**0.00720**
Thallium	**7440-28-0**	**7.48E-4**		**4.73E-4**
Vanadium	**7440-62-2**	**0.647**		**0.0425**
Zinc	7440-66-6	36.2	U	61.7

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.

[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-041924-HM
Matrix: Air
Lab ID: 4042941-06
Sample Volume: 2079.326 m³
Filter ID:
Sampled: 04/19/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 23:14

Comments: Q8521152 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.150**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.178**		**0.00733**
Barium	**7440-39-3**	**3.85**	QB-01	**0.837**
Beryllium	**7440-41-7**	**0.00692**		**0.00250**
Cadmium	7440-43-9	0.00715	U	0.0580
Chromium	**7440-47-3**	**1.90**		**1.73**
Cobalt	**7440-48-4**	**0.226**		**0.0341**
Copper	**7440-50-8**	**41.0**		**2.06**
Lead	**7439-92-1**	**0.552**		**0.167**
Manganese	**7439-96-5**	**6.99**		**1.48**
Molybdenum	**7439-98-7**	**1.80**		**0.281**
Nickel	**7440-02-0**	**1.04**		**0.510**
Selenium	**7782-49-2**	**0.142**		**0.00701**
Thallium	**7440-28-0**	**7.47E-4**		**4.61E-4**
Vanadium	**7440-62-2**	**0.747**		**0.0414**
Zinc	7440-66-6	52.7	U	60.1

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[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-041924-HM
Matrix: Air
Lab ID: 4042941-07
Sample Volume: 1970.416 m³
Filter ID:
Sampled: 04/19/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 23:24

Comments: Q8521151 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0980**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.157**		**0.00774**
Barium	**7440-39-3**	**2.81**	QB-01	**0.884**
Beryllium	**7440-41-7**	**0.0160**		**0.00264**
Cadmium	7440-43-9	0.0121	U	0.0612
Chromium	**7440-47-3**	**2.02**		**1.82**
Cobalt	**7440-48-4**	**0.307**		**0.0360**
Copper	**7440-50-8**	**42.7**		**2.17**
Lead	**7439-92-1**	**16.2**		**0.177**
Manganese	**7439-96-5**	**8.23**		**1.56**
Molybdenum	**7439-98-7**	**2.02**		**0.296**
Nickel	**7440-02-0**	**1.11**		**0.538**
Selenium	**7782-49-2**	**0.145**		**0.00740**
Thallium	**7440-28-0**	**8.80E-4**		**4.86E-4**
Vanadium	**7440-62-2**	**0.823**		**0.0437**
Zinc	7440-66-6	32.3	U	63.4

[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-041924-HM
Matrix: Air
Lab ID: 4042941-08
Sample Volume: 1947.949 m³
Filter ID:
Sampled: 04/19/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 23:34

Comments: Q8521149 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0919**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.192**		**0.00783**
Barium	**7440-39-3**	**3.29**	QB-01	**0.894**
Beryllium	**7440-41-7**	**0.00786**		**0.00267**
Cadmium	7440-43-9	0.0123	U	0.0619
Chromium	**7440-47-3**	**2.50**		**1.85**
Cobalt	**7440-48-4**	**0.263**		**0.0364**
Copper	**7440-50-8**	**39.5**		**2.20**
Lead	**7439-92-1**	**0.520**		**0.179**
Manganese	**7439-96-5**	**8.14**		**1.58**
Molybdenum	**7439-98-7**	**1.59**		**0.300**
Nickel	**7440-02-0**	**1.56**		**0.545**
Selenium	**7782-49-2**	**0.157**		**0.00748**
Thallium	**7440-28-0**	**6.80E-4**		**4.92E-4**
Vanadium	**7440-62-2**	**0.750**		**0.0442**
Zinc	7440-66-6	35.7	U	64.1

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-041924-HM
Matrix: Air
Lab ID: 4042941-09
Sample Volume: 2024.351 m³
Filter ID:
Sampled: 04/19/24 00:00
Received: 04/29/24 14:32
Analysis Date: 04/30/24 23:45

Comments: Q8521147 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0213	SL, U	0.0310
Arsenic	7440-38-2	0.00317	U	0.00753
Barium	**7440-39-3**	**1.10**	FB-01, QB-01	**0.860**
Beryllium	7440-41-7	6.44E-4	U	0.00257
Cadmium	7440-43-9	7.66E-4	U	0.0596
Chromium	7440-47-3	0.906	U	1.78
Cobalt	7440-48-4	0.0111	U	0.0350
Copper	7440-50-8	1.10	U	2.11
Lead	7439-92-1	0.0249	U	0.172
Manganese	7439-96-5	0.192	U	1.52
Molybdenum	7439-98-7	0.168	U	0.289
Nickel	7440-02-0	0.400	U	0.524
Selenium	7782-49-2	0.00466	U	0.00720
Thallium	7440-28-0	1.51E-4	U	4.73E-4
Vanadium	7440-62-2	0.0109	U	0.0425
Zinc	7440-66-6	30.9	U	61.7

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042024-HM
Matrix: Air
Lab ID: 4042941-10
Sample Volume: 1940.693 m³
Filter ID:
Sampled: 04/20/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 23:55

Comments: Q8521146 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0650**	SL	**0.0324**
Arsenic	**7440-38-2**	**0.359**		**0.00786**
Barium	**7440-39-3**	**3.33**	QB-01	**0.897**
Beryllium	**7440-41-7**	**0.00798**		**0.00268**
Cadmium	7440-43-9	0.0274	U	0.0621
Chromium	**7440-47-3**	**2.36**		**1.85**
Cobalt	**7440-48-4**	**0.313**		**0.0366**
Copper	**7440-50-8**	**101**		**2.20**
Lead	**7439-92-1**	**0.665**		**0.179**
Manganese	**7439-96-5**	**9.17**		**1.58**
Molybdenum	**7439-98-7**	**3.68**		**0.301**
Nickel	**7440-02-0**	**1.43**		**0.547**
Selenium	**7782-49-2**	**0.134**		**0.00751**
Thallium	**7440-28-0**	**0.00123**		**4.94E-4**
Vanadium	**7440-62-2**	**0.871**		**0.0443**
Zinc	7440-66-6	31.7	U	64.4

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042024-HM
Matrix: Air
Lab ID: 4042941-11
Sample Volume: 2022.599 m³
Filter ID:
Sampled: 04/20/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 00:06

Comments: Q8521145 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.315**		**0.00754**
Barium	**7440-39-3**	**5.94**	QB-01	**0.861**
Beryllium	**7440-41-7**	**0.00802**		**0.00257**
Cadmium	7440-43-9	0.0138	U	0.0596
Chromium	**7440-47-3**	**1.99**		**1.78**
Cobalt	**7440-48-4**	**0.288**		**0.0351**
Copper	**7440-50-8**	**53.2**		**2.12**
Lead	**7439-92-1**	**0.845**		**0.172**
Manganese	**7439-96-5**	**8.22**		**1.52**
Molybdenum	**7439-98-7**	**1.87**		**0.289**
Nickel	**7440-02-0**	**1.27**		**0.524**
Selenium	**7782-49-2**	**0.147**		**0.00721**
Thallium	**7440-28-0**	**0.00133**		**4.74E-4**
Vanadium	**7440-62-2**	**0.887**		**0.0426**
Zinc	7440-66-6	37.0	U	61.8

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042024-HM
Matrix: Air
Lab ID: 4042941-12
Sample Volume: 1930.253 m³
Filter ID:
Sampled: 04/20/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 00:47

Comments: Q8521142 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0645**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.127**		**0.00790**
Barium	**7440-39-3**	**2.30**	QB-01	**0.902**
Beryllium	**7440-41-7**	**0.00891**		**0.00270**
Cadmium	7440-43-9	0.00743	U	0.0625
Chromium	7440-47-3	1.72	U	1.86
Cobalt	**7440-48-4**	**0.193**		**0.0368**
Copper	**7440-50-8**	**52.0**		**2.22**
Lead	**7439-92-1**	**0.448**		**0.180**
Manganese	**7439-96-5**	**5.07**		**1.59**
Molybdenum	**7439-98-7**	**2.46**		**0.303**
Nickel	**7440-02-0**	**0.996**		**0.550**
Selenium	**7782-49-2**	**0.148**		**0.00755**
Thallium	**7440-28-0**	**0.00117**		**4.96E-4**
Vanadium	**7440-62-2**	**0.557**		**0.0446**
Zinc	7440-66-6	38.0	U	64.7

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042024-HM
Matrix: Air
Lab ID: 4042941-13
Sample Volume: 1971.021 m³
Filter ID:
Sampled: 04/20/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 01:08

Comments: Q8521141 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.270**		**0.00773**
Barium	**7440-39-3**	**3.59**	QB-01	**0.883**
Beryllium	**7440-41-7**	**0.0109**		**0.00264**
Cadmium	7440-43-9	0.0102	U	0.0612
Chromium	**7440-47-3**	**2.04**		**1.82**
Cobalt	**7440-48-4**	**0.334**		**0.0360**
Copper	**7440-50-8**	**30.1**		**2.17**
Lead	**7439-92-1**	**0.899**		**0.177**
Manganese	**7439-96-5**	**10.3**		**1.56**
Molybdenum	**7439-98-7**	**1.11**		**0.296**
Nickel	**7440-02-0**	**1.21**		**0.538**
Selenium	**7782-49-2**	**0.178**		**0.00740**
Thallium	**7440-28-0**	**0.00116**		**4.86E-4**
Vanadium	**7440-62-2**	**0.924**		**0.0437**
Zinc	7440-66-6	47.8	U	63.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042124-HM
Matrix: Air
Lab ID: 4042941-14
Sample Volume: 1923.684 m³
Filter ID:
Sampled: 04/21/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 01:18

Comments: Q8521140 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.105**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.478**		**0.00792**
Barium	**7440-39-3**	**3.18**	QB-01	**0.905**
Beryllium	**7440-41-7**	**0.00666**		**0.00271**
Cadmium	7440-43-9	0.0375	U	0.0627
Chromium	**7440-47-3**	**1.97**		**1.87**
Cobalt	**7440-48-4**	**0.233**		**0.0369**
Copper	**7440-50-8**	**112**		**2.22**
Lead	**7439-92-1**	**0.779**		**0.181**
Manganese	**7439-96-5**	**6.86**		**1.60**
Molybdenum	**7439-98-7**	**4.00**		**0.304**
Nickel	**7440-02-0**	**0.930**		**0.551**
Selenium	**7782-49-2**	**0.156**		**0.00758**
Thallium	**7440-28-0**	**0.00202**		**4.98E-4**
Vanadium	**7440-62-2**	**0.699**		**0.0447**
Zinc	**7440-66-6**	**86.1**		**65.0**

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042124-HM
Matrix: Air
Lab ID: 4042941-15
Sample Volume: 2032.011 m³
Filter ID:
Sampled: 04/21/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 01:29

Comments: Q8521139 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.165**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.257**		**0.00750**
Barium	**7440-39-3**	**49.1**	QB-01	**0.857**
Beryllium	**7440-41-7**	**0.00576**		**0.00256**
Cadmium	7440-43-9	0.0186	U	0.0593
Chromium	7440-47-3	1.64	U	1.77
Cobalt	**7440-48-4**	**0.143**		**0.0349**
Copper	**7440-50-8**	**153**		**2.11**
Lead	**7439-92-1**	**0.853**		**0.171**
Manganese	**7439-96-5**	**4.77**		**1.51**
Molybdenum	**7439-98-7**	**2.01**		**0.287**
Nickel	**7440-02-0**	**0.967**		**0.522**
Selenium	**7782-49-2**	**0.169**		**0.00717**
Thallium	**7440-28-0**	**0.00171**		**4.72E-4**
Vanadium	**7440-62-2**	**0.497**		**0.0424**
Zinc	7440-66-6	44.4	U	61.5

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042124-HM
Matrix: Air
Lab ID: 4042941-16
Sample Volume: 1802.793 m³
Filter ID:
Sampled: 04/21/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 01:39

Comments: Q8521136 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.143**		**0.00846**
Barium	**7440-39-3**	**2.34**	QB-01	**0.966**
Beryllium	**7440-41-7**	**0.00640**		**0.00289**
Cadmium	7440-43-9	0.0145	U	0.0669
Chromium	7440-47-3	1.65	U	1.99
Cobalt	**7440-48-4**	**0.172**		**0.0393**
Copper	**7440-50-8**	**58.0**		**2.37**
Lead	**7439-92-1**	**0.848**		**0.193**
Manganese	**7439-96-5**	**4.61**		**1.71**
Molybdenum	**7439-98-7**	**2.19**		**0.324**
Nickel	**7440-02-0**	**0.884**		**0.588**
Selenium	**7782-49-2**	**0.156**		**0.00809**
Thallium	**7440-28-0**	**0.00180**		**5.32E-4**
Vanadium	**7440-62-2**	**0.456**		**0.0477**
Zinc	7440-66-6	34.3	U	69.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042124-HM
Matrix: Air
Lab ID: 4042941-17
Sample Volume: 1892.813 m³
Filter ID:
Sampled: 04/21/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 01:50

Comments: Q8521135 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.150**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.245**		**0.00805**
Barium	**7440-39-3**	**3.64**	QB-01	**0.920**
Beryllium	**7440-41-7**	**0.00838**		**0.00275**
Cadmium	7440-43-9	0.0139	U	0.0637
Chromium	7440-47-3	1.81	U	1.90
Cobalt	**7440-48-4**	**0.295**		**0.0375**
Copper	**7440-50-8**	**40.3**		**2.26**
Lead	**7439-92-1**	**1.07**		**0.184**
Manganese	**7439-96-5**	**8.50**		**1.62**
Molybdenum	**7439-98-7**	**1.40**		**0.309**
Nickel	**7440-02-0**	**1.06**		**0.560**
Selenium	**7782-49-2**	**0.176**		**0.00770**
Thallium	**7440-28-0**	**0.00164**		**5.06E-4**
Vanadium	**7440-62-2**	**0.688**		**0.0455**
Zinc	7440-66-6	41.7	U	66.0

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-042124-HM
Matrix: Air
Lab ID: 4042941-18
Sample Volume: 1923.684 m³
Filter ID:
Sampled: 04/21/24 00:00
Received: 04/29/24 14:32
Analysis Date: 05/01/24 02:00

Comments: Q8506910 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0182	SL, U	0.0326
Arsenic	7440-38-2	0.00236	U	0.00792
Barium	**7440-39-3**	**0.920**	FB-01, QB-01	**0.905**
Beryllium	7440-41-7	5.45E-4	U	0.00271
Cadmium	7440-43-9	6.04E-4	U	0.0627
Chromium	7440-47-3	1.13	U	1.87
Cobalt	7440-48-4	0.00995	U	0.0369
Copper	7440-50-8	0.532	U	2.22
Lead	7439-92-1	0.0292	U	0.181
Manganese	7439-96-5	0.155	U	1.60
Molybdenum	7439-98-7	0.154	U	0.304
Nickel	7440-02-0	0.474	U	0.551
Selenium	7782-49-2	0.00323	U	0.00758
Thallium	7440-28-0	1.52E-4	U	4.98E-4
Vanadium	7440-62-2	0.00900	U	0.0447
Zinc	7440-66-6	24.4	U	65.0

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042224-HM/MS/MS
Matrix: Air
Lab ID: 4042941-19
Sample Volume: 1997.123 m³
Filter ID:
Sampled: 04/22/24 23:59
Received: 04/29/24 14:32
Analysis Date: 04/30/24 18:44

Comments: Q8521134 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0636**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.662**		**0.00763**
Barium	**7440-39-3**	**3.84**	QB-01	**0.872**
Beryllium	**7440-41-7**	**0.0140**		**0.00261**
Cadmium	7440-43-9	0.0122	U	0.0604
Chromium	**7440-47-3**	**2.65**	PS-01	**1.80**
Cobalt	**7440-48-4**	**0.563**		**0.0355**
Copper	**7440-50-8**	**70.3**	A-01, QM-07	**2.14**
Lead	**7439-92-1**	**0.451**		**0.174**
Manganese	**7439-96-5**	**14.6**	A-01	**1.54**
Molybdenum	**7439-98-7**	**2.30**		**0.292**
Nickel	**7440-02-0**	**2.00**		**0.531**
Selenium	**7782-49-2**	**0.167**		**0.00730**
Thallium	**7440-28-0**	**0.00258**		**4.80E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0431**
Zinc	7440-66-6	29.1	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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042224-HM
Matrix: Air
Lab ID: 4042941-20
Sample Volume: 2045.7 m³
Filter ID:
Sampled: 04/22/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 02:10

Comments: Q8506907 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0965**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.293**		**0.00745**
Barium	**7440-39-3**	**5.23**	QB-01	**0.851**
Beryllium	**7440-41-7**	**0.0127**		**0.00255**
Cadmium	7440-43-9	0.0453	U	0.0589
Chromium	**7440-47-3**	**2.87**		**1.76**
Cobalt	**7440-48-4**	**0.496**		**0.0347**
Copper	**7440-50-8**	**51.7**		**2.09**
Lead	**7439-92-1**	**0.725**		**0.170**
Manganese	**7439-96-5**	**13.0**		**1.50**
Molybdenum	**7439-98-7**	**1.52**		**0.286**
Nickel	**7440-02-0**	**1.84**		**0.519**
Selenium	**7782-49-2**	**0.162**		**0.00713**
Thallium	**7440-28-0**	**0.00236**		**4.68E-4**
Vanadium	**7440-62-2**	**1.45**		**0.0421**
Zinc	7440-66-6	46.2	U	61.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042224-HM
Matrix: Air
Lab ID: 4042941-21
Sample Volume: 1813.398 m³
Filter ID:
Sampled: 04/22/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 02:21

Comments: Q8506904 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0535**	SL	**0.0346**
Arsenic	**7440-38-2**	**0.154**		**0.00841**
Barium	**7440-39-3**	**2.71**	QB-01	**0.960**
Beryllium	**7440-41-7**	**0.0120**		**0.00287**
Cadmium	7440-43-9	0.00939	U	0.0665
Chromium	**7440-47-3**	**2.17**		**1.98**
Cobalt	**7440-48-4**	**0.267**		**0.0391**
Copper	**7440-50-8**	**64.3**		**2.36**
Lead	**7439-92-1**	**0.355**		**0.192**
Manganese	**7439-96-5**	**6.99**		**1.70**
Molybdenum	**7439-98-7**	**2.14**		**0.322**
Nickel	**7440-02-0**	**1.12**		**0.585**
Selenium	**7782-49-2**	**0.150**		**0.00804**
Thallium	**7440-28-0**	**0.00218**		**5.28E-4**
Vanadium	**7440-62-2**	**0.694**		**0.0475**
Zinc	7440-66-6	53.3	U	68.9

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042224-HM
Matrix: Air
Lab ID: 4042941-22
Sample Volume: 1879.699 m³
Filter ID:
Sampled: 04/22/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 02:52

Comments: Q8521133 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.148**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.452**		**0.00811**
Barium	**7440-39-3**	**4.21**	QB-01	**0.926**
Beryllium	**7440-41-7**	**0.0119**		**0.00277**
Cadmium	7440-43-9	0.0132	U	0.0641
Chromium	**7440-47-3**	**2.24**		**1.91**
Cobalt	**7440-48-4**	**0.375**		**0.0377**
Copper	**7440-50-8**	**36.4**		**2.28**
Lead	**7439-92-1**	**0.882**		**0.185**
Manganese	**7439-96-5**	**12.2**		**1.64**
Molybdenum	**7439-98-7**	**1.29**		**0.311**
Nickel	**7440-02-0**	**1.26**		**0.564**
Selenium	**7782-49-2**	**0.193**		**0.00776**
Thallium	**7440-28-0**	**0.00223**		**5.10E-4**
Vanadium	**7440-62-2**	**0.978**		**0.0458**
Zinc	7440-66-6	37.7	U	66.5

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042324-HM
Matrix: Air
Lab ID: 4042941-23
Sample Volume: 1944.306 m³
Filter ID:
Sampled: 04/23/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 03:02

Comments: Q8521132 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0738**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.594**		**0.00784**
Barium	**7440-39-3**	**4.50**	QB-01	**0.895**
Beryllium	**7440-41-7**	**0.0161**		**0.00268**
Cadmium	7440-43-9	0.0134	U	0.0620
Chromium	**7440-47-3**	**2.96**		**1.85**
Cobalt	**7440-48-4**	**0.607**		**0.0365**
Copper	**7440-50-8**	**88.5**		**2.20**
Lead	**7439-92-1**	**0.470**		**0.179**
Manganese	**7439-96-5**	**17.8**		**1.58**
Molybdenum	**7439-98-7**	**2.74**		**0.300**
Nickel	**7440-02-0**	**1.66**		**0.546**
Selenium	**7782-49-2**	**0.157**		**0.00750**
Thallium	**7440-28-0**	**0.00179**		**4.93E-4**
Vanadium	**7440-62-2**	**1.68**		**0.0443**
Zinc	7440-66-6	32.0	U	64.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042324-HM
Matrix: Air
Lab ID: 4042941-24
Sample Volume: 2071.089 m³
Filter ID:
Sampled: 04/23/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 03:13

Comments: Q8521131 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.112**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.333**		**0.00736**
Barium	**7440-39-3**	**4.69**	QB-01	**0.841**
Beryllium	**7440-41-7**	**0.0107**		**0.00251**
Cadmium	7440-43-9	0.0132	U	0.0582
Chromium	**7440-47-3**	**2.19**		**1.74**
Cobalt	**7440-48-4**	**0.367**		**0.0343**
Copper	**7440-50-8**	**50.4**		**2.07**
Lead	**7439-92-1**	**0.910**		**0.168**
Manganese	**7439-96-5**	**10.8**		**1.48**
Molybdenum	**7439-98-7**	**1.46**		**0.282**
Nickel	**7440-02-0**	**1.36**		**0.512**
Selenium	**7782-49-2**	**0.132**		**0.00704**
Thallium	**7440-28-0**	**0.00135**		**4.63E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0416**
Zinc	7440-66-6	33.2	U	60.3

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042324-HM
Matrix: Air
Lab ID: 4042941-25
Sample Volume: 1811.884 m³
Filter ID:
Sampled: 04/23/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 03:23

Comments: Q8521130 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0826**	SL	**0.0347**
Arsenic	**7440-38-2**	**0.251**		**0.00841**
Barium	**7440-39-3**	**2.98**	QB-01	**0.961**
Beryllium	**7440-41-7**	**0.0143**		**0.00287**
Cadmium	7440-43-9	0.00797	U	0.0665
Chromium	**7440-47-3**	**2.27**		**1.98**
Cobalt	**7440-48-4**	**0.336**		**0.0392**
Copper	**7440-50-8**	**82.4**		**2.36**
Lead	**7439-92-1**	**0.527**		**0.192**
Manganese	**7439-96-5**	**8.50**		**1.70**
Molybdenum	**7439-98-7**	**2.33**		**0.322**
Nickel	**7440-02-0**	**1.22**		**0.585**
Selenium	**7782-49-2**	**0.131**		**0.00805**
Thallium	**7440-28-0**	**0.00120**		**5.29E-4**
Vanadium	**7440-62-2**	**0.804**		**0.0475**
Zinc	7440-66-6	29.0	U	69.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042324-HM
Matrix: Air
Lab ID: 4042941-26
Sample Volume: 1873.41 m³
Filter ID:
Sampled: 04/23/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 03:44

Comments: Q8521129 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0900**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.352**		**0.00814**
Barium	**7440-39-3**	**3.61**	QB-01	**0.929**
Beryllium	**7440-41-7**	**0.0104**		**0.00278**
Cadmium	7440-43-9	0.0150	U	0.0644
Chromium	**7440-47-3**	**2.09**		**1.92**
Cobalt	**7440-48-4**	**0.317**		**0.0379**
Copper	**7440-50-8**	**37.3**		**2.28**
Lead	**7439-92-1**	**0.748**		**0.186**
Manganese	**7439-96-5**	**10.0**		**1.64**
Molybdenum	**7439-98-7**	**1.45**		**0.312**
Nickel	**7440-02-0**	**1.08**		**0.566**
Selenium	**7782-49-2**	**0.135**		**0.00778**
Thallium	**7440-28-0**	**0.00120**		**5.12E-4**
Vanadium	**7440-62-2**	**0.843**		**0.0459**
Zinc	7440-66-6	34.5	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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-042324-HM
Matrix: Air
Lab ID: 4042941-27
Sample Volume: 1944.306 m³
Filter ID:
Sampled: 04/23/24 00:00
Received: 04/29/24 14:32
Analysis Date: 05/01/24 03:54

Comments: Q8506903 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0170	SL, U	0.0323
Arsenic	7440-38-2	0.00243	U	0.00784
Barium	7440-39-3	0.849	QB-01, U	0.895
Beryllium	7440-41-7	6.35E-4	U	0.00268
Cadmium	7440-43-9	6.69E-4	U	0.0620
Chromium	7440-47-3	1.09	U	1.85
Cobalt	7440-48-4	0.0124	U	0.0365
Copper	7440-50-8	0.482	U	2.20
Lead	7439-92-1	0.0281	U	0.179
Manganese	7439-96-5	0.187	U	1.58
Molybdenum	7439-98-7	0.144	U	0.300
Nickel	7440-02-0	0.444	U	0.546
Selenium	7782-49-2	2.62E-4	U	0.00750
Thallium	7440-28-0	1.10E-4	U	4.93E-4
Vanadium	7440-62-2	0.0104	U	0.0443
Zinc	7440-66-6	17.5	U	64.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042424-HM
Matrix: Air
Lab ID: 4042941-28
Sample Volume: 1983.872 m³
Filter ID:
Sampled: 04/24/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 04:05

Comments: Q8521128 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0615**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.420**		**0.00768**
Barium	**7440-39-3**	**3.50**	QB-01	**0.878**
Beryllium	**7440-41-7**	**0.0116**		**0.00262**
Cadmium	7440-43-9	0.0117	U	0.0608
Chromium	**7440-47-3**	**3.02**		**1.81**
Cobalt	**7440-48-4**	**0.591**		**0.0358**
Copper	**7440-50-8**	**95.1**		**2.16**
Lead	**7439-92-1**	**0.353**		**0.176**
Manganese	**7439-96-5**	**14.6**		**1.55**
Molybdenum	**7439-98-7**	**3.11**		**0.294**
Nickel	**7440-02-0**	**2.21**		**0.535**
Selenium	**7782-49-2**	**0.167**		**0.00735**
Thallium	**7440-28-0**	**0.00231**		**4.83E-4**
Vanadium	**7440-62-2**	**1.47**		**0.0434**
Zinc	7440-66-6	22.2	U	63.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042424-HM
Matrix: Air
Lab ID: 4042941-29
Sample Volume: 2093.976 m³
Filter ID:
Sampled: 04/24/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 04:15

Comments: Q8521127 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.109**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.273**		**0.00728**
Barium	**7440-39-3**	**3.55**	QB-01	**0.831**
Beryllium	**7440-41-7**	**0.00875**		**0.00249**
Cadmium	7440-43-9	0.0151	U	0.0576
Chromium	**7440-47-3**	**1.91**		**1.72**
Cobalt	**7440-48-4**	**0.319**		**0.0339**
Copper	**7440-50-8**	**49.9**		**2.04**
Lead	**7439-92-1**	**0.644**		**0.166**
Manganese	**7439-96-5**	**9.03**		**1.47**
Molybdenum	**7439-98-7**	**1.55**		**0.279**
Nickel	**7440-02-0**	**1.22**		**0.507**
Selenium	**7782-49-2**	**0.151**		**0.00696**
Thallium	**7440-28-0**	**0.00216**		**4.58E-4**
Vanadium	**7440-62-2**	**0.897**		**0.0411**
Zinc	7440-66-6	23.2	U	59.7

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[redacted]

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: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042424-HM
Matrix: Air
Lab ID: 4042941-30
Sample Volume: 1925.153 m³
Filter ID:
Sampled: 04/24/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 04:25

Comments: Q8506911 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0787**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.239**		**0.00792**
Barium	**7440-39-3**	**3.25**	QB-01	**0.904**
Beryllium	**7440-41-7**	**0.0191**		**0.00270**
Cadmium	7440-43-9	0.0113	U	0.0626
Chromium	**7440-47-3**	**2.83**		**1.87**
Cobalt	**7440-48-4**	**0.433**		**0.0368**
Copper	**7440-50-8**	**65.7**		**2.22**
Lead	**7439-92-1**	**0.722**		**0.181**
Manganese	**7439-96-5**	**10.8**		**1.60**
Molybdenum	**7439-98-7**	**2.18**		**0.303**
Nickel	**7440-02-0**	**1.45**		**0.551**
Selenium	**7782-49-2**	**0.178**		**0.00757**
Thallium	**7440-28-0**	**0.00216**		**4.98E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0447**
Zinc	7440-66-6	25.1	U	64.9

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042424-HM
Matrix: Air
Lab ID: 4042941-31
Sample Volume: 1547.784 m³
Filter ID:
Sampled: 04/24/24 23:59
Received: 04/29/24 14:32
Analysis Date: 05/01/24 05:07

Comments: Q8506902 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0406**
Arsenic	**7440-38-2**	**0.503**		**0.00985**
Barium	**7440-39-3**	**5.56**	QB-01	**1.12**
Beryllium	**7440-41-7**	**0.0170**		**0.00336**
Cadmium	7440-43-9	0.0183	U	0.0779
Chromium	**7440-47-3**	**3.20**		**2.32**
Cobalt	**7440-48-4**	**0.534**		**0.0458**
Copper	**7440-50-8**	**49.9**		**2.76**
Lead	**7439-92-1**	**1.33**		**0.225**
Manganese	**7439-96-5**	**17.0**		**1.99**
Molybdenum	**7439-98-7**	**1.60**		**0.377**
Nickel	**7440-02-0**	**1.66**		**0.685**
Selenium	**7782-49-2**	**0.210**		**0.00942**
Thallium	**7440-28-0**	**0.00261**		**6.19E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0556**
Zinc	7440-66-6	36.8	U	80.7

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2404094 - B4D3006										
Calibration Blank (2404094-CCB1)				Prepared & Analyzed: 04/30/24						
Antimony	0.504		ng/l							
Arsenic	0.0930		ng/l							
Barium	0.576		ng/l							
Beryllium	0.302		ng/l							
Cadmium	0.181		ng/l							
Chromium	4.55		ng/l							
Cobalt	0.474		ng/l							
Copper	52.6		ng/l							
Lead	10.5		ng/l							
Manganese	2.08		ng/l							
Molybdenum	12.0		ng/l							
Nickel	0.396		ng/l							
Selenium	9.29		ng/l							
Thallium	1.25		ng/l							
Vanadium	-40.9		ng/l							U
Zinc	16.8		ng/l							
Calibration Blank (2404094-CCB2)				Prepared & Analyzed: 04/30/24						
Antimony	0.470		ng/l							
Arsenic	-0.329		ng/l							U
Barium	0.850		ng/l							
Beryllium	0.290		ng/l							
Cadmium	0.113		ng/l							
Chromium	1.90		ng/l							
Cobalt	0.337		ng/l							
Copper	18.0		ng/l							
Lead	5.70		ng/l							
Manganese	-1.30		ng/l							U
Molybdenum	4.65		ng/l							
Nickel	0.361		ng/l							
Selenium	8.25		ng/l							
Thallium	1.08		ng/l							
Vanadium	-38.1		ng/l							U
Zinc	32.5		ng/l							
Calibration Blank (2404094-CCB3)				Prepared & Analyzed: 04/30/24						
Antimony	0.303		ng/l							
Arsenic	-0.279		ng/l							U
Barium	0.747		ng/l							
Beryllium	0.285		ng/l							

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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 2404094 - B4D3006										
Calibration Blank (2404094-CCB3) Contin				Prepared & Analyzed: 04/30/24						
Cadmium	0.0568		ng/l							
Chromium	2.47		ng/l							
Cobalt	0.262		ng/l							
Copper	13.8		ng/l							
Lead	2.55		ng/l							
Manganese	-1.66		ng/l							U
Molybdenum	2.36		ng/l							
Nickel	-0.00781		ng/l							U
Selenium	0.215		ng/l							
Thallium	0.566		ng/l							
Vanadium	-26.0		ng/l							U
Zinc	10.7		ng/l							
Calibration Blank (2404094-CCB4)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.460		ng/l							
Arsenic	0.556		ng/l							
Barium	0.842		ng/l							
Beryllium	0.289		ng/l							
Cadmium	0.121		ng/l							
Chromium	3.18		ng/l							
Cobalt	0.367		ng/l							
Copper	25.4		ng/l							
Lead	7.74		ng/l							
Manganese	-0.806		ng/l							U
Molybdenum	5.98		ng/l							
Nickel	0.726		ng/l							
Selenium	0.487		ng/l							
Thallium	1.26		ng/l							
Vanadium	-41.6		ng/l							U
Zinc	11.9		ng/l							
Calibration Blank (2404094-CCB5)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.437		ng/l							
Arsenic	1.77		ng/l							
Barium	0.431		ng/l							
Beryllium	-0.245		ng/l							U
Cadmium	0.0387		ng/l							
Chromium	2.89		ng/l							
Cobalt	0.299		ng/l							
Copper	19.0		ng/l							

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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 2404094 - B4D3006										
Calibration Blank (2404094-CCB5) Contin				Prepared: 04/30/24 Analyzed: 05/01/24						
Lead	5.23		ng/l							
Manganese	-2.03		ng/l							U
Molybdenum	5.44		ng/l							
Nickel	1.69		ng/l							
Selenium	5.82		ng/l							
Thallium	1.13		ng/l							
Vanadium	-41.2		ng/l							U
Zinc	16.9		ng/l							
Calibration Blank (2404094-CCB6)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.697		ng/l							
Arsenic	0.733		ng/l							
Barium	0.694		ng/l							
Beryllium	0.0530		ng/l							
Cadmium	0.143		ng/l							
Chromium	2.81		ng/l							
Cobalt	0.309		ng/l							
Copper	24.6		ng/l							
Lead	9.12		ng/l							
Manganese	-1.08		ng/l							U
Molybdenum	6.63		ng/l							
Nickel	1.00		ng/l							
Selenium	9.97		ng/l							
Thallium	1.22		ng/l							
Vanadium	-48.0		ng/l							U
Zinc	18.7		ng/l							
Calibration Blank (2404094-CCB7)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.715		ng/l							
Arsenic	1.13		ng/l							
Barium	0.292		ng/l							
Beryllium	0.0773		ng/l							
Cadmium	0.114		ng/l							
Chromium	3.49		ng/l							
Cobalt	0.300		ng/l							
Copper	20.1		ng/l							
Lead	6.44		ng/l							
Manganese	-0.713		ng/l							U
Molybdenum	5.74		ng/l							
Nickel	1.02		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2404094 - B4D3006										
Calibration Blank (2404094-CCB7) Contin				Prepared: 04/30/24 Analyzed: 05/01/24						
Selenium	3.47		ng/l							
Thallium	1.03		ng/l							
Vanadium	-47.0		ng/l							U
Zinc	25.8		ng/l							
Calibration Check (2404094-CCV1)				Prepared & Analyzed: 04/30/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4920		ng/l	5000.0		98.5	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	250000		ng/l	240000		104	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		99.1	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	506		ng/l	500.00		101	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2404094-CCV2)				Prepared & Analyzed: 04/30/24						
Antimony	19800		ng/l	20000		99.0	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	4990		ng/l	5000.0		99.8	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	52500		ng/l	50000		105	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	523000		ng/l	500000		105	90-110			
Molybdenum	50200		ng/l	50000		100	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Thallium	487		ng/l	500.00		97.5	90-110			
Vanadium	20700		ng/l	20000		104	90-110			
Zinc	518000		ng/l	500000		104	90-110			

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2404094 - B4D3006										
Calibration Check (2404094-CCV3)				Prepared & Analyzed: 04/30/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	492		ng/l	500.00		98.5	90-110			
Vanadium	20500		ng/l	20000		103	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2404094-CCV4)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	4930		ng/l	5000.0		98.6	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	253000		ng/l	240000		105	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	521000		ng/l	500000		104	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19700		ng/l	20000		98.4	90-110			
Thallium	504		ng/l	500.00		101	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2404094-CCV5)				Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2404094 - B4D3006										
Calibration Check (2404094-CCV5) Contin					Prepared: 04/30/24 Analyzed: 05/01/24					
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	258000		ng/l	240000		107	90-110			
Cobalt	52900		ng/l	50000		106	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	528000		ng/l	500000		106	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2404094-CCV6)					Prepared: 04/30/24 Analyzed: 05/01/24					
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	256000		ng/l	240000		107	90-110			
Cobalt	52700		ng/l	50000		105	90-110			
Copper	2.13E6		ng/l	2.0000E6		106	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	523000		ng/l	500000		105	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	127000		ng/l	120000		106	90-110			
Selenium	19800		ng/l	20000		98.8	90-110			
Thallium	498		ng/l	500.00		99.5	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2404094-CCV7)					Prepared: 04/30/24 Analyzed: 05/01/24					
Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	19800		ng/l	20000		99.1	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4910		ng/l	5000.0		98.3	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	256000		ng/l	240000		107	90-110			
Cobalt	52400		ng/l	50000		105	90-110			
Copper	2.11E6		ng/l	2.0000E6		106	90-110			

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REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2404094 - B4D3006										
Calibration Check (2404094-CCV7) Contin				Prepared: 04/30/24 Analyzed: 05/01/24						
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	523000		ng/l	500000		105	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	19500		ng/l	20000		97.5	90-110			
Thallium	491		ng/l	500.00		98.3	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	518000		ng/l	500000		104	90-110			
High Cal Check (2404094-HCV1)				Prepared & Analyzed: 04/30/24						
Antimony	39800		ng/l	40000		99.6	95-105			
Arsenic	39800		ng/l	40000		99.6	95-105			
Barium	399000		ng/l	400000		99.9	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39600		ng/l	40000		98.9	95-105			
Chromium	473000		ng/l	480000		98.5	95-105			
Cobalt	98200		ng/l	100000		98.2	95-105			
Copper	3.94E6		ng/l	4.0000E6		98.5	95-105			
Lead	402000		ng/l	400000		100	95-105			
Manganese	984000		ng/l	1.0000E6		98.4	95-105			
Molybdenum	99000		ng/l	100000		99.0	95-105			
Nickel	236000		ng/l	240000		98.2	95-105			
Selenium	39900		ng/l	40000		99.6	95-105			
Thallium	1020		ng/l	1000.0		102	95-105			
Vanadium	39600		ng/l	40000		99.1	95-105			
Zinc	980000		ng/l	1.0000E6		98.0	95-105			
Initial Cal Blank (2404094-ICB1)				Prepared & Analyzed: 04/30/24						
Antimony	0.625		ng/l							
Arsenic	0.186		ng/l							
Barium	0.823		ng/l							
Beryllium	0.330		ng/l							
Cadmium	0.0636		ng/l							
Chromium	4.13		ng/l							
Cobalt	0.355		ng/l							
Copper	82.0		ng/l							
Lead	15.7		ng/l							
Manganese	3.39		ng/l							
Molybdenum	7.63		ng/l							
Nickel	-0.223		ng/l							U

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2404094 - B4D3006										
Initial Cal Blank (2404094-ICB1) Continu				Prepared & Analyzed: 04/30/24						
Selenium	-0.801		ng/l							U
Thallium	0.937		ng/l							
Vanadium	-41.9		ng/l							U
Zinc	12.1		ng/l							
Initial Cal Check (2404094-ICV1)				Prepared & Analyzed: 04/30/24						
Antimony	19700		ng/l	20000		98.5	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	195000		ng/l	200000		97.7	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	49600		ng/l	50000		99.1	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Manganese	495000		ng/l	500000		99.1	90-110			
Molybdenum	48300		ng/l	50000		96.6	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Thallium	516		ng/l	500.00		103	90-110			
Vanadium	19700		ng/l	20000		98.4	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Interference Check A (2404094-IFA1)				Prepared & Analyzed: 04/30/24						
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	298000		ng/l	300000		99.3	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 2404094 - B4D3006										
Interference Check B (2404094-IFB1)				Prepared & Analyzed: 04/30/24						
Antimony	19900		ng/l	20000		99.7	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	5250		ng/l	5000.0		105	80-120			
Cadmium	18800		ng/l	20000		94.1	80-120			
Chromium	250000		ng/l	240000		104	80-120			
Cobalt	48800		ng/l	50000		97.7	80-120			
Copper	1.86E6		ng/l	2.0000E6		93.0	80-120			
Lead	204000		ng/l	200000		102	80-120			
Manganese	531000		ng/l	500000		106	80-120			
Molybdenum	345000		ng/l	350000		98.6	80-120			
Nickel	114000		ng/l	120000		95.2	80-120			
Selenium	19100		ng/l	20000		95.6	80-120			
Thallium	525		ng/l	500.00		105	80-120			
Vanadium	21900		ng/l	20000		110	80-120			
Zinc	445000		ng/l	500000		88.9	80-120			
Batch 2405002 - B4D3006										
Calibration Blank (2405002-CCB1)				Prepared & Analyzed: 05/01/24						
Antimony	0.659		ng/l							
Arsenic	0.776		ng/l							
Barium	2.16		ng/l							
Beryllium	0.247		ng/l							
Cadmium	0.184		ng/l							
Chromium	4.39		ng/l							
Cobalt	0.362		ng/l							
Copper	48.8		ng/l							
Lead	10.2		ng/l							
Manganese	7.75		ng/l							
Molybdenum	12.4		ng/l							
Nickel	-0.600		ng/l							U
Selenium	0.00885		ng/l							
Thallium	1.17		ng/l							
Vanadium	-40.1		ng/l							U
Zinc	2.03		ng/l							
Calibration Blank (2405002-CCB2)				Prepared & Analyzed: 05/01/24						
Antimony	0.658		ng/l							
Arsenic	0.106		ng/l							
Barium	0.629		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405002 - B4D3006										
Calibration Blank (2405002-CCB2) Contin				Prepared & Analyzed: 05/01/24						
Beryllium	0.0983		ng/l							
Cadmium	0.125		ng/l							
Chromium	3.75		ng/l							
Cobalt	0.128		ng/l							
Copper	27.8		ng/l							
Lead	6.36		ng/l							
Manganese	5.57		ng/l							
Molybdenum	5.13		ng/l							
Nickel	-1.31		ng/l							U
Selenium	-0.927		ng/l							U
Thallium	0.918		ng/l							
Vanadium	-41.3		ng/l							U
Zinc	-3.59		ng/l							U
Calibration Blank (2405002-CCB3)				Prepared & Analyzed: 05/01/24						
Antimony	0.670		ng/l							
Arsenic	0.244		ng/l							
Barium	1.97		ng/l							
Beryllium	-0.0542		ng/l							U
Cadmium	0.160		ng/l							
Chromium	3.82		ng/l							
Cobalt	0.175		ng/l							
Copper	21.3		ng/l							
Lead	6.42		ng/l							
Manganese	5.18		ng/l							
Molybdenum	6.07		ng/l							
Nickel	-0.843		ng/l							U
Selenium	-0.00745		ng/l							U
Thallium	1.16		ng/l							
Vanadium	-40.2		ng/l							U
Zinc	-4.26		ng/l							U
Calibration Blank (2405002-CCB4)				Prepared & Analyzed: 05/01/24						
Antimony	0.559		ng/l							
Arsenic	0.319		ng/l							
Barium	0.115		ng/l							
Beryllium	-0.513		ng/l							U
Cadmium	0.0118		ng/l							
Chromium	2.32		ng/l							
Cobalt	0.0634		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405002 - B4D3006										
Calibration Blank (2405002-CCB4) Contin				Prepared & Analyzed: 05/01/24						
Copper	22.5		ng/l							
Lead	7.43		ng/l							
Manganese	3.51		ng/l							
Molybdenum	5.38		ng/l							
Nickel	-1.20		ng/l							U
Selenium	-4.23		ng/l							U
Thallium	1.06		ng/l							
Vanadium	-41.9		ng/l							U
Zinc	4.81		ng/l							
Calibration Blank (2405002-CCB5)				Prepared: 05/01/24 Analyzed: 05/02/24						
Antimony	0.720		ng/l							
Arsenic	0.0824		ng/l							
Barium	0.622		ng/l							
Beryllium	-0.414		ng/l							U
Cadmium	-0.00628		ng/l							U
Chromium	4.29		ng/l							
Cobalt	0.0188		ng/l							
Copper	20.0		ng/l							
Lead	7.06		ng/l							
Manganese	3.28		ng/l							
Molybdenum	5.96		ng/l							
Nickel	-1.33		ng/l							U
Selenium	-10.2		ng/l							U
Thallium	1.12		ng/l							
Vanadium	-41.2		ng/l							U
Zinc	-7.34		ng/l							U
Calibration Check (2405002-CCV1)				Prepared & Analyzed: 05/01/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	196000		ng/l	200000		97.8	90-110			
Beryllium	4940		ng/l	5000.0		98.9	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	194000		ng/l	200000		97.1	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	49000		ng/l	50000		98.1	90-110			

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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 2405002 - B4D3006										
Calibration Check (2405002-CCV1) Contin					Prepared & Analyzed: 05/01/24					
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	486		ng/l	500.00		97.2	90-110			
Vanadium	19500		ng/l	20000		97.6	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2405002-CCV2)					Prepared & Analyzed: 05/01/24					
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	194000		ng/l	200000		96.9	90-110			
Beryllium	4960		ng/l	5000.0		99.3	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	196000		ng/l	200000		97.9	90-110			
Manganese	497000		ng/l	500000		99.3	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19600		ng/l	20000		98.2	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	19100		ng/l	20000		95.4	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2405002-CCV3)					Prepared & Analyzed: 05/01/24					
Antimony	19900		ng/l	20000		99.4	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	195000		ng/l	200000		97.7	90-110			
Beryllium	4960		ng/l	5000.0		99.3	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	49800		ng/l	50000		99.5	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	19200		ng/l	20000		95.8	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 2405002 - B4D3006										
Calibration Check (2405002-CCV3) Contin					Prepared & Analyzed: 05/01/24					
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2405002-CCV4)					Prepared & Analyzed: 05/01/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19500		ng/l	20000		97.7	90-110			
Barium	195000		ng/l	200000		97.5	90-110			
Beryllium	4910		ng/l	5000.0		98.2	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	244000		ng/l	240000		102	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19700		ng/l	20000		98.7	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	19200		ng/l	20000		95.9	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Calibration Check (2405002-CCV5)					Prepared: 05/01/24 Analyzed: 05/02/24					
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	194000		ng/l	200000		97.1	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	196000		ng/l	200000		97.9	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19400		ng/l	20000		97.1	90-110			
Thallium	484		ng/l	500.00		96.7	90-110			
Vanadium	19600		ng/l	20000		98.1	90-110			
Zinc	516000		ng/l	500000		103	90-110			
High Cal Check (2405002-HCV1)					Prepared & Analyzed: 05/01/24					
Antimony	40300		ng/l	40000		101	95-105			
Arsenic	39900		ng/l	40000		99.7	95-105			

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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 2405002 - B4D3006										
High Cal Check (2405002-HCV1) Continue					Prepared & Analyzed: 05/01/24					
Barium	402000		ng/l	400000		101	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39700		ng/l	40000		99.4	95-105			
Chromium	467000		ng/l	480000		97.3	95-105			
Cobalt	97300		ng/l	100000		97.3	95-105			
Copper	3.87E6		ng/l	4.0000E6		96.7	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	975000		ng/l	1.0000E6		97.5	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	231000		ng/l	240000		96.4	95-105			
Selenium	39900		ng/l	40000		99.6	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	976000		ng/l	1.0000E6		97.6	95-105			
Initial Cal Blank (2405002-ICB1)					Prepared & Analyzed: 05/01/24					
Antimony	0.832		ng/l							
Arsenic	0.343		ng/l							
Barium	1.38		ng/l							
Beryllium	-0.0474		ng/l							U
Cadmium	0.173		ng/l							
Chromium	5.03		ng/l							
Cobalt	0.163		ng/l							
Copper	56.7		ng/l							
Lead	13.9		ng/l							
Manganese	6.96		ng/l							
Molybdenum	7.66		ng/l							
Nickel	-1.13		ng/l							U
Selenium	10.5		ng/l							
Thallium	0.993		ng/l							
Vanadium	-36.6		ng/l							U
Zinc	9.12		ng/l							
Initial Cal Check (2405002-ICV1)					Prepared & Analyzed: 05/01/24					
Antimony	20000		ng/l	20000		99.9	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	197000		ng/l	200000		98.4	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	239000		ng/l	240000		99.4	90-110			

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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: 05/08/24 13:25
SUBMITTED: 04/29/24
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 2405002 - B4D3006										
Initial Cal Check (2405002-ICV1) Continu					Prepared & Analyzed: 05/01/24					
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	498000		ng/l	500000		99.5	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Thallium	514		ng/l	500.00		103	90-110			
Vanadium	19200		ng/l	20000		96.0	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Interference Check A (2405002-IFA1)					Prepared & Analyzed: 05/01/24					
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	293000		ng/l	300000		97.8	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
Interference Check B (2405002-IFB1)					Prepared & Analyzed: 05/01/24					
Antimony	20100		ng/l	20000		100	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	204000		ng/l	200000		102	80-120			
Beryllium	5350		ng/l	5000.0		107	80-120			
Cadmium	19000		ng/l	20000		95.1	80-120			
Chromium	252000		ng/l	240000		105	80-120			
Cobalt	48400		ng/l	50000		96.8	80-120			
Copper	1.86E6		ng/l	2.0000E6		92.8	80-120			
Lead	201000		ng/l	200000		100	80-120			
Manganese	533000		ng/l	500000		107	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 2405002 - B4D3006										
Interference Check B (2405002-IFB1) Co					Prepared & Analyzed: 05/01/24					
Molybdenum	341000		ng/l	350000		97.4	80-120			
Nickel	113000		ng/l	120000		94.4	80-120			
Selenium	19200		ng/l	20000		96.0	80-120			
Thallium	514		ng/l	500.00		103	80-120			
Vanadium	21400		ng/l	20000		107	80-120			
Zinc	449000		ng/l	500000		89.7	80-120			
Batch B4D3006 - ICP-MS Extraction										
Blank (B4D3006-BLK1)					Prepared & Analyzed: 04/30/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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 (B4D3006-BS1)					Prepared & Analyzed: 04/30/24					
Antimony	0.712	0.0386	ng/m³ Air	1.3829		51.5	80-120			SL
Arsenic	2.58	0.00937	ng/m³ Air	2.7658		93.3	80-120			
Barium	27.5	1.07	ng/m³ Air	27.658		99.3	80-120			QB-01
Beryllium	1.28	0.00320	ng/m³ Air	1.3829		92.7	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	15.3	2.21	ng/m³ Air	13.829		111	80-120			
Cobalt	1.41	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	29.1	2.63	ng/m³ Air	27.658		105	80-120			
Lead	12.9	0.214	ng/m³ Air	13.829		93.2	80-120			
Manganese	7.97	1.89	ng/m³ Air	8.2975		96.1	80-120			
Molybdenum	1.42	0.359	ng/m³ Air	1.3829		102	80-120			
Nickel	3.28	0.652	ng/m³ Air	2.7658		118	80-120			
Selenium	2.62	0.00896	ng/m³ Air	2.7658		94.9	80-120			

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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 B4D3006 - ICP-MS Extraction										
LCS (B4D3006-BS1) Continued					Prepared & Analyzed: 04/30/24					
Thallium	0.132	5.89E-4	ng/m³ Air	0.13829		95.3	80-120			
Vanadium	2.65	0.0529	ng/m³ Air	2.7658		95.8	80-120			
Zinc	140	76.8	ng/m³ Air	82.975		168	80-120			
LCS (B4D3006-BS2)					Prepared & Analyzed: 04/30/24					
Antimony	0.681	0.0386	ng/m³ Air	1.3829		49.3	80-120			SL
Arsenic	2.61	0.00937	ng/m³ Air	2.7658		94.4	80-120			
Barium	27.2	1.07	ng/m³ Air	27.658		98.3	80-120			QB-01
Beryllium	1.28	0.00320	ng/m³ Air	1.3829		92.6	80-120			
Cadmium	1.38	0.0741	ng/m³ Air	1.3829		99.7	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.7	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.1	0.214	ng/m³ Air	13.829		94.4	80-120			
Manganese	8.00	1.89	ng/m³ Air	8.2975		96.4	80-120			
Molybdenum	1.42	0.359	ng/m³ Air	1.3829		103	80-120			
Nickel	3.28	0.652	ng/m³ Air	2.7658		119	80-120			
Selenium	2.59	0.00896	ng/m³ Air	2.7658		93.5	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.7	80-120			
Vanadium	2.70	0.0529	ng/m³ Air	2.7658		97.6	80-120			
Zinc	138	76.8	ng/m³ Air	82.975		166	80-120			
Duplicate (B4D3006-DUP1)			**Source: 4042941-19**		Prepared & Analyzed: 04/30/24					
Antimony	0.0602	0.0314	ng/m³ Air		0.0636			5.45	10	SL
Arsenic	0.647	0.00763	ng/m³ Air		0.662			2.32	10	
Barium	4.27	0.872	ng/m³ Air		3.84			10.6	10	QB-01
Beryllium	0.0136	0.00261	ng/m³ Air		0.0140			2.95	10	
Cadmium	ND	0.0604	ng/m³ Air		ND				10	U
Chromium	2.92	1.80	ng/m³ Air		2.65			9.44	10	
Cobalt	0.597	0.0355	ng/m³ Air		0.563			5.94	10	
Copper	73.3	2.14	ng/m³ Air		70.3			4.09	10	
Lead	0.497	0.174	ng/m³ Air		0.451			9.57	10	
Manganese	15.3	1.54	ng/m³ Air		14.6			4.61	10	
Molybdenum	2.35	0.292	ng/m³ Air		2.30			2.16	10	
Nickel	2.13	0.531	ng/m³ Air		2.00			6.20	10	
Selenium	0.169	0.00730	ng/m³ Air		0.167			1.09	10	
Thallium	0.00252	4.80E-4	ng/m³ Air		0.00258			2.10	10	
Vanadium	1.51	0.0431	ng/m³ Air		1.43			5.46	10	
Zinc	ND	62.6	ng/m³ Air		ND				10	U
Duplicate (B4D3006-DUP2)			**Source: 4042941-02**		Prepared & Analyzed: 04/30/24					

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Duplicate (B4D3006-DUP2) Continued			**Source: 4042941-02**		Prepared & Analyzed: 04/30/24					
Antimony	0.195	0.0306	ng/m³ Air		0.185			5.56	10	SL
Arsenic	0.295	0.00742	ng/m³ Air		0.284			3.64	10	
Barium	5.70	0.847	ng/m³ Air		5.45			4.49	10	QB-01
Beryllium	0.0122	0.00253	ng/m³ Air		0.0126			3.30	10	
Cadmium	ND	0.0587	ng/m³ Air		ND				10	U
Chromium	2.04	1.75	ng/m³ Air		2.16			5.69	10	
Cobalt	0.367	0.0345	ng/m³ Air		0.377			2.66	10	
Copper	35.9	2.08	ng/m³ Air		35.3			1.76	10	
Lead	0.985	0.169	ng/m³ Air		1.07			8.64	10	
Manganese	12.0	1.50	ng/m³ Air		12.1			0.897	10	
Molybdenum	1.48	0.284	ng/m³ Air		1.47			0.698	10	
Nickel	1.39	0.516	ng/m³ Air		1.45			4.34	10	
Selenium	0.161	0.00709	ng/m³ Air		0.166			3.37	10	
Thallium	9.49E-4	4.66E-4	ng/m³ Air		9.82E-4			3.43	10	
Vanadium	1.12	0.0419	ng/m³ Air		1.16			3.41	10	
Zinc	ND	60.8	ng/m³ Air		ND				10	U
Duplicate (B4D3006-DUP3)			**Source: 4042941-25**		Prepared: 04/30/24 Analyzed: 05/01/24					
Antimony	0.0829	0.0347	ng/m³ Air		0.0826			0.305	10	SL
Arsenic	0.253	0.00841	ng/m³ Air		0.251			0.631	10	
Barium	2.98	0.961	ng/m³ Air		2.98			0.0409	10	QB-01
Beryllium	0.0144	0.00287	ng/m³ Air		0.0143			0.293	10	
Cadmium	ND	0.0665	ng/m³ Air		ND				10	U
Chromium	2.27	1.98	ng/m³ Air		2.27			0.0869	10	
Cobalt	0.336	0.0392	ng/m³ Air		0.336			0.181	10	
Copper	82.8	2.36	ng/m³ Air		82.4			0.511	10	
Lead	0.531	0.192	ng/m³ Air		0.527			0.734	10	
Manganese	8.58	1.70	ng/m³ Air		8.50			0.957	10	
Molybdenum	2.41	0.322	ng/m³ Air		2.33			3.23	10	
Nickel	1.23	0.585	ng/m³ Air		1.22			0.704	10	
Selenium	0.124	0.00805	ng/m³ Air		0.131			5.35	10	
Thallium	0.00121	5.29E-4	ng/m³ Air		0.00120			1.17	10	
Vanadium	0.801	0.0475	ng/m³ Air		0.804			0.376	10	
Zinc	ND	69.0	ng/m³ Air		ND				10	U
Duplicate (B4D3006-DUP4)			**Source: 4042941-12**		Prepared: 04/30/24 Analyzed: 05/01/24					
Antimony	0.0640	0.0325	ng/m³ Air		0.0645			0.698	10	SL
Arsenic	0.130	0.00790	ng/m³ Air		0.127			1.97	10	
Barium	2.31	0.902	ng/m³ Air		2.30			0.551	10	QB-01
Beryllium	0.00871	0.00270	ng/m³ Air		0.00891			2.27	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 B4D3006 - ICP-MS Extraction										
Duplicate (B4D3006-DUP4) Continued		**Source: 4042941-12**		Prepared: 04/30/24 Analyzed: 05/01/24						
Cadmium	ND	0.0625	ng/m³ Air		ND				10	U
Chromium	ND	1.86	ng/m³ Air		ND				10	U
Cobalt	0.195	0.0368	ng/m³ Air		0.193			0.749	10	
Copper	52.4	2.22	ng/m³ Air		52.0			0.747	10	
Lead	0.443	0.180	ng/m³ Air		0.448			1.15	10	
Manganese	5.13	1.59	ng/m³ Air		5.07			1.06	10	
Molybdenum	2.45	0.303	ng/m³ Air		2.46			0.621	10	
Nickel	1.00	0.550	ng/m³ Air		0.996			0.543	10	
Selenium	0.148	0.00755	ng/m³ Air		0.148			0.0669	10	
Thallium	0.00111	4.96E-4	ng/m³ Air		0.00117			5.08	10	
Vanadium	0.569	0.0446	ng/m³ Air		0.557			2.15	10	
Zinc	ND	64.7	ng/m³ Air		ND				10	U
Duplicate (B4D3006-DUP5)		**Source: 4042941-19R**		Prepared: 04/30/24 Analyzed: 05/01/24						
Antimony	0.0612	0.0314	ng/m³ Air		0.0640			4.52	10	
Arsenic	0.647	0.00763	ng/m³ Air		0.653			0.925	10	
Barium	4.25	0.872	ng/m³ Air		3.78			11.8	10	
Beryllium	0.0134	0.00261	ng/m³ Air		0.0135			0.907	10	
Cadmium	ND	0.0604	ng/m³ Air		ND				10	U
Chromium	2.83	1.80	ng/m³ Air		2.58			9.30	10	
Cobalt	0.591	0.0355	ng/m³ Air		0.558			5.70	10	
Copper	73.0	2.14	ng/m³ Air		70.7			3.07	10	
Lead	0.499	0.174	ng/m³ Air		0.452			10.0	10	
Manganese	15.1	1.54	ng/m³ Air		14.4			4.85	10	
Molybdenum	2.42	0.292	ng/m³ Air		2.33			3.65	10	
Nickel	2.09	0.531	ng/m³ Air		1.99			5.38	10	
Selenium	0.175	0.00730	ng/m³ Air		0.171			2.74	10	
Thallium	0.00243	4.80E-4	ng/m³ Air		0.00256			5.32	10	
Vanadium	1.44	0.0431	ng/m³ Air		1.37			5.15	10	
Zinc	ND	62.6	ng/m³ Air		ND				10	U
Matrix Spike (B4D3006-MS1)		**Source: 4042941-19**		Prepared & Analyzed: 04/30/24						
Antimony	0.643	0.0314	ng/m³ Air	1.1266	0.0636	51.4	80-120			SL
Arsenic	2.70	0.00763	ng/m³ Air	2.2532	0.662	90.6	80-120			
Barium	24.7	0.872	ng/m³ Air	22.532	3.84	92.7	80-120			QB-01
Beryllium	1.08	0.00261	ng/m³ Air	1.1266	0.0140	94.6	80-120			
Cadmium	1.10	0.0604	ng/m³ Air	1.1266	ND	98.1	80-120			
Chromium	14.9	1.80	ng/m³ Air	11.266	2.65	109	80-120			
Cobalt	1.75	0.0355	ng/m³ Air	1.1266	0.563	105	80-120			
Copper	97.4	2.14	ng/m³ Air	22.532	70.3	120	80-120			QM-07

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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 B4D3006 - ICP-MS Extraction										
Matrix Spike (B4D3006-MS1) Continued Source: 4042941-19 Prepared & Analyzed: 04/30/24										
Lead	10.9	0.174	ng/m³ Air	11.266	0.451	93.1	80-120			
Manganese	21.7	1.54	ng/m³ Air	6.7597	14.6	105	80-120			
Molybdenum	3.27	0.292	ng/m³ Air	1.1266	2.30	86.1	80-120			
Nickel	4.41	0.531	ng/m³ Air	2.2532	2.00	107	80-120			
Selenium	2.17	0.00730	ng/m³ Air	2.2532	0.167	88.8	80-120			
Thallium	0.107	4.80E-4	ng/m³ Air	0.11266	0.00258	93.1	80-120			
Vanadium	3.76	0.0431	ng/m³ Air	2.2532	1.43	103	80-120			
Zinc	96.8	62.6	ng/m³ Air	67.597	ND	143	80-120			
Matrix Spike (B4D3006-MS2) Source: 4042941-02 Prepared & Analyzed: 04/30/24										
Antimony	0.769	0.0306	ng/m³ Air	1.0947	0.185	53.4	80-120			SL
Arsenic	2.31	0.00742	ng/m³ Air	2.1894	0.284	92.5	80-120			
Barium	26.3	0.847	ng/m³ Air	21.894	5.45	95.0	80-120			QB-01
Beryllium	1.05	0.00253	ng/m³ Air	1.0947	0.0126	94.3	80-120			
Cadmium	1.08	0.0587	ng/m³ Air	1.0947	ND	98.3	80-120			
Chromium	14.5	1.75	ng/m³ Air	10.947	2.16	113	80-120			
Cobalt	1.55	0.0345	ng/m³ Air	1.0947	0.377	107	80-120			
Copper	60.9	2.08	ng/m³ Air	21.894	35.3	117	80-120			
Lead	11.0	0.169	ng/m³ Air	10.947	1.07	91.0	80-120			
Manganese	19.1	1.50	ng/m³ Air	6.5681	12.1	107	80-120			
Molybdenum	2.36	0.284	ng/m³ Air	1.0947	1.47	81.5	80-120			
Nickel	3.81	0.516	ng/m³ Air	2.1894	1.45	108	80-120			
Selenium	2.05	0.00709	ng/m³ Air	2.1894	0.166	86.0	80-120			
Thallium	0.0998	4.66E-4	ng/m³ Air	0.10947	9.82E-4	90.3	80-120			
Vanadium	3.51	0.0419	ng/m³ Air	2.1894	1.16	107	80-120			
Zinc	112	60.8	ng/m³ Air	65.681	ND	170	80-120			
Matrix Spike (B4D3006-MS3) Source: 4042941-19R Prepared: 04/30/24 Analyzed: 05/01/24										
Antimony	0.643	0.0314	ng/m³ Air	1.1266	0.0640	51.4	80-120			SL
Arsenic	2.69	0.00763	ng/m³ Air	2.2532	0.653	90.6	80-120			
Barium	24.9	0.872	ng/m³ Air	22.532	3.78	93.6	80-120			QB-01
Beryllium	1.08	0.00261	ng/m³ Air	1.1266	0.0135	94.8	80-120			
Cadmium	1.12	0.0604	ng/m³ Air	1.1266	ND	99.1	80-120			
Chromium	14.8	1.80	ng/m³ Air	11.266	2.58	108	80-120			
Cobalt	1.74	0.0355	ng/m³ Air	1.1266	0.558	105	80-120			
Copper	96.9	2.14	ng/m³ Air	22.532	70.7	116	80-120			
Lead	11.0	0.174	ng/m³ Air	11.266	0.452	93.3	80-120			
Manganese	21.6	1.54	ng/m³ Air	6.7597	14.4	107	80-120			
Molybdenum	3.30	0.292	ng/m³ Air	1.1266	2.33	86.2	80-120			
Nickel	4.38	0.531	ng/m³ Air	2.2532	1.99	106	80-120			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Matrix Spike (B4D3006-MS3) Continued Source: 4042941-19R Prepared: 04/30/24 Analyzed: 05/01/24										
Selenium	2.17	0.00730	ng/m³ Air	2.2532	0.171	88.5	80-120			
Thallium	0.105	4.80E-4	ng/m³ Air	0.11266	0.00256	91.4	80-120			
Vanadium	3.62	0.0431	ng/m³ Air	2.2532	1.37	100	80-120			
Zinc	97.5	62.6	ng/m³ Air	67.597	ND	144	80-120			
Matrix Spike Dup (B4D3006-MSD1) Source: 4042941-19 Prepared & Analyzed: 04/30/24										
Antimony	0.636	0.0314	ng/m³ Air	1.1266	0.0636	50.8	80-120	1.05	20	SL
Arsenic	2.64	0.00763	ng/m³ Air	2.2532	0.662	87.6	80-120	2.52	20	
Barium	25.1	0.872	ng/m³ Air	22.532	3.84	94.3	80-120	1.43	20	QB-01
Beryllium	1.09	0.00261	ng/m³ Air	1.1266	0.0140	95.1	80-120	0.533	20	
Cadmium	1.10	0.0604	ng/m³ Air	1.1266	ND	97.9	80-120	0.162	20	
Chromium	14.8	1.80	ng/m³ Air	11.266	2.65	108	80-120	0.683	20	
Cobalt	1.75	0.0355	ng/m³ Air	1.1266	0.563	106	80-120	0.0431	20	
Copper	99.8	2.14	ng/m³ Air	22.532	70.3	131	80-120	2.39	20	QM-07
Lead	10.9	0.174	ng/m³ Air	11.266	0.451	92.6	80-120	0.530	20	
Manganese	21.9	1.54	ng/m³ Air	6.7597	14.6	108	80-120	1.14	20	
Molybdenum	3.37	0.292	ng/m³ Air	1.1266	2.30	95.3	80-120	3.13	20	
Nickel	4.39	0.531	ng/m³ Air	2.2532	2.00	106	80-120	0.517	20	
Selenium	2.16	0.00730	ng/m³ Air	2.2532	0.167	88.3	80-120	0.465	20	
Thallium	0.107	4.80E-4	ng/m³ Air	0.11266	0.00258	93.0	80-120	0.0937	20	
Vanadium	3.74	0.0431	ng/m³ Air	2.2532	1.43	102	80-120	0.493	20	
Zinc	101	62.6	ng/m³ Air	67.597	ND	149	80-120	3.73	20	
Matrix Spike Dup (B4D3006-MSD2) Source: 4042941-02 Prepared & Analyzed: 04/30/24										
Antimony	0.792	0.0306	ng/m³ Air	1.0947	0.185	55.5	80-120	2.94	20	SL
Arsenic	2.33	0.00742	ng/m³ Air	2.1894	0.284	93.6	80-120	1.02	20	
Barium	26.5	0.847	ng/m³ Air	21.894	5.45	96.3	80-120	1.08	20	QB-01
Beryllium	1.08	0.00253	ng/m³ Air	1.0947	0.0126	97.7	80-120	3.44	20	
Cadmium	1.06	0.0587	ng/m³ Air	1.0947	ND	96.9	80-120	1.45	20	
Chromium	15.0	1.75	ng/m³ Air	10.947	2.16	118	80-120	3.77	20	
Cobalt	1.58	0.0345	ng/m³ Air	1.0947	0.377	110	80-120	2.53	20	
Copper	62.8	2.08	ng/m³ Air	21.894	35.3	126	80-120	3.11	20	QM-07
Lead	11.2	0.169	ng/m³ Air	10.947	1.07	92.7	80-120	1.65	20	
Manganese	19.6	1.50	ng/m³ Air	6.5681	12.1	114	80-120	2.53	20	
Molybdenum	2.47	0.284	ng/m³ Air	1.0947	1.47	91.8	80-120	4.64	20	
Nickel	3.97	0.516	ng/m³ Air	2.1894	1.45	115	80-120	4.05	20	
Selenium	2.11	0.00709	ng/m³ Air	2.1894	0.166	88.9	80-120	3.05	20	
Thallium	0.102	4.66E-4	ng/m³ Air	0.10947	9.82E-4	92.1	80-120	2.02	20	
Vanadium	3.61	0.0419	ng/m³ Air	2.1894	1.16	112	80-120	2.92	20	
Zinc	108	60.8	ng/m³ Air	65.681	ND	165	80-120	3.50	20	

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Matrix Spike Dup (B4D3006-MSD3)		**Source: 4042941-19R**		Prepared: 04/30/24	Analyzed: 05/01/24					
Antimony	0.632	0.0314	ng/m³ Air	1.1266	0.0640	50.4	80-120	1.69	20	
Arsenic	2.62	0.00763	ng/m³ Air	2.2532	0.653	87.4	80-120	2.70	20	
Barium	24.5	0.872	ng/m³ Air	22.532	3.78	92.1	80-120	1.34	20	
Beryllium	1.08	0.00261	ng/m³ Air	1.1266	0.0135	94.9	80-120	0.0577	20	
Cadmium	1.09	0.0604	ng/m³ Air	1.1266	ND	97.1	80-120	2.00	20	
Chromium	14.8	1.80	ng/m³ Air	11.266	2.58	108	80-120	0.0652	20	
Cobalt	1.74	0.0355	ng/m³ Air	1.1266	0.558	105	80-120	0.00880	20	
Copper	99.7	2.14	ng/m³ Air	22.532	70.7	128	80-120	2.88	20	
Lead	11.0	0.174	ng/m³ Air	11.266	0.452	93.3	80-120	0.0293	20	
Manganese	21.9	1.54	ng/m³ Air	6.7597	14.4	110	80-120	1.03	20	
Molybdenum	3.42	0.292	ng/m³ Air	1.1266	2.33	96.3	80-120	3.39	20	
Nickel	4.35	0.531	ng/m³ Air	2.2532	1.99	105	80-120	0.871	20	
Selenium	2.16	0.00730	ng/m³ Air	2.2532	0.171	88.2	80-120	0.324	20	
Thallium	0.105	4.80E-4	ng/m³ Air	0.11266	0.00256	90.8	80-120	0.647	20	
Vanadium	3.63	0.0431	ng/m³ Air	2.2532	1.37	100	80-120	0.231	20	
Zinc	102	62.6	ng/m³ Air	67.597	ND	151	80-120	4.64	20	
Post Spike (B4D3006-PS1)		**Source: 4042941-19**		Prepared & Analyzed: 04/30/24						
Antimony	0.286	0.0314	ng/m³ Air	0.22532	0.0636	98.5	75-125			SL
Arsenic	1.73	0.00763	ng/m³ Air	1.1266	0.662	94.9	75-125			
Barium	5.98	0.872	ng/m³ Air	2.2532	3.84	94.8	75-125			QB-01
Beryllium	0.236	0.00261	ng/m³ Air	0.22532	0.0140	98.6	75-125			
Cadmium	0.123	0.0604	ng/m³ Air	0.11266	ND	110	75-125			
Chromium	4.07	1.80	ng/m³ Air	1.1266	2.65	125	75-125			PS-01
Cobalt	0.828	0.0355	ng/m³ Air	0.22532	0.563	118	75-125			
Copper	85.6	2.14	ng/m³ Air	11.266	70.3	135	75-125			A-01
Lead	21.5	0.174	ng/m³ Air	22.532	0.451	93.5	75-125			
Manganese	17.8	1.54	ng/m³ Air	2.2532	14.6	141	75-125			A-01
Molybdenum	3.19	0.292	ng/m³ Air	1.1266	2.30	79.2	75-125			
Nickel	4.55	0.531	ng/m³ Air	2.2532	2.00	113	75-125			
Selenium	1.18	0.00730	ng/m³ Air	1.1266	0.167	90.1	75-125			
Thallium	0.0563	4.80E-4	ng/m³ Air	5.6331E-2	0.00258	95.3	75-125			
Vanadium	2.70	0.0431	ng/m³ Air	1.1266	1.43	113	75-125			
Zinc	ND	62.6	ng/m³ Air	22.532	ND		75-125			U
Post Spike (B4D3006-PS2)		**Source: 4042941-02**		Prepared & Analyzed: 04/30/24						
Antimony	0.406	0.0306	ng/m³ Air	0.21894	0.185	101	75-125			SL
Arsenic	1.33	0.00742	ng/m³ Air	1.0947	0.284	95.7	75-125			
Barium	7.62	0.847	ng/m³ Air	2.1894	5.45	99.3	75-125			QB-01
Beryllium	0.230	0.00253	ng/m³ Air	0.21894	0.0126	99.3	75-125			

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
SUBMITTED: 04/29/24
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 B4D3006 - ICP-MS Extraction										
Post Spike (B4D3006-PS2) Continued			**Source: 4042941-02**		Prepared & Analyzed: 04/30/24					
Cadmium	0.121	0.0587	ng/m³ Air	0.10947	ND	111	75-125			
Chromium	3.48	1.75	ng/m³ Air	1.0947	2.16	120	75-125			
Cobalt	0.620	0.0345	ng/m³ Air	0.21894	0.377	111	75-125			
Copper	48.1	2.08	ng/m³ Air	10.947	35.3	116	75-125			
Lead	21.6	0.169	ng/m³ Air	21.894	1.07	93.6	75-125			
Manganese	14.7	1.50	ng/m³ Air	2.1894	12.1	121	75-125			
Molybdenum	2.39	0.284	ng/m³ Air	1.0947	1.47	84.3	75-125			
Nickel	3.84	0.516	ng/m³ Air	2.1894	1.45	109	75-125			
Selenium	1.15	0.00709	ng/m³ Air	1.0947	0.166	89.6	75-125			
Thallium	0.0539	4.66E-4	ng/m³ Air	5.4734E-2	9.82E-4	96.7	75-125			
Vanadium	2.40	0.0419	ng/m³ Air	1.0947	1.16	114	75-125			
Zinc	66.5	60.8	ng/m³ Air	21.894	ND	304	75-125			
Post Spike (B4D3006-PS3)			**Source: 4042941-19R**		Prepared: 04/30/24 Analyzed: 05/01/24					
Antimony	0.291	0.0314	ng/m³ Air	0.22532	0.0640	101	75-125			
Arsenic	1.73	0.00763	ng/m³ Air	1.1266	0.653	95.9	75-125			
Barium	5.94	0.872	ng/m³ Air	2.2532	3.78	96.0	75-125			
Beryllium	0.237	0.00261	ng/m³ Air	0.22532	0.0135	99.2	75-125			
Cadmium	0.125	0.0604	ng/m³ Air	0.11266	ND	111	75-125			
Chromium	3.99	1.80	ng/m³ Air	1.1266	2.58	125	75-125			
Cobalt	0.821	0.0355	ng/m³ Air	0.22532	0.558	117	75-125			
Copper	85.5	2.14	ng/m³ Air	11.266	70.7	131	75-125			
Lead	22.2	0.174	ng/m³ Air	22.532	0.452	96.4	75-125			
Manganese	17.7	1.54	ng/m³ Air	2.2532	14.4	146	75-125			
Molybdenum	3.30	0.292	ng/m³ Air	1.1266	2.33	86.1	75-125			
Nickel	4.41	0.531	ng/m³ Air	2.2532	1.99	108	75-125			
Selenium	1.21	0.00730	ng/m³ Air	1.1266	0.171	92.2	75-125			
Thallium	0.0569	4.80E-4	ng/m³ Air	5.6331E-2	0.00256	96.5	75-125			
Vanadium	2.65	0.0431	ng/m³ Air	1.1266	1.37	113	75-125			
Zinc	ND	62.6	ng/m³ Air	22.532	ND		75-125			U
Dilution Check (B4D3006-SRL1)			**Source: 4042941-19**		Prepared & Analyzed: 04/30/24					
Antimony	ND	0.157	ng/m³ Air		ND				10	SL, U
Arsenic	0.672	0.0382	ng/m³ Air		0.662			1.51	10	
Barium	ND	4.36	ng/m³ Air		ND				10	QB-01, U
Beryllium	0.0151	0.0130	ng/m³ Air		0.0140			7.11	10	
Cadmium	ND	0.302	ng/m³ Air		ND				10	U
Chromium	ND	9.00	ng/m³ Air		ND				10	U
Cobalt	0.595	0.178	ng/m³ Air		0.563			5.61	10	
Copper	74.7	10.7	ng/m³ Air		70.3			6.02	10	

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REPORTED: 05/08/24 13:25
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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 B4D3006 - ICP-MS Extraction										
Dilution Check (B4D3006-SRL1) Continue				**Source: 4042941-19**		Prepared & Analyzed: 04/30/24				
Lead	ND	0.872	ng/m³ Air		ND				10	U
Manganese	15.7	7.70	ng/m³ Air		14.6			7.02	10	
Molybdenum	2.61	1.46	ng/m³ Air		2.30			12.6	10	
Nickel	ND	2.66	ng/m³ Air		ND				10	U
Selenium	0.179	0.0365	ng/m³ Air		0.167			6.97	10	
Thallium	0.00345	0.00240	ng/m³ Air		0.00258			28.9	10	
Vanadium	1.48	0.215	ng/m³ Air		1.43			3.15	10	
Zinc	ND	313	ng/m³ Air		ND				10	U
Dilution Check (B4D3006-SRL2)				**Source: 4042941-02**		Prepared & Analyzed: 04/30/24				
Antimony	0.179	0.153	ng/m³ Air		0.185			3.14	10	SL
Arsenic	0.296	0.0371	ng/m³ Air		0.284			3.90	10	
Barium	5.53	4.23	ng/m³ Air		5.45			1.40	10	QB-01
Beryllium	ND	0.0127	ng/m³ Air		ND				10	U
Cadmium	ND	0.293	ng/m³ Air		ND				10	U
Chromium	ND	8.75	ng/m³ Air		ND				10	U
Cobalt	0.390	0.173	ng/m³ Air		0.377			3.43	10	
Copper	37.2	10.4	ng/m³ Air		35.3			5.05	10	
Lead	1.11	0.847	ng/m³ Air		1.07			3.44	10	
Manganese	12.5	7.48	ng/m³ Air		12.1			3.37	10	
Molybdenum	1.60	1.42	ng/m³ Air		1.47			8.63	10	
Nickel	ND	2.58	ng/m³ Air		ND				10	U
Selenium	0.188	0.0355	ng/m³ Air		0.166			11.9	10	
Thallium	ND	0.00233	ng/m³ Air		ND				10	U
Vanadium	1.16	0.209	ng/m³ Air		1.16			0.516	10	
Zinc	ND	304	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 05/08/24 13:25
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AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD.
QB-01	Analyte exceeds method blank criteria
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
A-01	Parent sample >4x post spike amount
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 05/09/2024 and Shanna Vasser 05/10/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 04/15/2024 and 04/18/2024 – 04/24/2024
Report No: 4042941

√	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 barium in MFL-FB01-041924-HM and MFL-FB01-042124-HM.

Notes:

1. Samples MFL-AM04-042424-HM and MFL-AM02-041524-HM had sample volumes below the acceptance criteria.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

April 25 through May 1, 2024
[Report Updated: December 4, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from April 25 through May 1, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from April 25 through May 1 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 $\mu g/m^3$ screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included

the comment “Numerous gypsum fibers present” for samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on April 26
- WW Pump Station #4 on April 26, 30, and May 1
- Lahaina Intermediate School on April 26
- Lahaina Boys & Girls Club on April 29 and May 1

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Heavy metal samples from Leialii Hawaiian Homelands on April 27 and 28 were not collected due to a fuse failure resulting in equipment malfunction. With the exception of the metals samples that were not able to be collected from Leialii Hawaiian Homelands on April 27 and 28, low levels of metals were detected from samples collected at all four community locations. However, all detections were below their respective SSALs (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer’s procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 “Calibration of Air Sampling Pump” and 073-3, “Air Quality Monitoring” and EPA Environmental Response Team (ERT) SOPs 2008 “General Air Monitoring and Sampling Guidelines” and 2015 “Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
April 25 through May 1, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
4/25/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	37
4/26/2024	Leialii Hawaiian Homelands (AM-01)	8.5
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	8.3
4/27/2024	Leialii Hawaiian Homelands (AM-01)	9.2
	WW Pump Station #4 (AM-02)	9.3
	Lahaina Intermediate School (AM-03)	9.9
	Lahaina Boys & Girls Club (AM-04)	9.1
4/28/2024	Leialii Hawaiian Homelands (AM-01)	7.0
	WW Pump Station #4 (AM-02)	7.9
	Lahaina Intermediate School (AM-03)	8.0
	Lahaina Boys & Girls Club (AM-04)	6.8
4/29/2024	Leialii Hawaiian Homelands (AM-01)	7.5
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	7.7
	Lahaina Boys & Girls Club (AM-04)	6.3
4/30/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	9.5
	Lahaina Intermediate School (AM-03)	9.9
	Lahaina Boys & Girls Club (AM-04)	7.0
5/1/2024	Leialii Hawaiian Homelands (AM-01)	9.2
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	8.9

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures
Results are based on 24 hour TWA calculation except for the following:
Results for Lahaina Boys & Girls Club (AM-04) on 4/29 are based on a 23 hr. TWA because of equipment maintenance.
Results from Lahaina Intermediate School and Lahaina Boys & Girls Club on 4/28 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
April 25 through May 1, 2024
[Report Updated:December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
4/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000464	0.000434	0.00441	0.0000152	ND	0.00339	0.000833	0.0497	0.000338	0.0183	0.00196	0.00386	0.0000862	0.00000118	0.00168	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000812	0.000210	0.00407	0.00000978	ND	0.00223	0.000361	0.0492	0.000574	0.00944	0.00166	0.00147	0.0000929	0.00000106	0.000970	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000766	0.000242	0.00315	0.0000165	ND	0.00238	0.000424	0.0515	0.000555	0.00882	0.00219	0.00132	0.0000960	0.00000103	0.000795	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000156	0.00131	0.0116	0.0000340	ND	0.00569	0.00123	0.0433	0.00195	0.0559	0.00136	0.00369	0.000258	0.00000264	0.00256	ND
4/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000672	0.000764	0.00845	0.0000324	ND	0.00549	0.00162	0.112	0.000690	0.0370	0.00418	0.00515	0.000270	0.00000308	0.00389	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000781	0.000256	0.00451	0.0000141	ND	0.00184	0.000315	0.0458	0.000696	0.0113	0.00170	0.00106	0.000195	0.00000256	0.00120	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.000100	0.000330	0.00473	0.0000169	ND	0.00246	0.000465	0.0760	0.000822	0.0116	0.00248	0.00139	0.000200	0.00000254	0.00116	0.0656
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000919	0.000548	0.00568	0.0000115	ND	0.00236	0.000370	0.0346	0.00124	0.0191	0.00146	0.00142	0.000198	0.00000232	0.00105	ND
4/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.000106	0.000214	0.00406	0.00000598	ND	ND	0.000169	0.0270	0.000512	0.00571	0.00103	0.000972	0.000161	0.00000145	0.000723	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000994	0.000190	0.00324	0.0000106	ND	0.00188	0.000279	0.0472	0.000819	0.00682	0.00146	0.00108	0.000158	0.00000142	0.000832	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000871	0.000295	0.00471	0.00000939	ND	0.00241	0.000288	0.0379	0.00101	0.00973	0.00132	0.00120	0.000154	0.00000148	0.00102	ND
4/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0027	0.000130	0.000441	0.00607	0.0000179	ND	0.00298	0.000490	0.0358	0.00307	0.0154	0.00116	0.00173	0.000173	0.00000145	0.00171	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000818	0.000181	0.00302	0.00000658	ND	ND	0.000176	0.0585	0.000967	0.00473	0.00140	0.00103	0.000133	0.000000855	0.000784	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000872	0.000174	0.00429	0.00000746	0.0000983	ND	0.000232	0.0320	0.000841	0.00755	0.00114	0.00107	0.000144	0.000000927	0.000920	ND
4/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000978	0.00111	0.00713	0.0000203	ND	0.00459	0.00109	0.0568	0.000889	0.0278	0.00314	0.00265	0.000226	0.00000195	0.00322	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000970	0.000212	0.00396	0.00000809	ND	ND	0.000242	0.0338	0.000747	0.00741	0.00144	0.00109	0.000191	0.00000111	0.000982	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000740	0.000221	0.00302	0.0000141	ND	0.00206	0.000351	0.0384	0.000782	0.00821	0.00129	0.00128	0.000180	0.00000110	0.00110	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000950	0.000299	0.00388	0.00000972	ND	0.00213	0.000314	0.0304	0.000845	0.00988	0.00115	0.00126	0.000201	0.00000125	0.00115	ND
4/30/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000731	0.000468	0.00539	0.0000153	ND	0.00404	0.000755	0.0421	0.000837	0.0184	0.00228	0.00273	0.000210	0.00000167	0.00203	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000986	0.000236	0.00376	0.00000884	ND	ND	0.000241	0.0300	0.000708	0.00795	0.00129	0.00107	0.000192	0.00000129	0.00107	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000743	0.000217	0.00426	0.0000186	ND	0.00239	0.000431	0.0433	0.000615	0.0110	0.00153	0.00156	0.000209	0.00000150	0.00137	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000979	0.000324	0.00517	0.0000110	ND	0.00219	0.000345	0.0362	0.000974	0.0112	0.00129	0.00134	0.000184	0.00000134	0.00120	ND
5/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000824	0.000596	0.00360	0.00000774	ND	0.00199	0.000316	0.0441	0.000532	0.00887	0.00250	0.00122	0.000174	0.00000124	0.00108	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000101	0.000301	0.00464	0.0000127	ND	0.00227	0.000467	0.0310	0.000803	0.0123	0.00149	0.00184	0.000216	0.00000135	0.00161	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000871	0.000295	0.00390	0.0000182	ND	0.00227	0.000403	0.0422	0.000625	0.0105	0.00155	0.00142	0.000197	0.00000139	0.00129	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.000337	0.00431	0.0000134	ND	0.00226	0.000388	0.0235	0.00109	0.0125	0.000996	0.00145	0.000205	0.00000141	0.00143	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000480	0.00535	0.0000170	NA	0.00312	0.000600	0.0497	0.00105	0.0115	0.00193	0.00203	0.000200	0.00000180	0.00164	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs
Heavy Metal samples voided due to equipment malfunction and fuse trip.

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
April 25 through May 1, 2024
[Report Updated: November 13, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
4/25/2024	AM-01	Leialii Hawaiian Homelands	1.3	SE	80	59	762.6
4/25/2024	AM-02	WW Pump Station #4	1.1	S	78	64	764.8
4/25/2024	AM-03	Lahaina Intermediate School	1.2	SSE	76	68	755.5
4/25/2024	AM-04	Lahaina Boys & Girls Club	1.4	S	77	66	764.5
4/26/2024	AM-01	Leialii Hawaiian Homelands	0.8	SSE	79	64	762.3
4/26/2024	AM-02	WW Pump Station #4	0.9	S	78	68	764.5
4/26/2024	AM-03	Lahaina Intermediate School	1.0	S	76	72	755.2
4/26/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	77	68	764.2
4/27/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	79	66	761.4
4/27/2024	AM-02	WW Pump Station #4	1.0	SSE	78	72	763.5
4/27/2024	AM-03	Lahaina Intermediate School	1.1	SE	76	74	754.3
4/27/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	70	763.3
4/28/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	81	65	760.9
4/28/2024	AM-02	WW Pump Station #4	1.0	SSE	79	71	763.0
4/28/2024	AM-03	Lahaina Intermediate School	1.2	SE	77	72	753.8
4/28/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	78	71	762.8
4/29/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	79	66	759.7
4/29/2024	AM-02	WW Pump Station #4	0.9	S	78	70	761.8
4/29/2024	AM-03	Lahaina Intermediate School	1.2	SE	76	72	752.6
4/29/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSE	77	70	761.5
4/30/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	80	64	759.6
4/30/2024	AM-02	WW Pump Station #4	1.2	SSE	79	70	761.7
4/30/2024	AM-03	Lahaina Intermediate School	1.4	SSE	77	73	752.5
4/30/2024	AM-04	Lahaina Boys & Girls Club	1.5	S	77	71	761.5
5/1/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	81	63	760.3
5/1/2024	AM-02	WW Pump Station #4	1.0	S	79	68	762.5
5/1/2024	AM-03	Lahaina Intermediate School	1.3	SE	77	71	753.2
5/1/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	78	68	762.2

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042408885
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:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-042524-AB**		**Sample Description:**	**DK797051**
EMSL Sample Number:	042408885-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7220.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042408885
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: 042408885-0001 **Customer Sample:** MFL-AM01-042524-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	C3	None Detected									
B1	E7	None Detected									
B1	J5	None Detected									
B2	B7	None Detected									
B2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408885
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:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-042524-AB**		**Sample Description:**	**DK797023**
EMSL Sample Number:	042408885-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7247.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0002 **Customer Sample:** MFL-AM02-042524-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	J8	None Detected									
B5	E5	None Detected									
B5	A5	None Detected									
B6	I4	None Detected									
B6	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 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:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-042524-AB**		**Sample Description:**	**DK797025**
EMSL Sample Number:	042408885-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7211.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042408885
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: 042408885-0003 **Customer Sample:** MFL-AM03-042524-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	H6	None Detected									
C1	F3	None Detected									
C1	B7	None Detected									
C2	G5	None Detected									
C2	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-042524-AB**		**Sample Description:**	**DK797019**
EMSL Sample Number:	042408885-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0004 **Customer Sample:** MFL-AM04-042524-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	A6	None Detected									
C5	F3	None Detected									
C5	J8	None Detected									
C6	G4	None Detected									
C6	C5	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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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042524-AB** **Sample Description:** **DK797053**

EMSL Sample Number:	042408885-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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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: 042408885-0005 **Customer Sample:** MFL-FB01-042524-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	H4	None Detected									
D1	E3	None Detected									
D1	A6	None Detected									
D2	C8	None Detected									
D2	D4	None Detected									
D2	I6	None Detected									
D3	A7	None Detected									
D3	E5	None Detected									
D3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-042624-AB**		**Sample Description:**	**DK797054**
EMSL Sample Number:	042408885-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7212.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042408885**
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: 042408885-0006 **Customer Sample:** MFL-AM01-042624-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	I8	None Detected									
D5	C5	None Detected									
D6	A4	None Detected									
D6	F7	None Detected									
D6	J8	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:	042408885
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:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-042624-AB** **Sample Description: DK797066**

EMSL Sample Number:	042408885-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7042.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0007 **Customer Sample:** MFL-AM02-042624-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	B6	None Detected									
E1	E2	None Detected									
E1	H5	None Detected									
E3	D6	None Detected									
E3	G5	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:	042408885
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:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-042624-AB**		**Sample Description:**	**DK797069**
EMSL Sample Number:	042408885-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6958.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsumm fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0008 **Customer Sample:** MFL-AM03-042624-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					
E6	C8	None Detected									
E6	E5	None Detected									
E6	J4	None Detected									
E7	B4	None Detected									
E7	F4	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:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-042624-AB**		**Sample Description:**	**DK797034**
EMSL Sample Number:	042408885-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7207.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0009 **Customer Sample:** MFL-AM04-042624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I7	None Detected									
F1	G4	None Detected									
F1	C6	None Detected									
F2	A6	None Detected									
F2	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042624-AB** **Sample Description:** **DK797040**

EMSL Sample Number:	042408885-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042408885
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: 042408885-0010 **Customer Sample:** MFL-FB01-042624-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	J7	None Detected									
F5	F3	None Detected									
F5	E7	None Detected									
F5	B5	None Detected									
F6	C4	None Detected									
F6	D7	None Detected									
F6	H6	None Detected									
F7	I4	None Detected									
F7	F8	None Detected									
F7	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408885
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:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-042724-AB** **Sample Description: DK797037**

EMSL Sample Number:	042408885-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7301.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0011 **Customer Sample:** MFL-AM01-042724-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	A8	None Detected									
G1	A4	None Detected									
G1	H5	None Detected									
G2	G3	None Detected									
G2	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:	042408885
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-042724-AB**		**Sample Description:**	**DK797067**
EMSL Sample Number:	042408885-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7285.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0012 **Customer Sample:** MFL-AM02-042724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	B7	None Detected									
G5	E5	None Detected									
G5	J2	None Detected									
G6	H8	None Detected									
G6	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 ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042724-AB** **Sample Description: DK797070**

EMSL Sample Number:	042408885-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7068.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0013 **Customer Sample:** MFL-AM03-042724-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	F3	None Detected									
H1	H8	None Detected									
H1	J6	None Detected									
H2	B7	None Detected									
H2	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-042724-AB** **Sample Description: Dk797071**

EMSL Sample Number:	042408885-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7053.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0014 **Customer Sample:** MFL-AM04-042724-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	B5	None Detected									
H5	E3	None Detected									
H5	I4	None Detected									
H6	H6	None Detected									
H6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042724-AB** **Sample Description:** **Dk797071**

EMSL Sample Number:	042408885-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042408885
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: 042408885-0015 **Customer Sample:** MFL-FB01-042724-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	C7	None Detected									
I1	D2	None Detected									
I1	G3	None Detected									
I1	I4	None Detected									
I2	J5	None Detected									
I2	E8	None Detected									
I2	A4	None Detected									
I3	B8	None Detected									
I3	C3	None Detected									
I3	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042408885
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:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-042824-AB** **Sample Description:** **Dk797063**

EMSL Sample Number:	042408885-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7165.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042408885
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: 042408885-0016 **Customer Sample:** MFL-AM01-042824-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	A4	None Detected									
I5	F6	None Detected									
I5	J7	None Detected									
I6	D7	None Detected									
I6	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-042824-AB**		**Sample Description:**	**Dk797041**
EMSL Sample Number:	042408885-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7012.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0017 **Customer Sample:** MFL-AM02-042824-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	A6	None Detected									
J1	F6	None Detected									
J1	I4	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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Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-042824-AB**		**Sample Description:**	**Dk797022**
EMSL Sample Number:	042408885-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7252.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0018 **Customer Sample:** MFL-AM03-042824-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	G8	None Detected									
J5	D7	None Detected									
J5	B5	None Detected									
J6	A3	None Detected									
J6	C9	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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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-042824-AB**		**Sample Description:**	**Dk797072**
EMSL Sample Number:	042408885-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042408885
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: 042408885-0019 **Customer Sample:** MFL-AM04-042824-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	B4	None Detected									
K1	F4	None Detected									
K1	J4	None Detected									
K4	G9	None Detected									
K4	F4	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
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/01/2024 09:30 AM
Analysis Date:	05/03/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-042824-AB** **Sample Description:** **Dk797072**

EMSL Sample Number:	042408885-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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: 042408885
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: 042408885-0020 **Customer Sample:** MFL-FB01-042824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	H3	None Detected									
K5	H7	None Detected									
K5	D6	None Detected									
K5	A4	None Detected									
K6	I4	None Detected									
K6	G2	None Detected									
K6	C5	None Detected									
K7	A6	None Detected									
K7	C2	None Detected									
K7	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042408885
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:	05/01/2024 09:30 AM
Analysis Date:	05/02/2024
Report Date:	05/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042408885-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042408885
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: 042408885-0021 **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	A3	None Detected									
A1	C7	None Detected									
A1	G6	None Detected									
A1	I2	None Detected									
A2	B5	None Detected									
A2	E5	None Detected									
A2	J5	None Detected									
A3	I3	None Detected									
A3	H7	None Detected									
A3	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042408885

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042408885

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	CHELSEA SABER
Street Address:	1560 BROADWAY STE 1400
City, State, Zip:	DENVER, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	MAUI FIRES - LAHAINA
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	Elin Langsa Soldatova
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 (<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.

RECEIVED EMSL CINNAMINSON, NJ 2024 MAY -1 A 11:11

☐ 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-AM01-042524-AB3	DK797051	7,220.764	04/25/24 1107
MFL-AM02-042524-AB3	DK797023	7,247.782	04/25/24 1125
MFL-AM03-042524-AB3	DK797025	7,211.736	04/25/24 1308
MFL-AM04-042524-AB3	DK797019	7,159,698	04/25/24 1327
MFL-FB01-042524-AB	DK797053	0	04/25/24 1200
MFL-AM01-042624-AB3	DK797054 (CKS)	7,212.526	04/26/24 1052
MFL-AM02-042624-AB3	DK797066	7,042.896	04/26/24 1129
MFL-AM03-042624-AB3	DK797069	6,958.044	04/26/24 1256

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: 04/29/24 1100	Received by: FX
Date/Time: 5/1/24 93			
Relinquished by:		Date/Time:	Received by:
Date/Time			

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042408885

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042408885

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-AM04-042624-AB	DK797034	7,207.488	04/26/24 1330
MFL-FB01-042624-AB	DK797040	0	04/26/24 1200
MFL-AM01-042724-AB	DK797037	7,301.376	04/27/24 1057
MFL-AM02-042724-AB	DK797067	7,285.134	04/27/24 1124
MFL-AM03-042724-AB	DK797070	7,068.096	04/27/24 1300
MFL-AM04-042724-AB	DK797071	7,053.826	04/27/24 1326
MFL-FB01-042724-AB	DK797058	0	04/27/24 1200
MFL-AM01-042824-AB	DK797063	7,165.793	04/28/24 1051
MFL-AM02-042824-AB	DK797041	7,012.944	04/28/24 1128
MFL-AM03-042824-AB	DK797022	7,252.704	04/28/24 1309
MFL-AM04-042824-AB	DK797072	7,199.856	04/28/24 1330
MFL-FB01-042824-AB	DK797061	0	04/28/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 MAY -1 A 11:14

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 04/29/24 1100	Received by:	Date/Time
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 05/07/2024 and Shanna Vasser 05/08/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 04/25/2024 – 04/28/2024
Report No: 42408885

√	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:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/08/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-042924-AB**		**Sample Description:**	**DK797074**
EMSL Sample Number:	042409175-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7124.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409175
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: 042409175-0001 **Customer Sample:** MFL-AM01-042924-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	B4	None Detected									
A5	F7	None Detected									
A5	J6	None Detected									
A6	G6	None Detected									
A6	D3	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:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/08/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-042924-AB**		**Sample Description:**	**DK797073**
EMSL Sample Number:	042409175-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409175
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: 042409175-0002 **Customer Sample:** MFL-AM02-042924-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	B3	None Detected									
B2	F6	None Detected									
B2	I4	None Detected									
B3	H5	None Detected									
B3	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:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-042924-AB** **Sample Description: DK979031**

EMSL Sample Number:	042409175-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7295.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409175
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: 042409175-0003 **Customer Sample:** MFL-AM03-042924-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	I6	None Detected									
G5	E3	None Detected									
G5	A6	None Detected									
G6	B8	None Detected									
G6	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-042924-AB**		**Sample Description:**	**DK797045**
EMSL Sample Number:	042409175-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7111.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042409175-0004 **Customer Sample:** MFL-AM04-042924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J8	None Detected									
C2	G3	None Detected									
C2	C6	None Detected									
C3	H5	None Detected									
C3	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 PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-042924-AB**		**Sample Description:**	**DK797059**
EMSL Sample Number:	042409175-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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: 042409175-0005 **Customer Sample:** MFL-FB01-042924-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	I2	None Detected									
C6	J8	None Detected									
C6	F4	None Detected									
C6	B5	None Detected									
C7	A4	None Detected									
C7	D7	None Detected									
C7	H9	None Detected									
C8	J6	None Detected									
C8	E3	None Detected									
C8	C5	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
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Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-043024-AB**		**Sample Description:**	**DK797065**
EMSL Sample Number:	042409175-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7191.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409175-0006 **Customer Sample:** MFL-AM01-043024-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	I7	None Detected									
D1	E5	None Detected									
D1	A6	None Detected									
D2	G4	None Detected									
D2	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:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-043024-AB**		**Sample Description:**	**DK797068**
EMSL Sample Number:	042409175-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7334.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409175
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: 042409175-0007 **Customer Sample:** MFL-AM02-043024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	C5	None Detected									
D6	F7	None Detected									
D6	H4	None Detected									
D7	D7	None Detected									
D7	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-043024-AB**		**Sample Description:**	**DK797064**
EMSL Sample Number:	042409175-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409175
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: 042409175-0008 **Customer Sample:** MFL-AM03-043024-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	A4	None Detected									
E1	E8	None Detected									
E1	I7	None Detected									
E2	D5	None Detected									
E2	J3	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:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-043024-AB**		**Sample Description:**	**DK797628**
EMSL Sample Number:	042409175-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7245.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409175
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: 042409175-0009 **Customer Sample:** MFL-AM04-043024-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	H8	None Detected									
E5	G3	None Detected									
E5	C6	None Detected									
E6	A4	None Detected									
E6	F7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
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Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-043024-AB** **Sample Description: DK797606**

EMSL Sample Number:	042409175-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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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: 042409175-0010 **Customer Sample:** MFL-FB01-043024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B3	None Detected									
F1	D7	None Detected									
F1	H7	None Detected									
F2	A4	None Detected									
F2	D9	None Detected									
F2	F3	None Detected									
F2	J6	None Detected									
F4	B5	None Detected									
F4	E8	None Detected									
F4	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-050124-AB** **Sample Description: DK797623**

EMSL Sample Number:	042409175-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7171.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409175
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: 042409175-0011 **Customer Sample:** MFL-AM01-050124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A5	None Detected									
F5	F3	None Detected									
F6	H3	None Detected									
F6	E7	None Detected									
F6	A4	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:	042409175
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:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-050124-AB**		**Sample Description:**	**D797616**
EMSL Sample Number:	042409175-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7101.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409175
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: 042409175-0012 **Customer Sample:** MFL-AM02-050124-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	G5	None Detected									
G1	D2	None Detected									
G1	C6	None Detected									
G4	G7	None Detected									
G4	A4	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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Project: **Maui Fires - Lahaina**

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Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-050124-AB** **Sample Description: DK797600**

EMSL Sample Number:	042409175-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7304.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042409175-0013 **Customer Sample:** MFL-AM03-050124-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	I6	None Detected									
G5	E3	None Detected									
G5	D7	None Detected									
G6	J6	None Detected									
G6	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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Received Date:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-050124-AB**		**Sample Description:**	**DK797619**
EMSL Sample Number:	042409175-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7096.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers presents.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409175
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: 042409175-0014 **Customer Sample:** MFL-AM04-050124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H2	J8	None Detected									
H2	E5	None Detected									
H2	B2	None Detected									
H3	I7	None Detected									
H3	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:	05/06/2024 09:30 AM
Analysis Date:	05/09/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050124-AB** **Sample Description:** **DK797612**

EMSL Sample Number:	042409175-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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: 042409175-0015 **Customer Sample:** MFL-FB01-050124-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	A7	None Detected									
H5	C4	None Detected									
H6	J9	None Detected									
6	G4	None Detected									
H6	C7	None Detected									
H6	A5	None Detected									
H7	B9	None Detected									
H7	C5	None Detected									
H7	G4	None Detected									
H7	J2	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

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:	05/06/2024 09:30 AM
Analysis Date:	05/07/2024
Report Date:	05/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042409175-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042409175
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: 042409175-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J3	None Detected									
A1	G7	None Detected									
A1	D5	None Detected									
A1	B2	None Detected									
A2	A8	None Detected									
A2	E4	None Detected									
A2	J6	None Detected									
A3	C3	None Detected									
A3	F7	None Detected									
A3	H3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042409175

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409175

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	TETRA TECH	Company Name:	
Contact Name:	CHELSEA SABER	Billing Contact:	
Street Address:	1560 BROADWAY STE 1400	Street Address:	
City, State, Zip:	DENVER, CO 80202	City, State, Zip:	
Country:	USA	Country:	
Phone:	703-489-2674	Phone:	
Email(s) for Report:	chelsea.saber@tetratech.com	Email(s) for Invoice:	

Project Information

Project Name/No:	MAUI FIRES - LAHAINA	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Elia Kenyon Saldaña	Sampled By Signature:	
No. of Samples in Shipment	15		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

RECEIVED EMSL CINNAMINSON NJ 24 MAY -6 AM 8:30

*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-AM01-042924-AB3		DK797074	7,124.832	04/29/24	1054
MFL-AM02-042924-AB3		DK797073	7,199.373	04/29/24	1125
MFL-AM03-042924-AB3		DK797031	7,295.034	04/29/24	1307
MFL-AM04-042924-AB3		DK797045	7,111.355	04/29/24	1328
MFL-FB01-042924-AB3		DK797059	0	04/29/24	1200
MFL-AM01-043024-AB3		DK797065	7,191.080	04/30/24	1107
MFL-AM02-043024-AB3		DK797068	7,334.520	04/30/24	1126
MFL-AM03-043024-AB3		DK797064	7,173.450	04/30/24	1305

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment:	FedEx	Sample Condition Upon Receipt:		
Relinquished by:		Date/Time: 05/02/24 1100	Received by: FX	Date/Time: 5/6/24 930
Relinquished by:		Date/Time:	Received by:	Date/Time:

15

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042409175

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409175

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-AM04-043024-AB	DK797628	7,245.920	04/30/24 1324
MFL-FB01-043024-AB	DK797606	0	04/30/24 1200
MFL-AM01-050124-AB	DK797623	7,171.257	05/01/24 1111
MFL-AM02-050124-AB	DK797616	7,101.648	05/01/24 1130
MFL-AM03-050124-AB	DK797600	7,304.558	05/01/24 1308
MFL-AM04-050124-AB	DK797619	~~7,096~~ 7,096.536 (RKS)	05/01/24 1328
MFL-FB01-050124-AB	DK797612	0	05/01/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAY -6 AM 10: 39

Method of Shipment: FedEx		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/02/24 1100	Received by: FX	Date/Time: 5/6/24 930
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

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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 05/13/2024 and Shanna Vasser 5/14/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 04/29/2024 – 05/01/2024
Report No: 042409175

√	1.	Chain of custody (CoC) documentation is present.
X	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:

2. No sample receipt information was included.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

May 14, 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 05/06/24 14:28.

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-042524-HM	4050626-01	Air	04/25/24 23:59	05/06/24 14:28
MFL-AM02-042524-HM	4050626-02	Air	04/25/24 23:59	05/06/24 14:28
MFL-AM03-042524-HM	4050626-03	Air	04/25/24 23:59	05/06/24 14:28
MFL-AM04-042524-HM	4050626-04	Air	04/25/24 23:59	05/06/24 14:28
MFL-FB01-042524-HM	4050626-05	Air	04/25/24 00:00	05/06/24 14:28
MFL-AM01-042624-HM	4050626-06	Air	04/26/24 23:59	05/06/24 14:28
MFL-AM02-042624-HM	4050626-07	Air	04/26/24 23:59	05/06/24 14:28
MFL-AM03-042624-HM/MS/I	4050626-08	Air	04/26/24 23:59	05/06/24 14:28
MFL-AM04-042624-HM	4050626-09	Air	04/26/24 23:59	05/06/24 14:28
MFL-AM02-042724-HM	4050626-11	Air	04/27/24 23:59	05/06/24 14:28
MFL-AM03-042724-HM	4050626-12	Air	04/27/24 23:59	05/06/24 14:28
MFL-AM04-042724-HM	4050626-13	Air	04/27/24 23:59	05/06/24 14:28
MFL-FB01-042724-HM	4050626-14	Air	04/27/24 00:00	05/06/24 14:28
MFL-AM02-042824-HM	4050626-16	Air	04/28/24 23:59	05/06/24 14:28
MFL-AM03-042824-HM	4050626-17	Air	04/28/24 23:59	05/06/24 14:28
MFL-AM04-042824-HM	4050626-18	Air	04/28/24 23:59	05/06/24 14:28
MFL-AM01-042924-HM	4050626-19	Air	04/29/24 23:59	05/06/24 14:28
MFL-AM02-042924-HM	4050626-20	Air	04/29/24 23:59	05/06/24 14:28
MFL-AM03-042924-HM	4050626-21	Air	04/29/24 23:59	05/06/24 14:28
MFL-AM04-042924-HM	4050626-22	Air	04/29/24 23:59	05/06/24 14:28
MFL-FB01-042924-HM	4050626-23	Air	04/29/24 00:00	05/06/24 14:28

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM01-043024-HM	4050626-24	Air	04/30/24 23:59	05/06/24 14:28
MFL-AM02-043024-HM	4050626-25	Air	04/30/24 23:59	05/06/24 14:28
MFL-AM03-043024-HM	4050626-26	Air	04/30/24 23:59	05/06/24 14:28
MFL-AM04-043024-HM	4050626-27	Air	04/30/24 23:59	05/06/24 14:28
MFL-AM01-050124-HM/MS/I	4050626-28	Air	05/01/24 23:59	05/06/24 14:28
MFL-AM02-050124-HM	4050626-29	Air	05/01/24 23:59	05/06/24 14:28
MFL-AM03-050124-HM	4050626-30	Air	05/01/24 23:59	05/06/24 14:28
MFL-AM04-050124-HM	4050626-31	Air	05/01/24 23:59	05/06/24 14:28
MFL-FB01-050124-HM	4050626-32	Air	05/01/24 00:00	05/06/24 14:28

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042524-HM
Matrix: Air
Lab ID: 4050626-01
Sample Volume: 1655.243 m³
Filter ID:
Sampled: 04/25/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 02:37

Comments: Q8506901 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0464**	SL	**0.0379**
Arsenic	**7440-38-2**	**0.434**		**0.00921**
Barium	**7440-39-3**	**4.41**	QB-01	**1.05**
Beryllium	**7440-41-7**	**0.0152**		**0.00315**
Cadmium	7440-43-9	0.00636	U	0.0728
Chromium	**7440-47-3**	**3.39**		**2.17**
Cobalt	**7440-48-4**	**0.833**		**0.0429**
Copper	**7440-50-8**	**49.7**		**2.59**
Lead	**7439-92-1**	**0.338**		**0.210**
Manganese	**7439-96-5**	**18.3**		**1.86**
Molybdenum	**7439-98-7**	**1.96**		**0.353**
Nickel	**7440-02-0**	**3.86**		**0.641**
Selenium	**7782-49-2**	**0.0862**	B, LL, QB-04	**0.00881**
Thallium	**7440-28-0**	**0.00118**		**5.79E-4**
Vanadium	**7440-62-2**	**1.68**		**0.0520**
Zinc	7440-66-6	46.2	GC-BS, QB-01, U	75.5

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042524-HM
Matrix: Air
Lab ID: 4050626-02
Sample Volume: 2058.134 m³
Filter ID:
Sampled: 04/25/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 02:52

Comments: Q8506897 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0812**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.210**		**0.00741**
Barium	**7440-39-3**	**4.07**	QB-01	**0.846**
Beryllium	**7440-41-7**	**0.00978**		**0.00253**
Cadmium	7440-43-9	0.00752	U	0.0586
Chromium	**7440-47-3**	**2.23**		**1.75**
Cobalt	**7440-48-4**	**0.361**		**0.0345**
Copper	**7440-50-8**	**49.2**		**2.08**
Lead	**7439-92-1**	**0.574**		**0.169**
Manganese	**7439-96-5**	**9.44**		**1.49**
Molybdenum	**7439-98-7**	**1.66**		**0.284**
Nickel	**7440-02-0**	**1.47**		**0.515**
Selenium	**7782-49-2**	**0.0929**	B, LL, QB-04	**0.00708**
Thallium	**7440-28-0**	**0.00106**		**4.66E-4**
Vanadium	**7440-62-2**	**0.970**		**0.0418**
Zinc	7440-66-6	35.6	GC-BS, QB-01, U	60.7

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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042524-HM
Matrix: Air
Lab ID: 4050626-03
Sample Volume: 1783.889 m³
Filter ID:
Sampled: 04/25/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 03:08

Comments: Q8506896 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0766**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.242**		**0.00855**
Barium	**7440-39-3**	**3.15**	QB-01	**0.976**
Beryllium	**7440-41-7**	**0.0165**		**0.00292**
Cadmium	7440-43-9	0.00696	U	0.0676
Chromium	**7440-47-3**	**2.38**		**2.02**
Cobalt	**7440-48-4**	**0.424**		**0.0398**
Copper	**7440-50-8**	**51.5**		**2.40**
Lead	**7439-92-1**	**0.555**		**0.195**
Manganese	**7439-96-5**	**8.82**		**1.72**
Molybdenum	**7439-98-7**	**2.19**		**0.327**
Nickel	**7440-02-0**	**1.32**		**0.595**
Selenium	**7782-49-2**	**0.0960**	B, LL, QB-04	**0.00817**
Thallium	**7440-28-0**	**0.00103**		**5.37E-4**
Vanadium	**7440-62-2**	**0.795**		**0.0482**
Zinc	7440-66-6	46.9	GC-BS, QB-01, U	70.0

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042524-HM
Matrix: Air
Lab ID: 4050626-04
Sample Volume: 1870.265 m³
Filter ID:
Sampled: 04/25/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 03:23

Comments: Q8503979 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.156**	SL	**0.0336**
Arsenic	**7440-38-2**	**1.31**		**0.00815**
Barium	**7440-39-3**	**11.6**	QB-01	**0.931**
Beryllium	**7440-41-7**	**0.0340**		**0.00278**
Cadmium	7440-43-9	0.0432	U	0.0645
Chromium	**7440-47-3**	**5.69**		**1.92**
Cobalt	**7440-48-4**	**1.23**		**0.0379**
Copper	**7440-50-8**	**43.3**		**2.29**
Lead	**7439-92-1**	**1.95**		**0.186**
Manganese	**7439-96-5**	**55.9**		**1.64**
Molybdenum	**7439-98-7**	**1.36**		**0.312**
Nickel	**7440-02-0**	**3.69**		**0.567**
Selenium	**7782-49-2**	**0.258**	B, LL, QB-04	**0.00779**
Thallium	**7440-28-0**	**0.00264**		**5.12E-4**
Vanadium	**7440-62-2**	**2.56**		**0.0460**
Zinc	7440-66-6	55.2	GC-BS, QB-01, U	66.8

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-042524-HM
Matrix: Air
Lab ID: 4050626-05
Sample Volume: 1655.243 m³
Filter ID:
Sampled: 04/25/24 00:00
Received: 05/06/24 14:28
Analysis Date: 05/08/24 03:41

Comments: Q8503975 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0176	SL, U	0.0379
Arsenic	7440-38-2	0.00643	U	0.00921
Barium	**7440-39-3**	**1.33**	FB-01, QB-01	**1.05**
Beryllium	7440-41-7	8.56E-4	U	0.00315
Cadmium	7440-43-9	8.60E-4	U	0.0728
Chromium	7440-47-3	1.26	U	2.17
Cobalt	7440-48-4	0.0133	U	0.0429
Copper	7440-50-8	0.651	U	2.59
Lead	7439-92-1	0.0428	U	0.210
Manganese	7439-96-5	0.304	U	1.86
Molybdenum	7439-98-7	0.190	U	0.353
Nickel	7440-02-0	0.472	U	0.641
Selenium	7782-49-2	ND	B, BR, LL, QB-04, U	0.00881
Thallium	7440-28-0	1.68E-4	U	5.79E-4
Vanadium	7440-62-2	0.0276	U	0.0520
Zinc	7440-66-6	25.0	GC-BS, QB-01, U	75.5

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042624-HM
Matrix: Air
Lab ID: 4050626-06
Sample Volume: 1977.928 m³
Filter ID:
Sampled: 04/26/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 03:55

Comments: Q8503978 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0672**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.764**		**0.00771**
Barium	**7440-39-3**	**8.45**	QB-01	**0.880**
Beryllium	**7440-41-7**	**0.0324**		**0.00263**
Cadmium	7440-43-9	0.0176	U	0.0610
Chromium	**7440-47-3**	**5.49**		**1.82**
Cobalt	**7440-48-4**	**1.62**		**0.0359**
Copper	**7440-50-8**	**112**		**2.16**
Lead	**7439-92-1**	**0.690**		**0.176**
Manganese	**7439-96-5**	**37.0**		**1.55**
Molybdenum	**7439-98-7**	**4.18**		**0.295**
Nickel	**7440-02-0**	**5.15**		**0.536**
Selenium	**7782-49-2**	**0.270**	B, LL, QB-04	**0.00737**
Thallium	**7440-28-0**	**0.00308**		**4.84E-4**
Vanadium	**7440-62-2**	**3.89**		**0.0435**
Zinc	7440-66-6	34.2	GC-BS, QB-01, U	63.2

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042624-HM
Matrix: Air
Lab ID: 4050626-07
Sample Volume: 2134.525 m³
Filter ID:
Sampled: 04/26/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 04:10

Comments: Q8503977 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0781**	SL	**0.0294**
Arsenic	**7440-38-2**	**0.256**		**0.00714**
Barium	**7440-39-3**	**4.51**	QB-01	**0.816**
Beryllium	**7440-41-7**	**0.0141**		**0.00244**
Cadmium	7440-43-9	0.0135	U	0.0565
Chromium	**7440-47-3**	**1.84**		**1.68**
Cobalt	**7440-48-4**	**0.315**		**0.0332**
Copper	**7440-50-8**	**45.8**		**2.00**
Lead	**7439-92-1**	**0.696**		**0.163**
Manganese	**7439-96-5**	**11.3**		**1.44**
Molybdenum	**7439-98-7**	**1.70**		**0.274**
Nickel	**7440-02-0**	**1.06**		**0.497**
Selenium	**7782-49-2**	**0.195**	B, LL, QB-04	**0.00683**
Thallium	**7440-28-0**	**0.00256**		**4.49E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0403**
Zinc	7440-66-6	23.6	GC-BS, QB-01, U	58.5

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042624-HM/MS/MS
Matrix: Air
Lab ID: 4050626-08
Sample Volume: 1922.018 m³
Filter ID:
Sampled: 04/26/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/07/24 19:47

Comments: Q8503976 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.330**		**0.00793**
Barium	**7440-39-3**	**4.73**	QB-01	**0.906**
Beryllium	**7440-41-7**	**0.0169**		**0.00271**
Cadmium	7440-43-9	0.0133	U	0.0627
Chromium	**7440-47-3**	**2.46**		**1.87**
Cobalt	**7440-48-4**	**0.465**		**0.0369**
Copper	**7440-50-8**	**76.0**		**2.23**
Lead	**7439-92-1**	**0.822**		**0.181**
Manganese	**7439-96-5**	**11.6**		**1.60**
Molybdenum	**7439-98-7**	**2.48**		**0.304**
Nickel	**7440-02-0**	**1.39**		**0.552**
Selenium	**7782-49-2**	**0.200**	B, LL, QB-04, SRD-01	**0.00758**
Thallium	**7440-28-0**	**0.00254**		**4.99E-4**
Vanadium	**7440-62-2**	**1.16**		**0.0448**
Zinc	**7440-66-6**	**65.6**	GC-BS, QB-01	**65.0**

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042624-HM
Matrix: Air
Lab ID: 4050626-09
Sample Volume: 1956.489 m³
Filter ID:
Sampled: 04/26/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 04:25

Comments: Q8503974 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0919**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.548**		**0.00779**
Barium	**7440-39-3**	**5.68**	QB-01	**0.890**
Beryllium	**7440-41-7**	**0.0115**		**0.00266**
Cadmium	7440-43-9	0.0262	U	0.0616
Chromium	**7440-47-3**	**2.36**		**1.84**
Cobalt	**7440-48-4**	**0.370**		**0.0363**
Copper	**7440-50-8**	**34.6**		**2.19**
Lead	**7439-92-1**	**1.24**		**0.178**
Manganese	**7439-96-5**	**19.1**		**1.57**
Molybdenum	**7439-98-7**	**1.46**		**0.299**
Nickel	**7440-02-0**	**1.42**		**0.542**
Selenium	**7782-49-2**	**0.198**	B, LL, QB-04	**0.00745**
Thallium	**7440-28-0**	**0.00232**		**4.90E-4**
Vanadium	**7440-62-2**	**1.05**		**0.0440**
Zinc	7440-66-6	38.6	GC-BS, QB-01, U	63.9

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042724-HM
Matrix: Air
Lab ID: 4050626-11
Sample Volume: 2017.957 m³
Filter ID:
Sampled: 04/27/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 04:40

Comments: Q8503969 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.214**		**0.00755**
Barium	**7440-39-3**	**4.06**	QB-01	**0.863**
Beryllium	**7440-41-7**	**0.00598**		**0.00258**
Cadmium	7440-43-9	0.0149	U	0.0597
Chromium	7440-47-3	1.77	U	1.78
Cobalt	**7440-48-4**	**0.169**		**0.0352**
Copper	**7440-50-8**	**27.0**		**2.12**
Lead	**7439-92-1**	**0.512**		**0.173**
Manganese	**7439-96-5**	**5.71**		**1.52**
Molybdenum	**7439-98-7**	**1.03**		**0.289**
Nickel	**7440-02-0**	**0.972**		**0.526**
Selenium	**7782-49-2**	**0.161**	B, LL, QB-04	**0.00722**
Thallium	**7440-28-0**	**0.00145**		**4.75E-4**
Vanadium	**7440-62-2**	**0.723**		**0.0427**
Zinc	7440-66-6	36.2	GC-BS, QB-01, U	61.9

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042724-HM
Matrix: Air
Lab ID: 4050626-12
Sample Volume: 1989.997 m³
Filter ID:
Sampled: 04/27/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 04:54

Comments: Q8503968 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0994**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.190**		**0.00766**
Barium	**7440-39-3**	**3.24**	QB-01	**0.875**
Beryllium	**7440-41-7**	**0.0106**		**0.00262**
Cadmium	7440-43-9	0.0162	U	0.0606
Chromium	**7440-47-3**	**1.88**		**1.81**
Cobalt	**7440-48-4**	**0.279**		**0.0356**
Copper	**7440-50-8**	**47.2**		**2.15**
Lead	**7439-92-1**	**0.819**		**0.175**
Manganese	**7439-96-5**	**6.82**		**1.55**
Molybdenum	**7439-98-7**	**1.46**		**0.294**
Nickel	**7440-02-0**	**1.08**		**0.533**
Selenium	**7782-49-2**	**0.158**	B, LL, QB-04	**0.00733**
Thallium	**7440-28-0**	**0.00142**		**4.82E-4**
Vanadium	**7440-62-2**	**0.832**		**0.0433**
Zinc	7440-66-6	34.4	GC-BS, QB-01, U	62.8

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042724-HM
Matrix: Air
Lab ID: 4050626-13
Sample Volume: 1766.853 m³
Filter ID:
Sampled: 04/27/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 06:02

Comments: Q8503967 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0871**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.295**		**0.00863**
Barium	**7440-39-3**	**4.71**	QB-01	**0.985**
Beryllium	**7440-41-7**	**0.00939**		**0.00295**
Cadmium	7440-43-9	0.0330	U	0.0682
Chromium	**7440-47-3**	**2.41**		**2.04**
Cobalt	**7440-48-4**	**0.288**		**0.0401**
Copper	**7440-50-8**	**37.9**		**2.42**
Lead	**7439-92-1**	**1.01**		**0.197**
Manganese	**7439-96-5**	**9.73**		**1.74**
Molybdenum	**7439-98-7**	**1.32**		**0.331**
Nickel	**7440-02-0**	**1.20**		**0.600**
Selenium	**7782-49-2**	**0.154**	B, LL, QB-04	**0.00825**
Thallium	**7440-28-0**	**0.00148**		**5.42E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0487**
Zinc	7440-66-6	37.0	GC-BS, QB-01, U	70.7

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-042724-HM
Matrix: Air
Lab ID: 4050626-14
Sample Volume: 2017.957 m³
Filter ID:
Sampled: 04/27/24 00:00
Received: 05/06/24 14:28
Analysis Date: 05/08/24 06:18

Comments: Q8533016 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0195	SL, U	0.0311
Arsenic	7440-38-2	0.00341	U	0.00755
Barium	**7440-39-3**	**1.92**	FB-01, QB-01	**0.863**
Beryllium	7440-41-7	4.34E-4	U	0.00258
Cadmium	7440-43-9	0.00157	U	0.0597
Chromium	7440-47-3	0.803	U	1.78
Cobalt	7440-48-4	0.00808	U	0.0352
Copper	7440-50-8	0.403	U	2.12
Lead	7439-92-1	0.0235	U	0.173
Manganese	7439-96-5	0.144	U	1.52
Molybdenum	7439-98-7	0.136	U	0.289
Nickel	7440-02-0	0.353	U	0.526
Selenium	7782-49-2	ND	B, BR, LL, QB-04, U	0.00722
Thallium	7440-28-0	1.47E-4	U	4.75E-4
Vanadium	7440-62-2	0.0138	U	0.0427
Zinc	7440-66-6	17.4	GC-BS, QB-01, U	61.9

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042824-HM
Matrix: Air
Lab ID: 4050626-16
Sample Volume: 2095.042 m³
Filter ID:
Sampled: 04/28/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 06:31

Comments: Q8533019 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.130**	SL	**0.0300**
Arsenic	**7440-38-2**	**0.441**		**0.00728**
Barium	**7440-39-3**	**6.07**	QB-01	**0.831**
Beryllium	**7440-41-7**	**0.0179**		**0.00249**
Cadmium	7440-43-9	0.0286	U	0.0575
Chromium	**7440-47-3**	**2.98**		**1.72**
Cobalt	**7440-48-4**	**0.490**		**0.0339**
Copper	**7440-50-8**	**35.8**		**2.04**
Lead	**7439-92-1**	**3.07**		**0.166**
Manganese	**7439-96-5**	**15.4**		**1.47**
Molybdenum	**7439-98-7**	**1.16**		**0.279**
Nickel	**7440-02-0**	**1.73**		**0.506**
Selenium	**7782-49-2**	**0.173**	B, LL, QB-04	**0.00696**
Thallium	**7440-28-0**	**0.00145**		**4.57E-4**
Vanadium	**7440-62-2**	**1.71**		**0.0411**
Zinc	7440-66-6	46.4	GC-BS, QB-01, U	59.6

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042824-HM
Matrix: Air
Lab ID: 4050626-17
Sample Volume: 1957.021 m³
Filter ID:
Sampled: 04/28/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 07:05

Comments: Q8533018 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0818**	SL	**0.0321**
Arsenic	**7440-38-2**	**0.181**		**0.00779**
Barium	**7440-39-3**	**3.02**	QB-01	**0.890**
Beryllium	**7440-41-7**	**0.00658**		**0.00266**
Cadmium	7440-43-9	0.0119	U	0.0616
Chromium	7440-47-3	1.70	U	1.84
Cobalt	**7440-48-4**	**0.176**		**0.0362**
Copper	**7440-50-8**	**58.5**		**2.19**
Lead	**7439-92-1**	**0.967**		**0.178**
Manganese	**7439-96-5**	**4.73**		**1.57**
Molybdenum	**7439-98-7**	**1.40**		**0.298**
Nickel	**7440-02-0**	**1.03**		**0.542**
Selenium	**7782-49-2**	**0.133**	B, LL, QB-04	**0.00745**
Thallium	**7440-28-0**	**8.55E-4**		**4.90E-4**
Vanadium	**7440-62-2**	**0.784**		**0.0440**
Zinc	7440-66-6	32.6	GC-BS, QB-01, U	63.8

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042824-HM
Matrix: Air
Lab ID: 4050626-18
Sample Volume: 1793.6 m³
Filter ID:
Sampled: 04/28/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 07:20

Comments: Q8533017 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0872**	SL	**0.0350**
Arsenic	**7440-38-2**	**0.174**		**0.00850**
Barium	**7440-39-3**	**4.29**	QB-01	**0.971**
Beryllium	**7440-41-7**	**0.00746**		**0.00290**
Cadmium	**7440-43-9**	**0.0983**		**0.0672**
Chromium	7440-47-3	1.66	U	2.00
Cobalt	**7440-48-4**	**0.232**		**0.0396**
Copper	**7440-50-8**	**32.0**		**2.39**
Lead	**7439-92-1**	**0.841**		**0.194**
Manganese	**7439-96-5**	**7.55**		**1.71**
Molybdenum	**7439-98-7**	**1.14**		**0.326**
Nickel	**7440-02-0**	**1.07**		**0.591**
Selenium	**7782-49-2**	**0.144**	B, LL, QB-04	**0.00813**
Thallium	**7440-28-0**	**9.27E-4**		**5.34E-4**
Vanadium	**7440-62-2**	**0.920**		**0.0480**
Zinc	7440-66-6	26.3	GC-BS, QB-01, U	69.7

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-042924-HM
Matrix: Air
Lab ID: 4050626-19
Sample Volume: 1963.749 m³
Filter ID:
Sampled: 04/29/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 07:34

Comments: Q8533015 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0978**	SL	**0.0320**
Arsenic	**7440-38-2**	**1.11**		**0.00776**
Barium	**7440-39-3**	**7.13**	QB-01	**0.887**
Beryllium	**7440-41-7**	**0.0203**		**0.00265**
Cadmium	7440-43-9	0.0175	U	0.0614
Chromium	**7440-47-3**	**4.59**		**1.83**
Cobalt	**7440-48-4**	**1.09**		**0.0361**
Copper	**7440-50-8**	**56.8**		**2.18**
Lead	**7439-92-1**	**0.889**		**0.177**
Manganese	**7439-96-5**	**27.8**		**1.57**
Molybdenum	**7439-98-7**	**3.14**		**0.297**
Nickel	**7440-02-0**	**2.65**		**0.540**
Selenium	**7782-49-2**	**0.226**	B, LL, QB-04	**0.00742**
Thallium	**7440-28-0**	**0.00195**		**4.88E-4**
Vanadium	**7440-62-2**	**3.22**		**0.0438**
Zinc	7440-66-6	33.9	GC-BS, QB-01, U	63.6

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-042924-HM
Matrix: Air
Lab ID: 4050626-20
Sample Volume: 2023.539 m³
Filter ID:
Sampled: 04/29/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 07:49

Comments: Q8533013 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0970**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.212**		**0.00753**
Barium	**7440-39-3**	**3.96**	QB-01	**0.860**
Beryllium	**7440-41-7**	**0.00809**		**0.00257**
Cadmium	7440-43-9	0.0245	U	0.0596
Chromium	7440-47-3	1.66	U	1.78
Cobalt	**7440-48-4**	**0.242**		**0.0351**
Copper	**7440-50-8**	**33.8**		**2.11**
Lead	**7439-92-1**	**0.747**		**0.172**
Manganese	**7439-96-5**	**7.41**		**1.52**
Molybdenum	**7439-98-7**	**1.44**		**0.289**
Nickel	**7440-02-0**	**1.09**		**0.524**
Selenium	**7782-49-2**	**0.191**	B, LL, QB-04	**0.00720**
Thallium	**7440-28-0**	**0.00111**		**4.74E-4**
Vanadium	**7440-62-2**	**0.982**		**0.0425**
Zinc	7440-66-6	27.1	GC-BS, QB-01, U	61.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-042924-HM
Matrix: Air
Lab ID: 4050626-21
Sample Volume: 1964.98 m³
Filter ID:
Sampled: 04/29/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 08:04

Comments: Q8533012 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0740**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.221**		**0.00776**
Barium	**7440-39-3**	**3.02**	QB-01	**0.886**
Beryllium	**7440-41-7**	**0.0141**		**0.00265**
Cadmium	7440-43-9	0.00940	U	0.0614
Chromium	**7440-47-3**	**2.06**		**1.83**
Cobalt	**7440-48-4**	**0.351**		**0.0361**
Copper	**7440-50-8**	**38.4**		**2.18**
Lead	**7439-92-1**	**0.782**		**0.177**
Manganese	**7439-96-5**	**8.21**		**1.56**
Molybdenum	**7439-98-7**	**1.29**		**0.297**
Nickel	**7440-02-0**	**1.28**		**0.540**
Selenium	**7782-49-2**	**0.180**	B, LL, QB-04	**0.00742**
Thallium	**7440-28-0**	**0.00110**		**4.88E-4**
Vanadium	**7440-62-2**	**1.10**		**0.0438**
Zinc	7440-66-6	25.8	GC-BS, QB-01, U	63.6

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-042924-HM
Matrix: Air
Lab ID: 4050626-22
Sample Volume: 1756.832 m³
Filter ID:
Sampled: 04/29/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 09:11

Comments: Q8533011 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0950**	SL	**0.0357**
Arsenic	**7440-38-2**	**0.299**		**0.00868**
Barium	**7440-39-3**	**3.88**	QB-01	**0.991**
Beryllium	**7440-41-7**	**0.00972**		**0.00296**
Cadmium	7440-43-9	0.0118	U	0.0686
Chromium	**7440-47-3**	**2.13**		**2.05**
Cobalt	**7440-48-4**	**0.314**		**0.0404**
Copper	**7440-50-8**	**30.4**		**2.44**
Lead	**7439-92-1**	**0.845**		**0.198**
Manganese	**7439-96-5**	**9.88**		**1.75**
Molybdenum	**7439-98-7**	**1.15**		**0.332**
Nickel	**7440-02-0**	**1.26**		**0.604**
Selenium	**7782-49-2**	**0.201**	B, LL, QB-04	**0.00830**
Thallium	**7440-28-0**	**0.00125**		**5.45E-4**
Vanadium	**7440-62-2**	**1.15**		**0.0490**
Zinc	7440-66-6	28.3	GC-BS, QB-01, U	71.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-042924-HM
Matrix: Air
Lab ID: 4050626-23
Sample Volume: 1963.749 m³
Filter ID:
Sampled: 04/29/24 00:00
Received: 05/06/24 14:28
Analysis Date: 05/08/24 09:40

Comments: Q8533008 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0200	SL, U	0.0320
Arsenic	7440-38-2	0.00512	U	0.00776
Barium	**7440-39-3**	**1.10**	FB-01, QB-01	**0.887**
Beryllium	7440-41-7	5.07E-4	U	0.00265
Cadmium	7440-43-9	0.00108	U	0.0614
Chromium	7440-47-3	0.836	U	1.83
Cobalt	7440-48-4	0.0324	U	0.0361
Copper	**7440-50-8**	**2.21**	FB-01	**2.18**
Lead	7439-92-1	0.0534	U	0.177
Manganese	7439-96-5	0.253	U	1.57
Molybdenum	7439-98-7	0.187	U	0.297
Nickel	**7440-02-0**	**0.572**	FB-01	**0.540**
Selenium	7782-49-2	ND	B, LL, QB-04, U	0.00742
Thallium	7440-28-0	9.40E-5	U	4.88E-4
Vanadium	7440-62-2	0.0263	U	0.0438
Zinc	7440-66-6	12.4	GC-BS, QB-01, U	63.6

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-043024-HM
Matrix: Air
Lab ID: 4050626-24
Sample Volume: 2017.842 m³
Filter ID:
Sampled: 04/30/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 09:54

Comments: Q8503966 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0731**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.468**		**0.00756**
Barium	**7440-39-3**	**5.39**	QB-01	**0.863**
Beryllium	**7440-41-7**	**0.0153**		**0.00258**
Cadmium	7440-43-9	0.0167	U	0.0597
Chromium	**7440-47-3**	**4.04**		**1.78**
Cobalt	**7440-48-4**	**0.755**		**0.0352**
Copper	**7440-50-8**	**42.1**		**2.12**
Lead	**7439-92-1**	**0.837**		**0.173**
Manganese	**7439-96-5**	**18.4**		**1.52**
Molybdenum	**7439-98-7**	**2.28**		**0.289**
Nickel	**7440-02-0**	**2.73**		**0.526**
Selenium	**7782-49-2**	**0.210**	B, LL, QB-04	**0.00722**
Thallium	**7440-28-0**	**0.00167**		**4.75E-4**
Vanadium	**7440-62-2**	**2.03**		**0.0427**
Zinc	7440-66-6	23.7	GC-BS, QB-01, U	61.9

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-043024-HM
Matrix: Air
Lab ID: 4050626-25
Sample Volume: 2074.204 m³
Filter ID:
Sampled: 04/30/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 10:09

Comments: Q8533009 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0986**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.236**		**0.00735**
Barium	**7440-39-3**	**3.76**	QB-01	**0.839**
Beryllium	**7440-41-7**	**0.00884**		**0.00251**
Cadmium	7440-43-9	0.0121	U	0.0581
Chromium	7440-47-3	1.64	U	1.73
Cobalt	**7440-48-4**	**0.241**		**0.0342**
Copper	**7440-50-8**	**30.0**		**2.06**
Lead	**7439-92-1**	**0.708**		**0.168**
Manganese	**7439-96-5**	**7.95**		**1.48**
Molybdenum	**7439-98-7**	**1.29**		**0.282**
Nickel	**7440-02-0**	**1.07**		**0.511**
Selenium	**7782-49-2**	**0.192**	B, LL, QB-04	**0.00703**
Thallium	**7440-28-0**	**0.00129**		**4.62E-4**
Vanadium	**7440-62-2**	**1.07**		**0.0415**
Zinc	7440-66-6	19.5	GC-BS, QB-01, U	60.2

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-043024-HM
Matrix: Air
Lab ID: 4050626-26
Sample Volume: 1876.028 m³
Filter ID:
Sampled: 04/30/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 10:24

Comments: Q8533007 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0743**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.217**		**0.00813**
Barium	**7440-39-3**	**4.26**	QB-01	**0.928**
Beryllium	**7440-41-7**	**0.0186**		**0.00278**
Cadmium	7440-43-9	0.0105	U	0.0643
Chromium	**7440-47-3**	**2.39**		**1.92**
Cobalt	**7440-48-4**	**0.431**		**0.0378**
Copper	**7440-50-8**	**43.3**		**2.28**
Lead	**7439-92-1**	**0.615**		**0.186**
Manganese	**7439-96-5**	**11.0**		**1.64**
Molybdenum	**7439-98-7**	**1.53**		**0.311**
Nickel	**7440-02-0**	**1.56**		**0.565**
Selenium	**7782-49-2**	**0.209**	B, LL, QB-04	**0.00777**
Thallium	**7440-28-0**	**0.00150**		**5.11E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0459**
Zinc	7440-66-6	24.4	GC-BS, QB-01, 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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-043024-HM
Matrix: Air
Lab ID: 4050626-27
Sample Volume: 1753.883 m³
Filter ID:
Sampled: 04/30/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 10:38

Comments: Q8533005 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0979**	SL	**0.0358**
Arsenic	**7440-38-2**	**0.324**		**0.00869**
Barium	**7440-39-3**	**5.17**	QB-01	**0.993**
Beryllium	**7440-41-7**	**0.0110**		**0.00297**
Cadmium	7440-43-9	0.0199	U	0.0687
Chromium	**7440-47-3**	**2.19**		**2.05**
Cobalt	**7440-48-4**	**0.345**		**0.0404**
Copper	**7440-50-8**	**36.2**		**2.44**
Lead	**7439-92-1**	**0.974**		**0.199**
Manganese	**7439-96-5**	**11.2**		**1.75**
Molybdenum	**7439-98-7**	**1.29**		**0.333**
Nickel	**7440-02-0**	**1.34**		**0.605**
Selenium	**7782-49-2**	**0.184**	B, LL, QB-04	**0.00831**
Thallium	**7440-28-0**	**0.00134**		**5.46E-4**
Vanadium	**7440-62-2**	**1.20**		**0.0491**
Zinc	7440-66-6	27.5	GC-BS, QB-01, U	71.2

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-050124-HM/MS/MS
Matrix: Air
Lab ID: 4050626-28
Sample Volume: 1970.557 m³
Filter ID:
Sampled: 05/01/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/07/24 23:55

Comments: Q8533004 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0824**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.596**		**0.00774**
Barium	**7440-39-3**	**3.60**	QB-01	**0.883**
Beryllium	**7440-41-7**	**0.00774**		**0.00264**
Cadmium	7440-43-9	0.00981	U	0.0612
Chromium	**7440-47-3**	**1.99**		**1.82**
Cobalt	**7440-48-4**	**0.316**		**0.0360**
Copper	**7440-50-8**	**44.1**		**2.17**
Lead	**7439-92-1**	**0.532**		**0.177**
Manganese	**7439-96-5**	**8.87**		**1.56**
Molybdenum	**7439-98-7**	**2.50**		**0.296**
Nickel	**7440-02-0**	**1.22**		**0.538**
Selenium	**7782-49-2**	**0.174**	B, LL, QB-04	**0.00740**
Thallium	**7440-28-0**	**0.00124**		**4.86E-4**
Vanadium	**7440-62-2**	**1.08**		**0.0437**
Zinc	7440-66-6	23.0	GC-BS, QB-01, U	63.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050124-HM
Matrix: Air
Lab ID: 4050626-29
Sample Volume: 2014.516 m³
Filter ID:
Sampled: 05/01/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 10:53

Comments: Q8533003 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.101**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.301**		**0.00757**
Barium	**7440-39-3**	**4.64**	QB-01	**0.864**
Beryllium	**7440-41-7**	**0.0127**		**0.00258**
Cadmium	7440-43-9	0.0109	U	0.0598
Chromium	**7440-47-3**	**2.27**		**1.78**
Cobalt	**7440-48-4**	**0.467**		**0.0352**
Copper	**7440-50-8**	**31.0**		**2.12**
Lead	**7439-92-1**	**0.803**		**0.173**
Manganese	**7439-96-5**	**12.3**		**1.53**
Molybdenum	**7439-98-7**	**1.49**		**0.290**
Nickel	**7440-02-0**	**1.84**		**0.527**
Selenium	**7782-49-2**	**0.216**	B, LL, QB-04	**0.00724**
Thallium	**7440-28-0**	**0.00135**		**4.76E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0427**
Zinc	7440-66-6	21.9	GC-BS, QB-01, U	62.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050124-HM
Matrix: Air
Lab ID: 4050626-30
Sample Volume: 1971.577 m³
Filter ID:
Sampled: 05/01/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 11:08

Comments: Q8533002 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0871**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.295**		**0.00773**
Barium	**7440-39-3**	**3.90**	QB-01	**0.883**
Beryllium	**7440-41-7**	**0.0182**		**0.00264**
Cadmium	7440-43-9	0.0161	U	0.0611
Chromium	**7440-47-3**	**2.27**		**1.82**
Cobalt	**7440-48-4**	**0.403**		**0.0360**
Copper	**7440-50-8**	**42.2**		**2.17**
Lead	**7439-92-1**	**0.625**		**0.177**
Manganese	**7439-96-5**	**10.5**		**1.56**
Molybdenum	**7439-98-7**	**1.55**		**0.296**
Nickel	**7440-02-0**	**1.42**		**0.538**
Selenium	**7782-49-2**	**0.197**	B, LL, QB-04	**0.00739**
Thallium	**7440-28-0**	**0.00139**		**4.86E-4**
Vanadium	**7440-62-2**	**1.29**		**0.0437**
Zinc	7440-66-6	27.1	GC-BS, QB-01, U	63.4

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050124-HM
Matrix: Air
Lab ID: 4050626-31
Sample Volume: 1769.365 m³
Filter ID:
Sampled: 05/01/24 23:59
Received: 05/06/24 14:28
Analysis Date: 05/08/24 11:22

Comments: Q8533001 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.337**		**0.00862**
Barium	**7440-39-3**	**4.31**	QB-01	**0.984**
Beryllium	**7440-41-7**	**0.0134**		**0.00294**
Cadmium	7440-43-9	0.0152	U	0.0681
Chromium	**7440-47-3**	**2.26**		**2.03**
Cobalt	**7440-48-4**	**0.388**		**0.0401**
Copper	**7440-50-8**	**23.5**		**2.42**
Lead	**7439-92-1**	**1.09**		**0.197**
Manganese	**7439-96-5**	**12.5**		**1.74**
Molybdenum	**7439-98-7**	**0.996**		**0.330**
Nickel	**7440-02-0**	**1.45**		**0.600**
Selenium	**7782-49-2**	**0.205**	B, LL, QB-04	**0.00824**
Thallium	**7440-28-0**	**0.00141**		**5.42E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0486**
Zinc	7440-66-6	25.4	GC-BS, QB-01, U	70.6

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-050124-HM
Matrix: Air
Lab ID: 4050626-32
Sample Volume: 1970.557 m³
Filter ID:
Sampled: 05/01/24 00:00
Received: 05/06/24 14:28
Analysis Date: 05/08/24 12:30

Comments: Q8532996 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0202	SL, U	0.0319
Arsenic	7440-38-2	0.00377	U	0.00774
Barium	7440-39-3	0.875	QB-01, U	0.883
Beryllium	7440-41-7	5.74E-4	U	0.00264
Cadmium	7440-43-9	8.77E-4	U	0.0612
Chromium	7440-47-3	0.793	U	1.82
Cobalt	7440-48-4	0.0113	U	0.0360
Copper	7440-50-8	0.530	U	2.17
Lead	7439-92-1	0.0309	U	0.177
Manganese	7439-96-5	0.231	U	1.56
Molybdenum	7439-98-7	0.142	U	0.296
Nickel	7440-02-0	0.412	U	0.538
Selenium	7782-49-2	ND	B, BR, LL, QB-04, U	0.00740
Thallium	7440-28-0	1.50E-4	U	4.86E-4
Vanadium	7440-62-2	0.0169	U	0.0437
Zinc	7440-66-6	11.5	GC-BS, QB-01, U	63.4

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
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 2405020 - B4E0704										
Calibration Blank (2405020-CCB1)				Prepared & Analyzed: 05/07/24						
Antimony	0.447		ng/l							
Arsenic	0.0636		ng/l							
Barium	0.166		ng/l							
Beryllium	-0.150		ng/l							U
Cadmium	0.109		ng/l							
Chromium	0.709		ng/l							
Cobalt	0.220		ng/l							
Copper	44.1		ng/l							
Lead	17.7		ng/l							
Manganese	3.19		ng/l							
Molybdenum	12.9		ng/l							
Nickel	-0.710		ng/l							U
Selenium	-27.8		ng/l							LL, QB-04, U
Thallium	0.779		ng/l							
Vanadium	-23.2		ng/l							U
Zinc	-14.5		ng/l							U
Calibration Blank (2405020-CCB2)				Prepared & Analyzed: 05/07/24						
Antimony	0.182		ng/l							
Arsenic	3.63		ng/l							
Barium	-0.0647		ng/l							U
Beryllium	-0.0625		ng/l							U
Cadmium	0.0434		ng/l							
Chromium	0.705		ng/l							
Cobalt	0.0871		ng/l							
Copper	45.1		ng/l							
Lead	4.76		ng/l							
Manganese	1.13		ng/l							
Molybdenum	3.16		ng/l							
Nickel	0.622		ng/l							
Selenium	-36.3		ng/l							LL, QB-04, U
Thallium	0.645		ng/l							
Vanadium	-24.0		ng/l							U
Zinc	-34.6		ng/l							U
Calibration Blank (2405020-CCB3)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.247		ng/l							
Arsenic	1.26		ng/l							
Barium	0.725		ng/l							
Beryllium	0.00473		ng/l							

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
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 2405020 - B4E0704										
Calibration Blank (2405020-CCB3) Contin				Prepared: 05/07/24 Analyzed: 05/08/24						
Cadmium	0.0657		ng/l							
Chromium	0.634		ng/l							
Cobalt	-0.0256		ng/l							U
Copper	37.5		ng/l							
Lead	3.51		ng/l							
Manganese	1.33		ng/l							
Molybdenum	3.04		ng/l							
Nickel	0.0239		ng/l							
Selenium	-47.7		ng/l							LL, QB-04, U
Thallium	0.704		ng/l							
Vanadium	-26.8		ng/l							U
Zinc	-11.9		ng/l							U
Calibration Blank (2405020-CCB4)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.160		ng/l							
Arsenic	3.36		ng/l							
Barium	0.656		ng/l							
Beryllium	-0.188		ng/l							U
Cadmium	0.105		ng/l							
Chromium	1.21		ng/l							
Cobalt	0.184		ng/l							
Copper	68.6		ng/l							
Lead	2.10		ng/l							
Manganese	0.981		ng/l							
Molybdenum	3.31		ng/l							
Nickel	0.127		ng/l							
Selenium	-35.3		ng/l							LL, QB-04, U
Thallium	0.519		ng/l							
Vanadium	-30.6		ng/l							U
Zinc	-31.4		ng/l							U
Calibration Blank (2405020-CCB5)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.225		ng/l							
Arsenic	0.869		ng/l							
Barium	0.967		ng/l							
Beryllium	-0.143		ng/l							U
Cadmium	0.174		ng/l							
Chromium	1.77		ng/l							
Cobalt	0.222		ng/l							
Copper	63.7		ng/l							

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
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 2405020 - B4E0704										
Calibration Blank (2405020-CCB5) Contin				Prepared: 05/07/24 Analyzed: 05/08/24						
Lead	2.09		ng/l							
Manganese	3.31		ng/l							
Molybdenum	3.03		ng/l							
Nickel	0.446		ng/l							
Selenium	-24.5		ng/l							U
Thallium	0.617		ng/l							
Vanadium	-33.3		ng/l							U
Zinc	-30.2		ng/l							U
Calibration Blank (2405020-CCB6)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.585		ng/l							
Arsenic	-1.59		ng/l							U
Barium	1.56		ng/l							
Beryllium	-0.173		ng/l							U
Cadmium	0.216		ng/l							
Chromium	0.893		ng/l							
Cobalt	0.411		ng/l							
Copper	78.5		ng/l							
Lead	2.05		ng/l							
Manganese	4.69		ng/l							
Molybdenum	3.26		ng/l							
Nickel	0.405		ng/l							
Selenium	-32.5		ng/l							LL, QB-04, U
Thallium	0.679		ng/l							
Vanadium	-41.0		ng/l							U
Zinc	-14.4		ng/l							U
Calibration Blank (2405020-CCB7)				Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.241		ng/l							
Arsenic	-2.86		ng/l							U
Barium	1.14		ng/l							
Beryllium	-0.278		ng/l							U
Cadmium	0.0793		ng/l							
Chromium	-0.0865		ng/l							U
Cobalt	0.189		ng/l							
Copper	71.4		ng/l							
Lead	4.08		ng/l							
Manganese	2.36		ng/l							
Molybdenum	5.10		ng/l							
Nickel	-0.0701		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
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 2405020 - B4E0704										
Calibration Blank (2405020-CCB7) Contin				Prepared: 05/07/24 Analyzed: 05/08/24						
Selenium	-40.5		ng/l							LL, QB-04, U
Thallium	1.16		ng/l							
Vanadium	-47.2		ng/l							U
Zinc	12.8		ng/l							
Calibration Check (2405020-CCV1)				Prepared & Analyzed: 05/07/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	5320		ng/l	5000.0		106	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.4	90-110			
Manganese	493000		ng/l	500000		98.5	90-110			
Molybdenum	49100		ng/l	50000		98.2	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	481		ng/l	500.00		96.2	90-110			
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Calibration Check (2405020-CCV2)				Prepared & Analyzed: 05/07/24						
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4660		ng/l	5000.0		93.2	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51800		ng/l	50000		104	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	514000		ng/l	500000		103	90-110			

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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: 05/14/24 12:01
SUBMITTED: 05/06/24
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 2405020 - B4E0704

Calibration Check (2405020-CCV3)				Prepared: 05/07/24	Analyzed: 05/08/24					
Antimony	20000		ng/l	20000		99.8	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	19800		ng/l	20000		99.1	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	48500		ng/l	50000		96.9	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			
Thallium	469		ng/l	500.00		93.9	90-110			
Vanadium	19800		ng/l	20000		99.0	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2405020-CCV4)				Prepared: 05/07/24	Analyzed: 05/08/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	215000		ng/l	200000		107	90-110			
Beryllium	4970		ng/l	5000.0		99.4	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Calibration Check (2405020-CCV5)				Prepared: 05/07/24	Analyzed: 05/08/24					
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	213000		ng/l	200000		107	90-110			
Beryllium	4940		ng/l	5000.0		98.8	90-110			

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
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 2405020 - B4E0704										
Calibration Check (2405020-CCV5) Contin					Prepared: 05/07/24 Analyzed: 05/08/24					
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	51900		ng/l	50000		104	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Lead	199000		ng/l	200000		99.7	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	470		ng/l	500.00		93.9	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2405020-CCV6)					Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4900		ng/l	5000.0		97.9	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	53200		ng/l	50000		106	90-110			
Copper	2.17E6		ng/l	2.0000E6		108	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	526000		ng/l	500000		105	90-110			
Molybdenum	52400		ng/l	50000		105	90-110			
Nickel	129000		ng/l	120000		107	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	474		ng/l	500.00		94.8	90-110			
Vanadium	20400		ng/l	20000		102	90-110			
Zinc	537000		ng/l	500000		107	90-110			
Calibration Check (2405020-CCV7)					Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	217000		ng/l	200000		108	90-110			
Beryllium	4870		ng/l	5000.0		97.4	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Chromium	260000		ng/l	240000		108	90-110			
Cobalt	53600		ng/l	50000		107	90-110			
Copper	2.20E6		ng/l	2.0000E6		110	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 2405020 - B4E0704										
Calibration Check (2405020-CCV7) Contin					Prepared: 05/07/24 Analyzed: 05/08/24					
Lead	204000		ng/l	200000		102	90-110			
Manganese	537000		ng/l	500000		107	90-110			
Molybdenum	53400		ng/l	50000		107	90-110			
Nickel	129000		ng/l	120000		108	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	478		ng/l	500.00		95.5	90-110			
Vanadium	20900		ng/l	20000		105	90-110			
Zinc	544000		ng/l	500000		109	90-110			
High Cal Check (2405020-HCV1)					Prepared & Analyzed: 05/07/24					
Antimony	41000		ng/l	40000		102	95-105			
Arsenic	40300		ng/l	40000		101	95-105			
Barium	408000		ng/l	400000		102	95-105			
Beryllium	9930		ng/l	10000		99.3	95-105			
Cadmium	40600		ng/l	40000		102	95-105			
Chromium	490000		ng/l	480000		102	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.04E6		ng/l	4.0000E6		101	95-105			
Lead	406000		ng/l	400000		102	95-105			
Manganese	1.02E6		ng/l	1.0000E6		102	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Selenium	40400		ng/l	40000		101	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40400		ng/l	40000		101	95-105			
Zinc	1.02E6		ng/l	1.0000E6		102	95-105			
Initial Cal Blank (2405020-ICB1)					Prepared & Analyzed: 05/07/24					
Antimony	2.09		ng/l							
Arsenic	-1.30		ng/l							U
Barium	2.81		ng/l							
Beryllium	-0.0299		ng/l							U
Cadmium	0.393		ng/l							
Chromium	3.15		ng/l							
Cobalt	0.645		ng/l							
Copper	64.4		ng/l							
Lead	34.6		ng/l							
Manganese	8.89		ng/l							
Molybdenum	14.9		ng/l							
Nickel	1.10		ng/l							

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CERTIFICATE OF ANALYSIS

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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 2405020 - B4E0704										
Initial Cal Blank (2405020-ICB1) Continu				Prepared & Analyzed: 05/07/24						
Selenium	-6.93		ng/l							U
Thallium	1.08		ng/l							
Vanadium	-29.8		ng/l							U
Zinc	14.0		ng/l							
Initial Cal Check (2405020-ICV1)				Prepared & Analyzed: 05/07/24						
Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	5430		ng/l	5000.0		109	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	240000		ng/l	240000		99.8	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	499000		ng/l	500000		99.7	90-110			
Molybdenum	49200		ng/l	50000		98.5	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	498		ng/l	500.00		99.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Interference Check A (2405020-IFA1)				Prepared & Analyzed: 05/07/24						
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	292000		ng/l	300000		97.4	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 2405020 - B4E0704										
Interference Check B (2405020-IFB1)					Prepared & Analyzed: 05/07/24					
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	215000		ng/l	200000		107	80-120			
Beryllium	4770		ng/l	5000.0		95.4	80-120			
Cadmium	19400		ng/l	20000		96.8	80-120			
Chromium	233000		ng/l	240000		97.1	80-120			
Cobalt	51000		ng/l	50000		102	80-120			
Copper	1.92E6		ng/l	2.0000E6		95.9	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	484000		ng/l	500000		96.7	80-120			
Molybdenum	348000		ng/l	350000		99.4	80-120			
Nickel	119000		ng/l	120000		98.8	80-120			
Selenium	19200		ng/l	20000		96.2	80-120			
Thallium	517		ng/l	500.00		103	80-120			
Vanadium	18600		ng/l	20000		93.0	80-120			
Zinc	471000		ng/l	500000		94.2	80-120			
Batch B4E0704 - ICP-MS Extraction										
Blank (B4E0704-BLK1)					Prepared & Analyzed: 05/07/24					
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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							B, LL, QB-04, 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							GC-BS, QB-01 U
LCS (B4E0704-BS1)					Prepared & Analyzed: 05/07/24					
Antimony	0.759	0.0386	ng/m³ Air	1.3829		54.9	80-120			SL

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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 B4E0704 - ICP-MS Extraction										
LCS (B4E0704-BS1) Continued				Prepared & Analyzed: 05/07/24						
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.4	80-120			
Barium	30.5	1.07	ng/m³ Air	27.658		110	80-120			QB-01
Beryllium	1.31	0.00320	ng/m³ Air	1.3829		94.9	80-120			
Cadmium	1.40	0.0741	ng/m³ Air	1.3829		101	80-120			
Chromium	16.0	2.21	ng/m³ Air	13.829		115	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.5	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.8	0.214	ng/m³ Air	13.829		99.5	80-120			
Manganese	8.28	1.89	ng/m³ Air	8.2975		99.8	80-120			
Molybdenum	1.50	0.359	ng/m³ Air	1.3829		109	80-120			
Nickel	3.27	0.652	ng/m³ Air	2.7658		118	80-120			
Selenium	2.75	0.00896	ng/m³ Air	2.7658		99.4	80-120			B, LL, QB-04
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.0	80-120			
Vanadium	2.80	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	131	76.8	ng/m³ Air	82.975		158	80-120			GC-BS, QB-01
LCS (B4E0704-BS2)				Prepared & Analyzed: 05/07/24						
Antimony	0.703	0.0386	ng/m³ Air	1.3829		50.8	80-120			SL
Arsenic	2.65	0.00937	ng/m³ Air	2.7658		95.8	80-120			
Barium	29.6	1.07	ng/m³ Air	27.658		107	80-120			QB-01
Beryllium	1.28	0.00320	ng/m³ Air	1.3829		92.7	80-120			
Cadmium	1.37	0.0741	ng/m³ Air	1.3829		98.8	80-120			
Chromium	15.5	2.21	ng/m³ Air	13.829		112	80-120			
Cobalt	1.39	0.0436	ng/m³ Air	1.3829		101	80-120			
Copper	29.0	2.63	ng/m³ Air	27.658		105	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		96.9	80-120			
Manganese	8.03	1.89	ng/m³ Air	8.2975		96.8	80-120			
Molybdenum	1.50	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	3.22	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.64	0.00896	ng/m³ Air	2.7658		95.5	80-120			B, LL, QB-04
Thallium	0.131	5.89E-4	ng/m³ Air	0.13829		94.6	80-120			
Vanadium	2.71	0.0529	ng/m³ Air	2.7658		98.1	80-120			
Zinc	139	76.8	ng/m³ Air	82.975		168	80-120			GC-BS, QB-01
Duplicate (B4E0704-DUP1)		**Source: 4050626-08**		Prepared & Analyzed: 05/07/24						
Antimony	0.0912	0.0327	ng/m³ Air		0.100			9.22	10	SL
Arsenic	0.364	0.00793	ng/m³ Air		0.330			9.66	10	
Barium	4.99	0.906	ng/m³ Air		4.73			5.23	10	QB-01
Beryllium	0.0168	0.00271	ng/m³ Air		0.0169			0.545	10	
Cadmium	ND	0.0627	ng/m³ Air		ND				10	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 B4E0704 - ICP-MS Extraction										
Duplicate (B4E0704-DUP1) Continued			**Source: 4050626-08**		Prepared & Analyzed: 05/07/24					
Chromium	2.57	1.87	ng/m³ Air		2.46			4.07	10	
Cobalt	0.471	0.0369	ng/m³ Air		0.465			1.20	10	
Copper	78.6	2.23	ng/m³ Air		76.0			3.35	10	
Lead	0.859	0.181	ng/m³ Air		0.822			4.36	10	
Manganese	11.9	1.60	ng/m³ Air		11.6			2.44	10	
Molybdenum	2.51	0.304	ng/m³ Air		2.48			1.28	10	
Nickel	1.38	0.552	ng/m³ Air		1.39			0.346	10	
Selenium	0.216	0.00758	ng/m³ Air		0.200			8.12	10	B, LL, QB-04
Thallium	0.00271	4.99E-4	ng/m³ Air		0.00254			6.57	10	
Vanadium	1.19	0.0448	ng/m³ Air		1.16			3.03	10	
Zinc	68.0	65.0	ng/m³ Air		65.6			3.65	10	GC-BS, QB-01
Duplicate (B4E0704-DUP2)			**Source: 4050626-28**		Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	0.0801	0.0319	ng/m³ Air		0.0824			2.83	10	SL
Arsenic	0.601	0.00774	ng/m³ Air		0.596			0.907	10	
Barium	3.56	0.883	ng/m³ Air		3.60			1.13	10	QB-01
Beryllium	0.00751	0.00264	ng/m³ Air		0.00774			3.11	10	
Cadmium	0.133	0.0612	ng/m³ Air		ND				10	
Chromium	1.93	1.82	ng/m³ Air		1.99			3.35	10	
Cobalt	0.323	0.0360	ng/m³ Air		0.316			2.12	10	
Copper	44.0	2.17	ng/m³ Air		44.1			0.146	10	
Lead	0.501	0.177	ng/m³ Air		0.532			6.09	10	
Manganese	9.04	1.56	ng/m³ Air		8.87			1.92	10	
Molybdenum	2.55	0.296	ng/m³ Air		2.50			2.10	10	
Nickel	1.21	0.538	ng/m³ Air		1.22			0.776	10	
Selenium	0.173	0.00740	ng/m³ Air		0.174			0.787	10	B, LL, QB-04
Thallium	0.00119	4.86E-4	ng/m³ Air		0.00124			4.37	10	
Vanadium	1.07	0.0437	ng/m³ Air		1.08			0.997	10	
Zinc	ND	63.4	ng/m³ Air		ND				10	GC-BS, QB-01 U
Duplicate (B4E0704-DUP3)			**Source: 4050626-16**		Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	0.130	0.0300	ng/m³ Air		0.130			0.367	10	SL
Arsenic	0.450	0.00728	ng/m³ Air		0.441			2.06	10	
Barium	6.12	0.831	ng/m³ Air		6.07			0.846	10	QB-01
Beryllium	0.0175	0.00249	ng/m³ Air		0.0179			2.08	10	
Cadmium	ND	0.0575	ng/m³ Air		ND				10	U
Chromium	2.99	1.72	ng/m³ Air		2.98			0.352	10	
Cobalt	0.492	0.0339	ng/m³ Air		0.490			0.441	10	
Copper	36.0	2.04	ng/m³ Air		35.8			0.603	10	

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
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 B4E0704 - ICP-MS Extraction										
Duplicate (B4E0704-DUP3) Continued		**Source: 4050626-16**		Prepared: 05/07/24 Analyzed: 05/08/24						
Lead	3.08	0.166	ng/m³ Air		3.07			0.143	10	
Manganese	15.5	1.47	ng/m³ Air		15.4			0.581	10	
Molybdenum	1.17	0.279	ng/m³ Air		1.16			0.824	10	
Nickel	1.74	0.506	ng/m³ Air		1.73			0.107	10	
Selenium	0.178	0.00696	ng/m³ Air		0.173			2.95	10	B, LL, QB-04
Thallium	0.00149	4.57E-4	ng/m³ Air		0.00145			2.14	10	
Vanadium	1.71	0.0411	ng/m³ Air		1.71			0.0724	10	
Zinc	ND	59.6	ng/m³ Air		ND				10	GC-BS, QB-01 U
Duplicate (B4E0704-DUP4)		**Source: 4050626-22**		Prepared: 05/07/24 Analyzed: 05/08/24						
Antimony	0.0915	0.0357	ng/m³ Air		0.0950			3.70	10	SL
Arsenic	0.298	0.00868	ng/m³ Air		0.299			0.473	10	
Barium	3.87	0.991	ng/m³ Air		3.88			0.0143	10	QB-01
Beryllium	0.00912	0.00296	ng/m³ Air		0.00972			6.42	10	
Cadmium	ND	0.0686	ng/m³ Air		ND				10	U
Chromium	2.11	2.05	ng/m³ Air		2.13			0.899	10	
Cobalt	0.314	0.0404	ng/m³ Air		0.314			0.118	10	
Copper	30.4	2.44	ng/m³ Air		30.4			0.172	10	
Lead	0.830	0.198	ng/m³ Air		0.845			1.73	10	
Manganese	9.85	1.75	ng/m³ Air		9.88			0.330	10	
Molybdenum	1.14	0.332	ng/m³ Air		1.15			1.02	10	
Nickel	1.25	0.604	ng/m³ Air		1.26			0.184	10	
Selenium	0.197	0.00830	ng/m³ Air		0.201			1.58	10	B, LL, QB-04
Thallium	0.00131	5.45E-4	ng/m³ Air		0.00125			4.56	10	
Vanadium	1.14	0.0490	ng/m³ Air		1.15			0.799	10	
Zinc	ND	71.1	ng/m³ Air		ND				10	GC-BS, QB-01 U
Matrix Spike (B4E0704-MS1)		**Source: 4050626-08**		Prepared & Analyzed: 05/07/24						
Antimony	0.662	0.0327	ng/m³ Air	1.1706	0.100	48.0	80-120			SL
Arsenic	2.54	0.00793	ng/m³ Air	2.3413	0.330	94.6	80-120			
Barium	28.9	0.906	ng/m³ Air	23.413	4.73	103	80-120			QB-01
Beryllium	1.12	0.00271	ng/m³ Air	1.1706	0.0169	94.3	80-120			
Cadmium	1.15	0.0627	ng/m³ Air	1.1706	ND	98.1	80-120			
Chromium	14.2	1.87	ng/m³ Air	11.706	2.46	100	80-120			
Cobalt	1.62	0.0369	ng/m³ Air	1.1706	0.465	98.9	80-120			
Copper	99.7	2.23	ng/m³ Air	23.413	76.0	101	80-120			
Lead	12.4	0.181	ng/m³ Air	11.706	0.822	99.0	80-120			
Manganese	18.2	1.60	ng/m³ Air	7.0239	11.6	93.0	80-120			

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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
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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 B4E0704 - ICP-MS Extraction										
Matrix Spike (B4E0704-MS1) Continued **Source: 4050626-08** Prepared & Analyzed: 05/07/24										
Molybdenum	3.56	0.304	ng/m³ Air	1.1706	2.48	92.6	80-120			
Nickel	3.65	0.552	ng/m³ Air	2.3413	1.39	96.5	80-120			
Selenium	2.46	0.00758	ng/m³ Air	2.3413	0.200	96.6	80-120			B, LL, QB-04
Thallium	0.113	4.99E-4	ng/m³ Air	0.11706	0.00254	94.2	80-120			
Vanadium	3.40	0.0448	ng/m³ Air	2.3413	1.16	95.6	80-120			
Zinc	126	65.0	ng/m³ Air	70.239	65.6	86.5	80-120			GC-BS, QB-01
Matrix Spike (B4E0704-MS2) **Source: 4050626-28** Prepared: 05/07/24 Analyzed: 05/08/24										
Antimony	0.726	0.0319	ng/m³ Air	1.1418	0.0824	56.4	80-120			SL
Arsenic	2.84	0.00774	ng/m³ Air	2.2836	0.596	98.2	80-120			
Barium	27.6	0.883	ng/m³ Air	22.836	3.60	105	80-120			QB-01
Beryllium	1.11	0.00264	ng/m³ Air	1.1418	0.00774	96.2	80-120			
Cadmium	1.16	0.0612	ng/m³ Air	1.1418	ND	101	80-120			
Chromium	13.8	1.82	ng/m³ Air	11.418	1.99	103	80-120			
Cobalt	1.48	0.0360	ng/m³ Air	1.1418	0.316	102	80-120			
Copper	68.7	2.17	ng/m³ Air	22.836	44.1	108	80-120			
Lead	11.9	0.177	ng/m³ Air	11.418	0.532	99.9	80-120			
Manganese	15.4	1.56	ng/m³ Air	6.8509	8.87	95.2	80-120			
Molybdenum	3.67	0.296	ng/m³ Air	1.1418	2.50	103	80-120			
Nickel	3.48	0.538	ng/m³ Air	2.2836	1.22	99.1	80-120			
Selenium	2.42	0.00740	ng/m³ Air	2.2836	0.174	98.3	80-120			B, LL, QB-04
Thallium	0.110	4.86E-4	ng/m³ Air	0.11418	0.00124	95.3	80-120			
Vanadium	3.30	0.0437	ng/m³ Air	2.2836	1.08	97.5	80-120			
Zinc	89.1	63.4	ng/m³ Air	68.509	ND	130	80-120			GC-BS, QB-01
Matrix Spike Dup (B4E0704-MSD1) **Source: 4050626-08** Prepared & Analyzed: 05/07/24										
Antimony	0.690	0.0327	ng/m³ Air	1.1706	0.100	50.4	80-120	4.16	20	SL
Arsenic	2.52	0.00793	ng/m³ Air	2.3413	0.330	93.6	80-120	0.882	20	
Barium	28.9	0.906	ng/m³ Air	23.413	4.73	103	80-120	0.0575	20	QB-01
Beryllium	1.12	0.00271	ng/m³ Air	1.1706	0.0169	94.1	80-120	0.233	20	
Cadmium	1.16	0.0627	ng/m³ Air	1.1706	ND	98.7	80-120	0.667	20	
Chromium	14.5	1.87	ng/m³ Air	11.706	2.46	103	80-120	1.77	20	
Cobalt	1.65	0.0369	ng/m³ Air	1.1706	0.465	101	80-120	1.78	20	
Copper	101	2.23	ng/m³ Air	23.413	76.0	107	80-120	1.47	20	
Lead	12.4	0.181	ng/m³ Air	11.706	0.822	99.2	80-120	0.237	20	
Manganese	18.8	1.60	ng/m³ Air	7.0239	11.6	101	80-120	3.23	20	
Molybdenum	3.62	0.304	ng/m³ Air	1.1706	2.48	97.2	80-120	1.48	20	
Nickel	3.76	0.552	ng/m³ Air	2.3413	1.39	102	80-120	3.19	20	
Selenium	2.44	0.00758	ng/m³ Air	2.3413	0.200	95.5	80-120	1.06	20	B, LL, QB-04
Thallium	0.114	4.99E-4	ng/m³ Air	0.11706	0.00254	95.1	80-120	0.997	20	

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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
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 B4E0704 - ICP-MS Extraction										
Matrix Spike Dup (B4E0704-MSD1) Contir		**Source: 4050626-08**			Prepared & Analyzed: 05/07/24					
Vanadium	3.42	0.0448	ng/m³ Air	2.3413	1.16	96.7	80-120	0.769	20	
Zinc	123	65.0	ng/m³ Air	70.239	65.6	81.1	80-120	3.06	20	GC-BS, QB-01
Matrix Spike Dup (B4E0704-MSD2)		**Source: 4050626-28**			Prepared: 05/07/24		Analyzed: 05/08/24			
Antimony	0.733	0.0319	ng/m³ Air	1.1418	0.0824	57.0	80-120	0.917	20	SL
Arsenic	2.82	0.00774	ng/m³ Air	2.2836	0.596	97.2	80-120	0.778	20	
Barium	27.1	0.883	ng/m³ Air	22.836	3.60	103	80-120	1.47	20	QB-01
Beryllium	1.10	0.00264	ng/m³ Air	1.1418	0.00774	95.2	80-120	0.999	20	
Cadmium	1.14	0.0612	ng/m³ Air	1.1418	ND	99.5	80-120	1.68	20	
Chromium	13.8	1.82	ng/m³ Air	11.418	1.99	103	80-120	8.72E-4	20	
Cobalt	1.46	0.0360	ng/m³ Air	1.1418	0.316	100	80-120	1.13	20	
Copper	70.6	2.17	ng/m³ Air	22.836	44.1	116	80-120	2.70	20	
Lead	11.7	0.177	ng/m³ Air	11.418	0.532	98.0	80-120	1.84	20	
Manganese	15.2	1.56	ng/m³ Air	6.8509	8.87	92.4	80-120	1.22	20	
Molybdenum	3.81	0.296	ng/m³ Air	1.1418	2.50	115	80-120	3.52	20	
Nickel	3.57	0.538	ng/m³ Air	2.2836	1.22	103	80-120	2.38	20	
Selenium	2.42	0.00740	ng/m³ Air	2.2836	0.174	98.2	80-120	0.0826	20	B, LL, QB-04
Thallium	0.109	4.86E-4	ng/m³ Air	0.11418	0.00124	94.7	80-120	0.535	20	
Vanadium	3.28	0.0437	ng/m³ Air	2.2836	1.08	96.3	80-120	0.808	20	
Zinc	88.2	63.4	ng/m³ Air	68.509	ND	129	80-120	0.988	20	GC-BS, QB-01
Post Spike (B4E0704-PS1)		**Source: 4050626-08**			Prepared & Analyzed: 05/07/24					
Antimony	0.337	0.0327	ng/m³ Air	0.23413	0.100	101	75-125			SL
Arsenic	1.47	0.00793	ng/m³ Air	1.1706	0.330	97.6	75-125			
Barium	7.23	0.906	ng/m³ Air	2.3413	4.73	107	75-125			QB-01
Beryllium	0.239	0.00271	ng/m³ Air	0.23413	0.0169	94.9	75-125			
Cadmium	0.130	0.0627	ng/m³ Air	0.11706	ND	111	75-125			
Chromium	3.65	1.87	ng/m³ Air	1.1706	2.46	101	75-125			
Cobalt	0.708	0.0369	ng/m³ Air	0.23413	0.465	104	75-125			
Copper	89.5	2.23	ng/m³ Air	11.706	76.0	115	75-125			
Lead	24.2	0.181	ng/m³ Air	23.413	0.822	99.8	75-125			
Manganese	14.0	1.60	ng/m³ Air	2.3413	11.6	98.8	75-125			
Molybdenum	3.62	0.304	ng/m³ Air	1.1706	2.48	97.5	75-125			
Nickel	3.78	0.552	ng/m³ Air	2.3413	1.39	102	75-125			
Selenium	1.37	0.00758	ng/m³ Air	1.1706	0.200	99.8	75-125			B, LL, QB-04
Thallium	0.0597	4.99E-4	ng/m³ Air	5.8532E-2	0.00254	97.7	75-125			
Vanadium	2.27	0.0448	ng/m³ Air	1.1706	1.16	95.3	75-125			
Zinc	89.2	65.0	ng/m³ Air	23.413	65.6	101	75-125			GC-BS, QB-01
Post Spike (B4E0704-PS2)		**Source: 4050626-28**			Prepared: 05/07/24		Analyzed: 05/08/24			
Antimony	0.307	0.0319	ng/m³ Air	0.22836	0.0824	98.2	75-125			SL

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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
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 B4E0704 - ICP-MS Extraction										
Post Spike (B4E0704-PS2) Continued			**Source: 4050626-28**		Prepared: 05/07/24 Analyzed: 05/08/24					
Arsenic	1.69	0.00774	ng/m³ Air	1.1418	0.596	96.0	75-125			
Barium	5.96	0.883	ng/m³ Air	2.2836	3.60	103	75-125			QB-01
Beryllium	0.210	0.00264	ng/m³ Air	0.22836	0.00774	88.4	75-125			
Cadmium	0.123	0.0612	ng/m³ Air	0.11418	ND	108	75-125			
Chromium	3.10	1.82	ng/m³ Air	1.1418	1.99	96.7	75-125			
Cobalt	0.542	0.0360	ng/m³ Air	0.22836	0.316	98.9	75-125			
Copper	55.9	2.17	ng/m³ Air	11.418	44.1	103	75-125			
Lead	23.1	0.177	ng/m³ Air	22.836	0.532	98.6	75-125			
Manganese	11.0	1.56	ng/m³ Air	2.2836	8.87	94.5	75-125			
Molybdenum	3.58	0.296	ng/m³ Air	1.1418	2.50	94.9	75-125			
Nickel	3.50	0.538	ng/m³ Air	2.2836	1.22	100	75-125			
Selenium	1.25	0.00740	ng/m³ Air	1.1418	0.174	94.3	75-125			B, LL, QB-04
Thallium	0.0569	4.86E-4	ng/m³ Air	5.7090E-2	0.00124	97.6	75-125			
Vanadium	2.16	0.0437	ng/m³ Air	1.1418	1.08	95.0	75-125			
Zinc	ND	63.4	ng/m³ Air	22.836	ND		75-125			GC-BS, QB-01 U
Dilution Check (B4E0704-SRL1)			**Source: 4050626-08**		Prepared & Analyzed: 05/07/24					
Antimony	ND	0.163	ng/m³ Air		ND				10	SL, U
Arsenic	0.338	0.0397	ng/m³ Air		0.330			2.29	10	
Barium	4.76	4.53	ng/m³ Air		4.73			0.490	10	QB-01
Beryllium	0.0174	0.0135	ng/m³ Air		0.0169			3.04	10	
Cadmium	ND	0.314	ng/m³ Air		ND				10	U
Chromium	ND	9.35	ng/m³ Air		ND				10	U
Cobalt	0.474	0.185	ng/m³ Air		0.465			1.80	10	
Copper	80.6	11.1	ng/m³ Air		76.0			5.84	10	
Lead	ND	0.906	ng/m³ Air		ND				10	U
Manganese	11.9	8.00	ng/m³ Air		11.6			1.92	10	
Molybdenum	2.52	1.52	ng/m³ Air		2.48			1.82	10	
Nickel	ND	2.76	ng/m³ Air		ND				10	U
Selenium	0.163	0.0379	ng/m³ Air		0.200			20.4	10	QB-04, SRD-01, B, LL
Thallium	0.00394	0.00249	ng/m³ Air		0.00254			43.5	10	
Vanadium	1.17	0.224	ng/m³ Air		1.16			0.968	10	
Zinc	ND	325	ng/m³ Air		ND				10	GC-BS, QB-01 U
Dilution Check (B4E0704-SRL2)			**Source: 4050626-28**		Prepared: 05/07/24 Analyzed: 05/08/24					
Antimony	ND	0.159	ng/m³ Air		ND				10	SL, U
Arsenic	0.593	0.0387	ng/m³ Air		0.596			0.467	10	
Barium	ND	4.42	ng/m³ Air		ND				10	QB-01, U

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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
SUBMITTED: 05/06/24
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 B4E0704 - ICP-MS Extraction										
Dilution Check (B4E0704-SRL2) Continue Source: 4050626-28 Prepared: 05/07/24 Analyzed: 05/08/24										
Beryllium	ND	0.0132	ng/m³ Air		ND				10	U
Cadmium	ND	0.306	ng/m³ Air		ND				10	U
Chromium	ND	9.12	ng/m³ Air		ND				10	U
Cobalt	0.318	0.180	ng/m³ Air		0.316			0.400	10	
Copper	45.6	10.9	ng/m³ Air		44.1			3.28	10	
Lead	ND	0.883	ng/m³ Air		ND				10	U
Manganese	8.88	7.80	ng/m³ Air		8.87			0.106	10	
Molybdenum	2.47	1.48	ng/m³ Air		2.50			1.03	10	
Nickel	ND	2.69	ng/m³ Air		ND				10	U
Selenium	0.165	0.0370	ng/m³ Air		0.174			5.29	10	B, LL, QB-04
Thallium	ND	0.00243	ng/m³ Air		ND				10	U
Vanadium	1.10	0.218	ng/m³ Air		1.08			1.65	10	
Zinc	ND	317	ng/m³ Air		ND				10	GC-BS, QB-01 U

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FILE #: 4205.00.003.001
REPORTED: 05/14/24 12:01
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AQS SITE CODE:
SITE CODE: Lahaina fires

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.
QB-04	Analyte exceeds continuing calibration blank criteria
QB-01	Analyte exceeds method blank criteria
LL	Analyte identified; Reported value may be biased low.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
BR	Sample Value Below Acceptable Range
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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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 05/14/2024 and Shanna Vasser 5/16/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 04/25/2024 – 05/01/2024
Report No: 4050626

√	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:

4. MFL-AM01-042724-HM and MFL-AM01-042824-HM were listed on the CoC, crossed out, voided, and not shipped to the laboratory. The sample volumes were insufficient, and the end times were uncertain. No results were present in the laboratory report for either sample because they were not shipped.
13. Field blank detections above the method detection limit were reported for barium in MFL-FB01-042524-HM for barium in MFL-FB01-042724-HM, and for barium, copper, and nickel in MFL-FB01-042924-HM.

Notes: None.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

May 2 through May 8, 2024
[Report Updated: December 4, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from May 2 through May 8, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from May 2 through May 8 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. None of the PM_{10} monitoring results exceeded the 150 $\mu g/m^3$ screening level established in the CAMSP, as shown in **Table 1**. **(rev. December 4, 2024)**

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**).

Heavy metal samples from Leialii Hawaiian Homelands on May 2, and 5 through 8 were not collected due to a fuse failure resulting in equipment malfunction. Of the metals samples able to be collected, low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
May 2 through May 8, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
5/2/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	8.6
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	6.1
5/3/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	8.1
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	7.2
5/4/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	8.2
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	6.1
5/5/2024	Leialii Hawaiian Homelands (AM-01)	8.5
	WW Pump Station #4 (AM-02)	8.8
	Lahaina Intermediate School (AM-03)	9.7
	Lahaina Boys & Girls Club (AM-04)	6.9
5/6/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	7.6
	Lahaina Intermediate School (AM-03)	6.9
	Lahaina Boys & Girls Club (AM-04)	6.3
5/7/2024	Leialii Hawaiian Homelands (AM-01)	7.0
	WW Pump Station #4 (AM-02)	7.1
	Lahaina Intermediate School (AM-03)	7.4
	Lahaina Boys & Girls Club (AM-04)	5.9
5/8/2024	Leialii Hawaiian Homelands (AM-01)	13
	WW Pump Station #4 (AM-02)	10
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	16

Notes:

µg/m3 = micrograms per cubic meter

24 hour TWA calculation results are shown in two significant figures

Results are based on 24 hour TWA calculation except for the following:
Results for Leialii Hawaiian Homelands (AM-01) on 5/5 and 5/6 are based on a 23 hr. TWA because of equipment maintenance.
Results for Lahaina Boys & Girls Club (AM-04) on 5/2 are based on a 22 hr. TWA because of equipment maintenance.
Results from Lahaina Boys & Girls Club on 5/4 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
May 2 through May 8, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
5/2/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027																
	WW Pump Station #4 (AM-02)	<0.0027	0.000132	0.000408	0.00679	0.0000174	ND	0.00252	0.000533	0.0423	0.00133	0.0154	0.00211	0.00193	0.000255	0.00000226	0.00200	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000111	0.000261	0.00386	0.0000187	ND	0.00199	0.000377	0.0380	0.000722	0.0100	0.00180	0.00141	0.000227	0.00000195	0.00131	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000118	0.000359	0.00450	0.0000129	ND	0.00225	0.000402	0.0279	0.00107	0.0124	0.00119	0.00144	0.000226	0.00000211	0.00132	ND
5/3/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000765	0.000938	0.00721	0.0000281	ND	0.00565	0.00146	0.229	0.000577	0.0318	0.0132	0.00501	0.000205	0.00000196	0.00337	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000146	0.000376	0.00535	0.0000160	ND	0.00248	0.00101	0.0383	0.00106	0.0144	0.00236	0.00203	0.000172	0.00000158	0.00157	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000113	0.000242	0.00421	0.0000254	ND	0.00237	0.000467	0.0338	0.000626	0.0118	0.00208	0.00136	0.000179	0.00000142	0.00131	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.000382	0.00555	0.0000195	ND	0.00289	0.000575	0.0270	0.000999	0.0174	0.00119	0.00162	0.000189	0.00000174	0.00172	ND
5/4/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000555	0.00147	0.0172	0.0000704	0.0000643	0.0134	0.00417	0.140	0.00109	0.0861	0.00609	0.0106	0.000377	0.00000424	0.00990	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000119	0.000641	0.00585	0.0000197	ND	0.00341	0.000675	0.0488	0.00147	0.0161	0.00219	0.00214	0.000182	0.00000252	0.00192	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000980	0.000669	0.0148	0.000252	ND	0.0137	0.00335	0.0401	0.00172	0.0662	0.00190	0.00768	0.000478	0.00000476	0.00838	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000119	0.000707	0.00823	0.0000352	ND	0.00509	0.00102	0.0287	0.00207	0.0289	0.00105	0.00284	0.000240	0.00000317	0.00268	ND
5/5/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000725	0.000315	0.00347	0.0000106	ND	0.00208	0.000327	0.0512	0.000827	0.00935	0.00242	0.00133	0.000128	0.00000126	0.00111	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000818	0.000233	0.00306	0.0000191	ND	0.00215	0.000390	0.0382	0.000568	0.00839	0.00205	0.00118	0.000137	0.00000131	0.000968	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000893	0.000519	0.00424	0.0000106	ND	0.00248	0.000356	0.0197	0.000890	0.0101	0.00119	0.00167	0.000132	0.00000121	0.00101	ND
5/6/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000969	0.000228	0.00417	0.00000952	ND	0.00189	0.000329	0.0514	0.000593	0.00861	0.00232	0.00138	0.000163	0.00000159	0.00102	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000610	0.000192	0.00330	0.0000156	ND	0.00190	0.000288	0.0456	0.000780	0.00711	0.00215	0.00112	0.000138	0.00000142	0.000813	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000927	0.000499	0.00520	0.0000193	ND	0.00379	0.000649	0.0245	0.000950	0.0168	0.00124	0.00216	0.000190	0.00000176	0.00150	ND
5/7/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000587	0.000215	0.00322	0.00000841	ND	0.00198	0.000246	0.0428	0.000693	0.00687	0.00202	0.000810	0.000119	0.00000105	0.000660	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000779	0.000231	0.00353	0.0000204	ND	0.00284	0.000405	0.0681	0.00130	0.00962	0.00235	0.00115	0.000138	0.00000122	0.00100	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000498	0.000319	0.00369	0.0000137	ND	0.00288	0.000431	0.0359	0.000832	0.0126	0.00209	0.00114	0.000139	0.00000142	0.00112	ND
5/8/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000647	0.000240	0.00413	0.0000115	ND	0.00242	0.000375	0.0407	0.000642	0.00964	0.00206	0.00147	0.000194	0.00000182	0.00143	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000104	0.000294	0.00423	0.0000193	ND	0.00309	0.000384	0.0758	0.00190	0.00969	0.00259	0.00158	0.000197	0.00000190	0.00148	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000146	0.00115	0.0103	0.0000332	ND	0.00547	0.00119	0.0469	0.00216	0.0432	0.00187	0.00376	0.000309	0.00000308	0.00331	ND
95% Upper Confidence Limit[2]		NA	0.000110	0.000600	0.00707	0.0000370	NA	0.00471	0.000111	0.0651	0.00128	0.0262	0.00308	0.00312	0.000230	0.00000240	0.00283	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs
Heavy Metal samples were not collected due to equipment malfunction and fuse faliure.

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
May 2 through May 8, 2024
[Report Updated: December 4, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
5/2/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	80	60	760.2
5/2/2024	AM-02	WW Pump Station #4	1.1	SSE	79	65	762.4
5/2/2024	AM-03	Lahaina Intermediate School	1.2	SE	76	69	753.1
5/2/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	77	67	762.2
5/3/2024	AM-01	Leialii Hawaiian Homelands	1.6	ESE	80	56	759.8
5/3/2024	AM-02	WW Pump Station #4	1.3	SSE	78	63	762.0
5/3/2024	AM-03	Lahaina Intermediate School	1.4	SE	76	64	752.7
5/3/2024	AM-04	Lahaina Boys & Girls Club	1.5	SSE	77	63	761.7
5/4/2024	AM-01	Leialii Hawaiian Homelands	1.8	ESE	80	53	760.4
5/4/2024	AM-02	WW Pump Station #4	1.2	S	80	57	762.5
5/4/2024	AM-03	Lahaina Intermediate School	1.6	SSE	77	58	753.2
5/4/2024	AM-04	Lahaina Boys & Girls Club	1.8	SSW	78	57	762.2
5/5/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	81	55	761.0
5/5/2024	AM-02	WW Pump Station #4	1.0	S	79	61	763.2
5/5/2024	AM-03	Lahaina Intermediate School	1.3	SSE	77	63	753.9
5/5/2024	AM-04	Lahaina Boys & Girls Club	1.5	S	78	61	762.9
5/6/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	80	58	761.1
5/6/2024	AM-02	WW Pump Station #4	1.0	SSE	78	64	763.3
5/6/2024	AM-03	Lahaina Intermediate School	1.2	SE	76	66	754.0
5/6/2024	AM-04	Lahaina Boys & Girls Club	1.3	S	77	64	763.0
5/7/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	80	60	760.4
5/7/2024	AM-02	WW Pump Station #4	1.1	SSE	78	66	762.6
5/7/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	69	753.3
5/7/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	76	66	762.3
5/8/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	80	62	759.4
5/8/2024	AM-02	WW Pump Station #4	1.1	SSE	78	67	761.6
5/8/2024	AM-03	Lahaina Intermediate School	1.2	SE	75	71	752.3
5/8/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	76	68	761.3

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour

Appendix 1

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042409359
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:	05/08/2024 10:00 AM
Analysis Date:	05/10/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-050224-AB**		**Sample Description:**	**DK797622**
EMSL Sample Number:	042409359-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6961.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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: 042409359
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: 042409359-0001 **Customer Sample:** MFL-AM01-050224-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	A7	None Detected									
B1	E6	None Detected									
B1	I7	None Detected									
B2	C3	None Detected									
B2	F8	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:	042409359
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:	05/08/2024 10:00 AM
Analysis Date:	05/10/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-050224-AB** **Sample Description: DK797626**

EMSL Sample Number:	042409359-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7074.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409359
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: 042409359-0002 **Customer Sample:** MFL-AM02-050224-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	D8	None Detected									
B5	H6	None Detected									
B6	I5	None Detected									
B6	E3	None Detected									
B6	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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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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Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-050224-AB** **Sample Description: DK797624**

EMSL Sample Number:	042409359-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7338.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042409359
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: 042409359-0003 **Customer Sample:** MFL-AM03-050224-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	C3	None Detected									
C1	D6	None Detected									
C1	I7	None Detected									
C2	J5	None Detected									
C2	F8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Received Date:	05/08/2024 10:00 AM
Analysis Date:	05/10/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-050224-AB**		**Sample Description:**	**DK797627**
EMSL Sample Number:	042409359-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7096.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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: 042409359-0004 **Customer Sample:** MFL-AM04-050224-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	G4	None Detected									
C5	D8	None Detected									
C5	B5	None Detected									
C6	A4	None Detected									
C6	E5	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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Phone:	(703) 489-2674
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Received Date:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050224-AB** **Sample Description: DK797607**

EMSL Sample Number:	042409359-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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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: 042409359-0005 **Customer Sample:** MFL-FB01-050224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	A4	None Detected									
D2	D8	None Detected									
D2	G3	None Detected									
D2	J5	None Detected									
D3	I4	None Detected									
D3	E5	None Detected									
D3	A7	None Detected									
D4	J4	None Detected									
D4	H8	None Detected									
D4	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-050324-AB** **Sample Description: DK797630**

EMSL Sample Number:	042409359-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409359
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: 042409359-0006 **Customer Sample:** MFL-AM01-050324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	A6	None Detected									
D6	D3	None Detected									
D7	B4	None Detected									
D7	F7	None Detected									
D7	I5	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:	042409359
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:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-050324-AB**		**Sample Description:**	**DK797604**
EMSL Sample Number:	042409359-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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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: 042409359-0007 **Customer Sample:** MFL-AM02-050324-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	C6	None Detected									
E1	E3	None Detected									
E1	H4	None Detected									
E2	A5	None Detected									
E2	D8	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-050324-AB**	**Sample Description:**	**DK797631**
EMSL Sample Number:	042409359-0008	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7308.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042409359-0008 **Customer Sample:** MFL-AM03-050324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	I4	None Detected									
E5	F7	None Detected									
E5	B8	None Detected									
E6	H9	None Detected									
E6	D6	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:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-050324-AB** **Sample Description: DK797615**

EMSL Sample Number:	042409359-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7259.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409359
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: 042409359-0009 **Customer Sample:** MFL-AM04-050324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I5	None Detected									
F1	E3	None Detected									
F1	C7	None Detected									
F2	D2	None Detected									
F2	G7	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
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Received Date:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050324-AB** **Sample Description: DK797605**

EMSL Sample Number:	042409359-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042409359
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: 042409359-0010 **Customer Sample:** MFL-FB01-050324-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	B6	None Detected									
F5	E9	None Detected									
F5	G3	None Detected									
F5	J4	None Detected									
F6	J7	None Detected									
F6	G3	None Detected									
F6	C4	None Detected									
F7	I8	None Detected									
F7	E4	None Detected									
F7	A6	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
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-050424-AB**		**Sample Description:**	**DK797633**
EMSL Sample Number:	042409359-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7166.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409359
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: 042409359-0011 **Customer Sample:** MFL-AM01-050424-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	J4	None Detected									
G1	H9	None Detected									
G1	D5	None Detected									
G2	A7	None Detected									
G2	F6	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:	042409359
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:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-050424-AB** **Sample Description: DK797601**

EMSL Sample Number:	042409359-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7296.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042409359
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: 042409359-0012 **Customer Sample:** MFL-AM02-050424-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	B5	None Detected									
G5	G5	None Detected									
G5	J5	None Detected									
G6	H3	None Detected									
G6	F6	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:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-050424-AB** **Sample Description: DK797610**

EMSL Sample Number:	042409359-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6890.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409359
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: 042409359-0013 **Customer Sample:** MFL-AM03-050424-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	J8	None Detected									
H1	F4	None Detected									
H1	A9	None Detected									
H2	H6	None Detected									
H2	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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Received Date:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-050424-AB** **Sample Description: DK797617**

EMSL Sample Number:	042409359-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7049.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409359
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: 042409359-0014 **Customer Sample:** MFL-AM04-050424-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	A7	None Detected									
H5	F3	None Detected									
H5	J5	None Detected									
H6	I6	None Detected									
H6	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050424-AB** **Sample Description: DK797621**

EMSL Sample Number:	042409359-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID: 042409359
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: 042409359-0015 **Customer Sample:** MFL-FB01-050424-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	A3	None Detected									
I1	C8	None Detected									
I1	F6	None Detected									
I1	J9	None Detected									
I2	I7	None Detected									
I2	G4	None Detected									
I2	B8	None Detected									
I3	J7	None Detected									
I3	E7	None Detected									
I3	A7	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:	042409359
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:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-050524-AB** **Sample Description: DK797611**

EMSL Sample Number:	042409359-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7104.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409359
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: 042409359-0016 **Customer Sample:** MFL-AM01-050524-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	B7	None Detected									
I5	D4	None Detected									
I5	I5	None Detected									
I6	C4	None Detected									
I6	G7	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:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-050524-AB** **Sample Description: DK797608**

EMSL Sample Number:	042409359-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7289.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042409359-0017 **Customer Sample:** MFL-AM02-050524-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	B7	None Detected									
J1	E5	None Detected									
J1	J6	None Detected									
J2	D7	None Detected									
J2	E3	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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Received Date:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-050524-AB** **Sample Description: DK797629**

EMSL Sample Number:	042409359-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042409359
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: 042409359-0018 **Customer Sample:** MFL-AM03-050524-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	I4	None Detected									
J5	H9	None Detected									
J5	D6	None Detected									
J6	J3	None Detected									
J6	F6	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:	042409359
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-050524-AB**		**Sample Description:**	**DK797527**
EMSL Sample Number:	042409359-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6953.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409359
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: 042409359-0019 **Customer Sample:** MFL-AM04-050524-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	J6	None Detected									
K1	E8	None Detected									
K1	B5	None Detected									
K2	C3	None Detected									
K2	F6	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:	05/08/2024 10:00 AM
Analysis Date:	05/14/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050524-AB** **Sample Description: DK797551**

EMSL Sample Number:	042409359-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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: 042409359
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: 042409359-0020 **Customer Sample:** MFL-FB01-050524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	I7	None Detected									
K5	G4	None Detected									
K5	D3	None Detected									
K5	B6	None Detected									
K6	J9	None Detected									
K6	E5	None Detected									
K6	A4	None Detected									
K7	I3	None Detected									
K7	G7	None Detected									
K7	A7	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 ID: 042409359
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: 042409359-0021 **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	J7	None Detected									
A1	G3	None Detected									
A1	C5	None Detected									
A1	A2	None Detected									
A2	F7	None Detected									
A2	H9	None Detected									
A2	J3	None Detected									
A3	B2	None Detected									
A3	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042409359
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:	05/08/2024 10:00 AM
Analysis Date:	05/10/2024
Report Date:	05/15/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Labblank**
EMSL Sample Number:	042409359-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	9
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 25.95**			
Total Amphibole	**ADX**	**0**	**0**	**< 25.95**			
Actinolite	ADX	0	0	< 25.95			
Amosite	ADX	0	0	< 25.95			
Anthophyllite	ADX	0	0	< 25.95			
Crocidolite	ADX	0	0	< 25.95			
Tremolite	ADX	0	0	< 25.95			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 25.95**			
Other Minerals	-	0	0	< 25.95			
Total All Structures	**-**	**0**	**0**	**< 25.95**			

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**	**< 25.95**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 25.95**			
Actinolite	ADX	0	0	< 25.95			
Amosite	ADX	0	0	< 25.95			
Anthophyllite	ADX	0	0	< 25.95			
Crocidolite	ADX	0	0	< 25.95			
Tremolite	ADX	0	0	< 25.95			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 25.95**			
Other Minerals	-	0	0	< 25.95			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 25.95**			

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.

OrderID: 042409359

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409359

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	TETRA TECH
Company Name:	TETRA TECH
Contact Name:	Chelsea Saber
Street Address:	1560 Broadway STE 1400
City, State, Zip:	Denver CO 80202
Country:	USA
Phone:	703 489 2674
Email(s) for Report:	Chelsea.Saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order:
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Lena Diaz
Sampled By Signature:
No. of Samples in Shipment: 20

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

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

RECEIVED
24 MAY -8 P12:11
EMSL CINNAMINSON NJ

*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-AM01-050224-AB		DK797622	6,961.685	05/02/24 1058
MFL-AM02-050224-AB		DK797626	7,074.281	05/02/24 1126
MFL-AM03-050224-AB		DK797624	7,337.973	05/02/24 1306
MFL-AM04-050224-AB		DK797627	7,096.490	05/02/24 1329
MFL-FB01-050224-AB		DK797607	0	05/02/24 ~~1329~~ 1200 LD
MFL-AM01-050324-AB		DK797630	7,195.464	05/03/24 1059
MFL-AM02-050324-AB		DK797604	7,204.955	05/03/24 1126
MFL-AM03-050324-AB		DK797631	7,308.000	05/03/24 1311

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by: LD	Date/Time: 05/06/24 1100	Received by: FX	Date/Time: 5/8/24 10m
Relinquished by:	Date/Time:	Received by:	Date/Time:

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042409359

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409359

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-AM04-050324-AB	DK797605	7,259.472	05/03/24 1334
MFL-FB01-050324-AB	DK797605	~~7,259~~ (LD) 0	05/03/24 ~~1334~~ (LD) 1206
MFL-AM01-050424-AB	DK797633	7,166.606	05/04/24 1107
MFL-AM02-050424-AB	DK797601	7,296.4596 LD	05/04/24 ~~1130~~ (LD) 1126
MFL-AM03-050424-AB	DK797610	6,890.214	05/04/24 1306
(LD) MFL-AM03-050424-AB			
MFL-AM04-050424-AB	DK797617	7,049.5906 LD	05/04/24 1328
MFL-FB01-050424-AB	DK797624	0	05/04/24 ~~1126~~ 1200 (LD)
MFL-AM01-050524-AB	DK797611	7,104.800	05/05/24 1101
MFL-AM02-050524-AB	DK797608	7,289.814	05/05/24 1126
MFL-AM03-050524-AB	DK797629	7,174.944	05/05/24 1311
MFL-AM04-050524-AB	DK797527	6,953.184	05/05/24 1332
MFL-FB01-~~050524-AB~~ (LD)	DK797551	0	05/05/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAY -8 PM 12:11

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/06/24 1100	Received by: FX	Date/Time: 5/8/24
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 05/16/2024 and Shanna Vasser 5/17/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/02/2024 – 05/05/2024
Report No: 42409359

√	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:	042409694
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:	05/13/2024 09:15 AM
Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-050624-AB**		**Sample Description:**	**DK797531**
EMSL Sample Number:	042409694-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7079.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409694
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: 042409694-0001 **Customer Sample:** MFL-AM01-050624-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	J7	None Detected									
A5	E3	None Detected									
A5	A4	None Detected									
A6	H3	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.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042409694
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:	05/13/2024 09:15 AM
Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-050624-AB**		**Sample Description:**	**DK797528**
EMSL Sample Number:	042409694-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7250.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409694
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: 042409694-0002 **Customer Sample:** MFL-AM02-050624-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	C5	None Detected									
B1	G2	None Detected									
B2	B5	None Detected									
B2	E5	None Detected									
B2	J7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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:	05/13/2024 09:15 AM
Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-050624-AB**		**Sample Description:**	**DK797552**
EMSL Sample Number:	042409694-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042409694-0003 **Customer Sample:** MFL-AM03-050624-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	I6	None Detected									
B5	F3	None Detected									
B5	A4	None Detected									
B6	H2	None Detected									
B6	D7	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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Project: **Maui Fires - Lahaina**

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Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-050624-AB**		**Sample Description:**	**DK797554**
EMSL Sample Number:	042409694-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7196.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409694-0004 **Customer Sample:** MFL-AM04-050624-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	H5	None Detected									
C1	E2	None Detected									
C1	A7	None Detected									
C2	B4	None Detected									
C2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-050624-AB**		**Sample Description:**	**DK797521**
EMSL Sample Number:	042409694-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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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: 042409694-0005 **Customer Sample:** MFL-FB01-050624-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	A8	None Detected									
C5	E3	None Detected									
C5	H8	None Detected									
C5	J6	None Detected									
C6	I4	None Detected									
C6	G5	None Detected									
C6	B6	None Detected									
C7	H9	None Detected									
C7	F7	None Detected									
C7	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:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-050724-AB**		**Sample Description:**	**DK797549**
EMSL Sample Number:	042409694-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042409694-0006 **Customer Sample:** MFL-AM01-050724-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	D7	None Detected									
D1	G8	None Detected									
D2	A4	None Detected									
D2	E8	None Detected									
D2	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/13/2024 09:15 AM
Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-050724-AB**		**Sample Description:**	**DK797543**
EMSL Sample Number:	042409694-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7208.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042409694**
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: 042409694-0007 **Customer Sample:** MFL-AM02-050724-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	A5	None Detected									
D5	E7	None Detected									
D5	H4	None Detected									
D6	I6	None Detected									
D6	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042409694
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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Received Date:	05/13/2024 09:15 AM
Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-050724-AB** **Sample Description: DK797536**

EMSL Sample Number:	042409694-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7338.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409694
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: 042409694-0008 **Customer Sample:** MFL-AM03-050724-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	D8	None Detected									
E1	G6	None Detected									
E1	J3	None Detected									
E2	H8	None Detected									
E2	D4	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:	05/13/2024 09:15 AM
Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-050724-AB** **Sample Description: DK797586**

EMSL Sample Number:	042409694-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042409694
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: 042409694-0009 **Customer Sample:** MFL-AM04-050724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A6	None Detected									
E5	E4	None Detected									
E5	H7	None Detected									
E6	I5	None Detected									
E6	F6	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:	042409694
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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/13/2024 09:15 AM
Analysis Date:	05/16/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050724-AB** **Sample Description: DK797534**

EMSL Sample Number:	042409694-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042409694
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: 042409694-0010 **Customer Sample:** MFL-FB01-050724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J9	None Detected									
F1	J4	None Detected									
F1	F4	None Detected									
F1	C6	None Detected									
F2	D5	None Detected									
F2	G8	None Detected									
F2	J3	None Detected									
F3	B5	None Detected									
F3	E7	None Detected									
F3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042409694
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/13/2024 09:15 AM
Analysis Date:	05/16/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-050824-AB** **Sample Description: DK797520**

EMSL Sample Number:	042409694-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409694
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: 042409694-0011 **Customer Sample:** MFL-AM01-050824-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					
F8	J7	None Detected									
F8	E5	None Detected									
F8	A4	None Detected									
F6	C8	None Detected									
F6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042409694
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:	05/13/2024 09:15 AM
Analysis Date:	05/16/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-050824-AB**		**Sample Description:**	**DK797546**
EMSL Sample Number:	042409694-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7283.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409694
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: 042409694-0012 **Customer Sample:** MFL-AM02-050824-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	I4	None Detected									
G1	E8	None Detected									
G1	A5	None Detected									
G2	D6	None Detected									
G2	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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Received Date:	05/13/2024 09:15 AM
Analysis Date:	05/17/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-050824-AB**		**Sample Description:**	**DK797530**
EMSL Sample Number:	042409694-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7183.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409694
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: 042409694-0013 **Customer Sample:** MFL-AM03-050824-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	A5	None Detected									
G5	F8	None Detected									
G5	J4	None Detected									
G6	H8	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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Fax:	N/A
Received Date:	05/13/2024 09:15 AM
Analysis Date:	05/17/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-050824-AB** **Sample Description: DK797550**

EMSL Sample Number:	042409694-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	10			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409694
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: 042409694-0014 **Customer Sample:** MFL-AM04-050824-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	H7	None Detected									
H1	D3	None Detected									
H1	B6	None Detected									
H2	J6	None Detected									
H2	F4	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:	042409694
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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	05/13/2024 09:15 AM
Analysis Date:	05/17/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050824-AB** **Sample Description:** **DK797539**

EMSL Sample Number:	042409694-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
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EMSL Order ID: 042409694
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: 042409694-0015 **Customer Sample:** MFL-FB01-050824-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	J5	None Detected									
H5	G3	None Detected									
H5	C5	None Detected									
H5	C8	None Detected									
H7	A2	None Detected									
H7	D6	None Detected									
H7	F9	None Detected									
H8	H3	None Detected									
H8	E7	None Detected									
H8	A6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer 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:	05/13/2024 09:15 AM
Analysis Date:	05/15/2024
Report Date:	05/17/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042409694-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042409694
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: 042409694-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	I5	None Detected									
A1	G8	None Detected									
A1	D4	None Detected									
A1	A7	None Detected									
A2	C8	None Detected									
A2	F7	None Detected									
A2	J5	None Detected									
A3	A3	None Detected									
A3	E4	None Detected									
A3	J5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042409694

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042409694

RECEIVED EMSL CINNAMINSON, N.J. 2024 MAY 13 A 11:32

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: Maui Fires - Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Lena Diaz
Sampled By Signature:
No. of Samples in Shipment: 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-050624-AB	DK797531	7,079.020	05/06/24 1059
MFL-AM02-050624-AB	DK797528	7,250.591	05/06/24 1120
MFL-AM03-050624-AB	DK797552	7,219.183	05/06/24 1307
MFL-AM04-050624-AB	DK797554	7,196.499	05/06/24 1330
MFL-FB01-050624-AB	DK797521	0	05/06/24 1200
MFL-AM01-050724-AB	DK797549	7,204.955	05/07/24 1104
MFL-AM02-050724-AB	DK797543	7,208.866	05/07/24 1123
MFL-AM03-050724-AB	DK797536	7,338.427	05/07/24 1305

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: Fed Ex

Relinquished by:	Date/Time: 05/06/24 1100	Sample Condition Upon Receipt: Received By: FX	Date/Time: 5/13/24 915am
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.

Page 1 of 2

OrderID: 042409694

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409694

RECEIVED EMSL CINNAMINSON, N.J. 2024 MAY 13 A 11:32

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-AM04-050724-AB	DK797586	7,195.380	05/07/24 1328
MFL-FB01-050724-AB	DK797534	ø	05/07/24 1200
MFL-AM01-050824-AB	DK797520	7,195.346	05/08/24 1105
MFL-AM02-050824-AB	DK797546	7,283.796	05/08/24 1123
MFL-AM03-050824-AB	DK797530	7,183.673	05/08/24 1308
MFL-AM04-050824-AB	DK797550	7,229.968	05/08/24 1331
MFL-FB01-050824-AB	DK797539	ø	05/08/24 1200

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/09/24 1100	Received by: FX	Date/Time: 5/13/24 915am
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 05/20/2024 and Shanna Vasse 05/21/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/06/2024 – 05/08/2024
Report No: 42409694

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

May 21, 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 05/13/24 14:02.

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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM02-050224-HM	4051340-02	Air	05/02/24 23:59	05/13/24 14:02
MFL-AM03-050224-HM	4051340-03	Air	05/02/24 23:59	05/13/24 14:02
MFL-AM04-050224-HM	4051340-04	Air	05/02/24 23:59	05/13/24 14:02
MFL-AM01-050324-HM	4051340-05	Air	05/03/24 23:59	05/13/24 14:02
MFL-AM02-050324-HM	4051340-06	Air	05/03/24 23:59	05/13/24 14:02
MFL-AM03-050324-HM	4051340-07	Air	05/03/24 23:59	05/13/24 14:02
MFL-AM04-050324-HM	4051340-08	Air	05/03/24 23:59	05/13/24 14:02
MFL-FB01-050324-HM	4051340-09	Air	05/03/24 00:00	05/13/24 14:02
MFL-AM01-050424-HM	4051340-10	Air	05/04/24 23:59	05/13/24 14:02
MFL-AM02-050424-HM	4051340-11	Air	05/04/24 23:59	05/13/24 14:02
MFL-AM03-050424-HM	4051340-12	Air	05/04/24 23:59	05/13/24 14:02
MFL-AM04-050424-HM	4051340-13	Air	05/04/24 23:59	05/13/24 14:02
MFL-AM02-050524-HM	4051340-15	Air	05/05/24 23:59	05/13/24 14:02
MFL-AM03-050524-HM/MS/I	4051340-16	Air	05/05/24 23:59	05/13/24 14:02
MFL-AM04-050524-HM	4051340-17	Air	05/05/24 23:59	05/13/24 14:02
MFL-FB01-050524-HM	4051340-18	Air	05/05/24 00:00	05/13/24 14:02
MFL-AM02-050624-HM	4051340-19	Air	05/06/24 23:59	05/13/24 14:02
MFL-AM03-050624-HM	4051340-20	Air	05/06/24 23:59	05/13/24 14:02
MFL-AM04-050624-HM	4051340-21	Air	05/06/24 23:59	05/13/24 14:02
MFL-AM02-050724-HM	4051340-22	Air	05/07/24 23:59	05/13/24 14:02
MFL-AM03-050724-HM	4051340-23	Air	05/07/24 23:59	05/13/24 14:02

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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-050724-HM	4051340-24	Air	05/07/24 23:59	05/13/24 14:02
MFL-FB01-050724-HM	4051340-25	Air	05/07/24 00:00	05/13/24 14:02
MFL-AM02-050824-HM	4051340-26	Air	05/08/24 23:59	05/13/24 14:02
MFL-AM03-050824-HM	4051340-27	Air	05/08/24 23:59	05/13/24 14:02
MFL-AM04-050824-HM	4051340-28	Air	05/08/24 23:59	05/13/24 14:02

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050224-HM
Matrix: Air
Lab ID: 4051340-02
Sample Volume: 2003.91 m³
Filter ID:
Sampled: 05/02/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/14/24 21:40

Comments: Q8532998 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.132**	SL	**0.0313**
Arsenic	**7440-38-2**	**0.408**		**0.00761**
Barium	**7440-39-3**	**6.79**		**0.869**
Beryllium	**7440-41-7**	**0.0174**		**0.00260**
Cadmium	7440-43-9	0.0287	U	0.0602
Chromium	**7440-47-3**	**2.52**		**1.79**
Cobalt	**7440-48-4**	**0.533**		**0.0354**
Copper	**7440-50-8**	**42.3**		**2.14**
Lead	**7439-92-1**	**1.33**		**0.174**
Manganese	**7439-96-5**	**15.4**		**1.53**
Molybdenum	**7439-98-7**	**2.11**		**0.291**
Nickel	**7440-02-0**	**1.93**		**0.529**
Selenium	**7782-49-2**	**0.255**		**0.00727**
Thallium	**7440-28-0**	**0.00226**		**4.78E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0430**
Zinc	7440-66-6	48.2	U	62.4

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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050224-HM **Lab ID:** 4051340-03 **Sampled:** 05/02/24 23:59
Matrix: Air **Sample Volume:** 1964.98 m³ **Received:** 05/13/24 14:02
Filter ID: **Analysis Date:** 05/15/24 00:29

Comments: Q8532995 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.111**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.261**		**0.00776**
Barium	**7440-39-3**	**3.86**		**0.886**
Beryllium	**7440-41-7**	**0.0187**		**0.00265**
Cadmium	7440-43-9	0.0138	U	0.0614
Chromium	**7440-47-3**	**1.99**		**1.83**
Cobalt	**7440-48-4**	**0.377**		**0.0361**
Copper	**7440-50-8**	**38.0**		**2.18**
Lead	**7439-92-1**	**0.722**		**0.177**
Manganese	**7439-96-5**	**10.0**		**1.56**
Molybdenum	**7439-98-7**	**1.80**		**0.297**
Nickel	**7440-02-0**	**1.41**		**0.540**
Selenium	**7782-49-2**	**0.227**		**0.00742**
Thallium	**7440-28-0**	**0.00195**		**4.88E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0438**
Zinc	7440-66-6	35.8	U	63.6

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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050224-HM
Matrix: Air
Lab ID: 4051340-04
Sample Volume: 1709.421 m³
Filter ID:
Sampled: 05/02/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 00:46

Comments: Q8532994 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.118**	SL	**0.0367**
Arsenic	**7440-38-2**	**0.359**		**0.00892**
Barium	**7440-39-3**	**4.50**		**1.02**
Beryllium	**7440-41-7**	**0.0129**		**0.00305**
Cadmium	7440-43-9	0.0630	U	0.0705
Chromium	**7440-47-3**	**2.25**		**2.10**
Cobalt	**7440-48-4**	**0.402**		**0.0415**
Copper	**7440-50-8**	**27.9**		**2.50**
Lead	**7439-92-1**	**1.07**		**0.204**
Manganese	**7439-96-5**	**12.4**		**1.80**
Molybdenum	**7439-98-7**	**1.19**		**0.342**
Nickel	**7440-02-0**	**1.44**		**0.621**
Selenium	**7782-49-2**	**0.226**		**0.00853**
Thallium	**7440-28-0**	**0.00211**		**5.61E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0503**
Zinc	7440-66-6	37.6	U	73.1

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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-050324-HM
Matrix: Air
Lab ID: 4051340-05
Sample Volume: 1932.131 m³
Filter ID:
Sampled: 05/03/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 01:01

Comments: Q8532991 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0765**	SL	**0.0325**
Arsenic	**7440-38-2**	**0.938**		**0.00789**
Barium	**7440-39-3**	**7.21**		**0.901**
Beryllium	**7440-41-7**	**0.0281**		**0.00269**
Cadmium	7440-43-9	0.0184	U	0.0624
Chromium	**7440-47-3**	**5.65**		**1.86**
Cobalt	**7440-48-4**	**1.46**		**0.0367**
Copper	**7440-50-8**	**229**		**2.21**
Lead	**7439-92-1**	**0.577**		**0.180**
Manganese	**7439-96-5**	**31.8**		**1.59**
Molybdenum	**7439-98-7**	**13.2**		**0.302**
Nickel	**7440-02-0**	**5.01**		**0.549**
Selenium	**7782-49-2**	**0.205**		**0.00754**
Thallium	**7440-28-0**	**0.00196**		**4.96E-4**
Vanadium	**7440-62-2**	**3.37**		**0.0445**
Zinc	7440-66-6	38.4	U	64.7

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050324-HM
Matrix: Air
Lab ID: 4051340-06
Sample Volume: 2020.827 m³
Filter ID:
Sampled: 05/03/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 01:33

Comments: Q8532990 - Received in good condition - refold

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.146**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.376**		**0.00754**
Barium	**7440-39-3**	**5.35**		**0.861**
Beryllium	**7440-41-7**	**0.0160**		**0.00258**
Cadmium	7440-43-9	0.0146	U	0.0597
Chromium	**7440-47-3**	**2.48**		**1.78**
Cobalt	**7440-48-4**	**1.01**		**0.0351**
Copper	**7440-50-8**	**38.3**		**2.12**
Lead	**7439-92-1**	**1.06**		**0.172**
Manganese	**7439-96-5**	**14.4**		**1.52**
Molybdenum	**7439-98-7**	**2.36**		**0.289**
Nickel	**7440-02-0**	**2.03**		**0.525**
Selenium	**7782-49-2**	**0.172**		**0.00721**
Thallium	**7440-28-0**	**0.00158**		**4.74E-4**
Vanadium	**7440-62-2**	**1.57**		**0.0426**
Zinc	7440-66-6	34.1	U	61.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050324-HM
Matrix: Air
Lab ID: 4051340-07
Sample Volume: 1986.421 m³
Filter ID:
Sampled: 05/03/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 01:47

Comments: Q8532989 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.242**		**0.00767**
Barium	**7440-39-3**	**4.21**		**0.876**
Beryllium	**7440-41-7**	**0.0254**		**0.00262**
Cadmium	7440-43-9	0.0104	U	0.0607
Chromium	**7440-47-3**	**2.37**		**1.81**
Cobalt	**7440-48-4**	**0.467**		**0.0357**
Copper	**7440-50-8**	**33.8**		**2.15**
Lead	**7439-92-1**	**0.626**		**0.175**
Manganese	**7439-96-5**	**11.8**		**1.55**
Molybdenum	**7439-98-7**	**2.08**		**0.294**
Nickel	**7440-02-0**	**1.36**		**0.534**
Selenium	**7782-49-2**	**0.179**		**0.00734**
Thallium	**7440-28-0**	**0.00142**		**4.82E-4**
Vanadium	**7440-62-2**	**1.31**		**0.0433**
Zinc	7440-66-6	33.4	U	62.9

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050324-HM
Matrix: Air
Lab ID: 4051340-08
Sample Volume: 1699.436 m³
Filter ID:
Sampled: 05/03/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 02:01

Comments: Q8532988 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0370**
Arsenic	**7440-38-2**	**0.382**		**0.00897**
Barium	**7440-39-3**	**5.55**		**1.02**
Beryllium	**7440-41-7**	**0.0195**		**0.00306**
Cadmium	7440-43-9	0.0140	U	0.0709
Chromium	**7440-47-3**	**2.89**		**2.12**
Cobalt	**7440-48-4**	**0.575**		**0.0417**
Copper	**7440-50-8**	**27.0**		**2.52**
Lead	**7439-92-1**	**0.999**		**0.205**
Manganese	**7439-96-5**	**17.4**		**1.81**
Molybdenum	**7439-98-7**	**1.19**		**0.344**
Nickel	**7440-02-0**	**1.62**		**0.624**
Selenium	**7782-49-2**	**0.189**		**0.00858**
Thallium	**7440-28-0**	**0.00174**		**5.64E-4**
Vanadium	**7440-62-2**	**1.72**		**0.0506**
Zinc	7440-66-6	34.5	U	73.5

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-050324-HM
Matrix: Air
Lab ID: 4051340-09
Sample Volume: 1932.131 m³
Filter ID:
Sampled: 05/03/24 00:00
Received: 05/13/24 14:02
Analysis Date: 05/15/24 02:15

Comments: Q8532967 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0186	SL, U	0.0325
Arsenic	7440-38-2	0.00485	U	0.00789
Barium	**7440-39-3**	**1.26**	FB-01	**0.901**
Beryllium	7440-41-7	5.69E-4	U	0.00269
Cadmium	7440-43-9	4.51E-4	U	0.0624
Chromium	7440-47-3	0.852	U	1.86
Cobalt	7440-48-4	0.0107	U	0.0367
Copper	7440-50-8	0.401	U	2.21
Lead	7439-92-1	0.0274	U	0.180
Manganese	7439-96-5	0.171	U	1.59
Molybdenum	7439-98-7	0.138	U	0.302
Nickel	7440-02-0	0.411	U	0.549
Selenium	7782-49-2	ND	U	0.00754
Thallium	7440-28-0	1.24E-4	U	4.96E-4
Vanadium	7440-62-2	0.0190	U	0.0445
Zinc	7440-66-6	21.6	U	64.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-050424-HM
Matrix: Air
Lab ID: 4051340-10
Sample Volume: 2087.801 m³
Filter ID:
Sampled: 05/04/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 02:28

Comments: Q8532986 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0555**	SL	**0.0301**
Arsenic	**7440-38-2**	**1.47**		**0.00730**
Barium	**7440-39-3**	**17.2**		**0.834**
Beryllium	**7440-41-7**	**0.0704**		**0.00249**
Cadmium	**7440-43-9**	**0.0643**		**0.0577**
Chromium	**7440-47-3**	**13.4**		**1.72**
Cobalt	**7440-48-4**	**4.17**		**0.0340**
Copper	**7440-50-8**	**140**		**2.05**
Lead	**7439-92-1**	**1.09**		**0.167**
Manganese	**7439-96-5**	**86.1**		**1.47**
Molybdenum	**7439-98-7**	**6.09**		**0.280**
Nickel	**7440-02-0**	**10.6**		**0.508**
Selenium	**7782-49-2**	**0.377**		**0.00698**
Thallium	**7440-28-0**	**0.00424**		**4.59E-4**
Zinc	7440-66-6	28.7	U	59.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-050424-HM
Matrix: Air
Lab ID: 4051340-10RE1
Sample Volume: 2087.801 m³
Filter ID:
Sampled: 05/04/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/18/24 04:13

Comments: Q8532986 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Vanadium	**7440-62-2**	**9.90**	D	**0.0824**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050424-HM
Matrix: Air
Lab ID: 4051340-11
Sample Volume: 1980.225 m³
Filter ID:
Sampled: 05/04/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 02:46

Comments: Q8532985 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.641**		**0.00770**
Barium	**7440-39-3**	**5.85**		**0.879**
Beryllium	**7440-41-7**	**0.0197**		**0.00263**
Cadmium	7440-43-9	0.0464	U	0.0609
Chromium	**7440-47-3**	**3.41**		**1.82**
Cobalt	**7440-48-4**	**0.675**		**0.0358**
Copper	**7440-50-8**	**48.8**		**2.16**
Lead	**7439-92-1**	**1.47**		**0.176**
Manganese	**7439-96-5**	**16.1**		**1.55**
Molybdenum	**7439-98-7**	**2.19**		**0.295**
Nickel	**7440-02-0**	**2.14**		**0.536**
Selenium	**7782-49-2**	**0.182**		**0.00736**
Thallium	**7440-28-0**	**0.00252**		**4.84E-4**
Vanadium	**7440-62-2**	**1.92**		**0.0435**
Zinc	7440-66-6	34.6	U	63.1

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050424-HM
Matrix: Air
Lab ID: 4051340-12
Sample Volume: 1905.217 m³
Filter ID:
Sampled: 05/04/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 03:53

Comments: Q8532984 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0980**	SL	**0.0330**
Arsenic	**7440-38-2**	**0.669**		**0.00800**
Barium	**7440-39-3**	**14.8**		**0.914**
Beryllium	**7440-41-7**	**0.252**		**0.00273**
Cadmium	7440-43-9	0.0322	U	0.0633
Chromium	**7440-47-3**	**13.7**		**1.89**
Cobalt	**7440-48-4**	**3.35**		**0.0372**
Copper	**7440-50-8**	**40.1**		**2.25**
Lead	**7439-92-1**	**1.72**		**0.183**
Manganese	**7439-96-5**	**66.2**		**1.61**
Molybdenum	**7439-98-7**	**1.90**		**0.307**
Nickel	**7440-02-0**	**7.68**		**0.557**
Selenium	**7782-49-2**	**0.478**	LL, QB-04	**0.00765**
Thallium	**7440-28-0**	**0.00476**		**5.03E-4**
Vanadium	**7440-62-2**	**8.38**		**0.0452**
Zinc	7440-66-6	36.2	U	65.6

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050424-HM
Matrix: Air
Lab ID: 4051340-13
Sample Volume: 1709.649 m³
Filter ID:
Sampled: 05/04/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 04:10

Comments: Q8532968 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.119**	SL	**0.0367**
Arsenic	**7440-38-2**	**0.707**		**0.00892**
Barium	**7440-39-3**	**8.23**		**1.02**
Beryllium	**7440-41-7**	**0.0352**		**0.00305**
Cadmium	7440-43-9	0.0458	U	0.0705
Chromium	**7440-47-3**	**5.09**		**2.10**
Cobalt	**7440-48-4**	**1.02**		**0.0415**
Copper	**7440-50-8**	**28.7**		**2.50**
Lead	**7439-92-1**	**2.07**		**0.204**
Manganese	**7439-96-5**	**28.9**		**1.80**
Molybdenum	**7439-98-7**	**1.05**		**0.342**
Nickel	**7440-02-0**	**2.84**		**0.620**
Selenium	**7782-49-2**	**0.240**	LL, QB-04	**0.00853**
Thallium	**7440-28-0**	**0.00317**		**5.61E-4**
Vanadium	**7440-62-2**	**2.68**		**0.0503**
Zinc	7440-66-6	46.4	U	73.1

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050524-HM
Matrix: Air
Lab ID: 4051340-15
Sample Volume: 2019.136 m³
Filter ID:
Sampled: 05/05/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 04:27

Comments: Q8532982 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0725**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.315**		**0.00755**
Barium	**7440-39-3**	**3.47**		**0.862**
Beryllium	**7440-41-7**	**0.0106**		**0.00258**
Cadmium	7440-43-9	0.0201	U	0.0597
Chromium	**7440-47-3**	**2.08**		**1.78**
Cobalt	**7440-48-4**	**0.327**		**0.0351**
Copper	**7440-50-8**	**51.2**		**2.12**
Lead	**7439-92-1**	**0.827**		**0.172**
Manganese	**7439-96-5**	**9.35**		**1.52**
Molybdenum	**7439-98-7**	**2.42**		**0.289**
Nickel	**7440-02-0**	**1.33**		**0.525**
Selenium	**7782-49-2**	**0.128**	LL, QB-04	**0.00722**
Thallium	**7440-28-0**	**0.00126**		**4.75E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0426**
Zinc	7440-66-6	20.2	U	61.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050524-HM/MS/MS **Lab ID:** 4051340-16 **Sampled:** 05/05/24 23:59
Matrix: Air **Sample Volume:** 1979.825 m³ **Received:** 05/13/24 14:02
Filter ID: **Analysis Date:** 05/14/24 17:50

Comments: Q8532980 - Received in good condition - nonhomogenous, refold

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0818**	SL	**0.0317**
Arsenic	**7440-38-2**	**0.233**		**0.00770**
Barium	**7440-39-3**	**3.06**		**0.879**
Beryllium	**7440-41-7**	**0.0191**		**0.00263**
Cadmium	7440-43-9	0.0128	U	0.0609
Chromium	**7440-47-3**	**2.15**		**1.82**
Cobalt	**7440-48-4**	**0.390**		**0.0358**
Copper	**7440-50-8**	**38.2**		**2.16**
Lead	**7439-92-1**	**0.568**		**0.176**
Manganese	**7439-96-5**	**8.39**		**1.55**
Molybdenum	**7439-98-7**	**2.05**		**0.295**
Nickel	**7440-02-0**	**1.18**		**0.536**
Selenium	**7782-49-2**	**0.137**	LL, QB-04	**0.00736**
Thallium	**7440-28-0**	**0.00131**		**4.84E-4**
Vanadium	**7440-62-2**	**0.968**		**0.0435**
Zinc	7440-66-6	23.1	U	63.1

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050524-HM
Matrix: Air
Lab ID: 4051340-17
Sample Volume: 1817.836 m³
Filter ID:
Sampled: 05/05/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 04:42

Comments: Q8532978 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0893**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.519**		**0.00839**
Barium	**7440-39-3**	**4.24**		**0.958**
Beryllium	**7440-41-7**	**0.0106**		**0.00286**
Cadmium	7440-43-9	0.0153	U	0.0663
Chromium	**7440-47-3**	**2.48**		**1.98**
Cobalt	**7440-48-4**	**0.356**		**0.0390**
Copper	**7440-50-8**	**19.7**		**2.35**
Lead	**7439-92-1**	**0.890**		**0.192**
Manganese	**7439-96-5**	**10.1**		**1.69**
Molybdenum	**7439-98-7**	**1.19**		**0.321**
Nickel	**7440-02-0**	**1.67**		**0.584**
Selenium	**7782-49-2**	**0.132**	LL, QB-04	**0.00802**
Thallium	**7440-28-0**	**0.00121**		**5.27E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0473**
Zinc	7440-66-6	24.4	U	68.7

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-050524-HM
Matrix: Air
Lab ID: 4051340-18
Sample Volume: 2019.136 m³
Filter ID:
Sampled: 05/05/24 00:00
Received: 05/13/24 14:02
Analysis Date: 05/15/24 04:56

Comments: Q8532977 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0174	SL, U	0.0311
Arsenic	7440-38-2	0.00491	U	0.00755
Barium	**7440-39-3**	**1.03**	FB-01	**0.862**
Beryllium	7440-41-7	5.90E-4	U	0.00258
Cadmium	7440-43-9	5.85E-4	U	0.0597
Chromium	7440-47-3	1.02	U	1.78
Cobalt	7440-48-4	0.0155	U	0.0351
Copper	7440-50-8	0.602	U	2.12
Lead	7439-92-1	0.0245	U	0.172
Manganese	7439-96-5	0.254	U	1.52
Molybdenum	7439-98-7	0.167	U	0.289
Nickel	**7440-02-0**	**0.559**	FB-01	**0.525**
Selenium	7782-49-2	ND	BR, LL, QB-04, U	0.00722
Thallium	7440-28-0	1.10E-4	U	4.75E-4
Vanadium	7440-62-2	0.0242	U	0.0426
Zinc	7440-66-6	13.3	U	61.9

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050624-HM
Matrix: Air
Lab ID: 4051340-19
Sample Volume: 2028.657 m³
Filter ID:
Sampled: 05/06/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 05:10

Comments: Q8532976 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0969**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.228**		**0.00751**
Barium	**7440-39-3**	**4.17**		**0.858**
Beryllium	**7440-41-7**	**0.00952**		**0.00257**
Cadmium	7440-43-9	0.0136	U	0.0594
Chromium	**7440-47-3**	**1.89**		**1.77**
Cobalt	**7440-48-4**	**0.329**		**0.0350**
Copper	**7440-50-8**	**51.4**		**2.11**
Lead	**7439-92-1**	**0.593**		**0.172**
Manganese	**7439-96-5**	**8.61**		**1.52**
Molybdenum	**7439-98-7**	**2.32**		**0.288**
Nickel	**7440-02-0**	**1.38**		**0.523**
Selenium	**7782-49-2**	**0.163**	LL, QB-04	**0.00719**
Thallium	**7440-28-0**	**0.00159**		**4.72E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0424**
Zinc	7440-66-6	44.0	U	61.6

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050624-HM
Matrix: Air
Lab ID: 4051340-20
Sample Volume: 2026.903 m³
Filter ID:
Sampled: 05/06/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 05:25

Comments: Q8532974 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0610**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.192**		**0.00752**
Barium	**7440-39-3**	**3.30**		**0.859**
Beryllium	**7440-41-7**	**0.0156**		**0.00257**
Cadmium	7440-43-9	0.00886	U	0.0595
Chromium	**7440-47-3**	**1.90**		**1.77**
Cobalt	**7440-48-4**	**0.288**		**0.0350**
Copper	**7440-50-8**	**45.6**		**2.11**
Lead	**7439-92-1**	**0.780**		**0.172**
Manganese	**7439-96-5**	**7.11**		**1.52**
Molybdenum	**7439-98-7**	**2.15**		**0.288**
Nickel	**7440-02-0**	**1.12**		**0.523**
Selenium	**7782-49-2**	**0.138**	LL, QB-04	**0.00719**
Thallium	**7440-28-0**	**0.00142**		**4.73E-4**
Vanadium	**7440-62-2**	**0.813**		**0.0425**
Zinc	7440-66-6	39.5	U	61.6

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050624-HM
Matrix: Air
Lab ID: 4051340-21
Sample Volume: 1821.348 m³
Filter ID:
Sampled: 05/06/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 05:38

Comments: Q8532973 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0927**	SL	**0.0345**
Arsenic	**7440-38-2**	**0.499**		**0.00837**
Barium	**7440-39-3**	**5.20**		**0.956**
Beryllium	**7440-41-7**	**0.0193**		**0.00286**
Cadmium	7440-43-9	0.0157	U	0.0662
Chromium	**7440-47-3**	**3.79**		**1.97**
Cobalt	**7440-48-4**	**0.649**		**0.0389**
Copper	**7440-50-8**	**24.5**		**2.35**
Lead	**7439-92-1**	**0.950**		**0.191**
Manganese	**7439-96-5**	**16.8**		**1.69**
Molybdenum	**7439-98-7**	**1.24**		**0.321**
Nickel	**7440-02-0**	**2.16**		**0.582**
Selenium	**7782-49-2**	**0.190**	LL, QB-04	**0.00800**
Thallium	**7440-28-0**	**0.00176**		**5.26E-4**
Vanadium	**7440-62-2**	**1.50**		**0.0473**
Zinc	7440-66-6	47.0	U	68.6

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050724-HM
Matrix: Air
Lab ID: 4051340-22
Sample Volume: 2074.204 m³
Filter ID:
Sampled: 05/07/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 05:52

Comments: Q9546685 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0587**	SL	**0.0303**
Arsenic	**7440-38-2**	**0.215**		**0.00735**
Barium	**7440-39-3**	**3.22**		**0.839**
Beryllium	**7440-41-7**	**0.00841**		**0.00251**
Cadmium	7440-43-9	0.0110	U	0.0581
Chromium	**7440-47-3**	**1.98**		**1.73**
Cobalt	**7440-48-4**	**0.246**		**0.0342**
Copper	**7440-50-8**	**42.8**		**2.06**
Lead	**7439-92-1**	**0.693**		**0.168**
Manganese	**7439-96-5**	**6.87**		**1.48**
Molybdenum	**7439-98-7**	**2.02**		**0.282**
Nickel	**7440-02-0**	**0.810**		**0.511**
Selenium	**7782-49-2**	**0.119**	LL, QB-04	**0.00703**
Thallium	**7440-28-0**	**0.00105**		**4.62E-4**
Vanadium	**7440-62-2**	**0.660**		**0.0415**
Zinc	7440-66-6	25.6	U	60.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050724-HM
Matrix: Air
Lab ID: 4051340-23
Sample Volume: 1963.331 m³
Filter ID:
Sampled: 05/07/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 06:06

Comments: Q9546684 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0779**	SL	**0.0320**
Arsenic	**7440-38-2**	**0.231**		**0.00776**
Barium	**7440-39-3**	**3.53**		**0.887**
Beryllium	**7440-41-7**	**0.0204**		**0.00265**
Cadmium	7440-43-9	0.0131	U	0.0614
Chromium	**7440-47-3**	**2.84**		**1.83**
Cobalt	**7440-48-4**	**0.405**		**0.0361**
Copper	**7440-50-8**	**68.1**		**2.18**
Lead	**7439-92-1**	**1.30**		**0.177**
Manganese	**7439-96-5**	**9.62**		**1.57**
Molybdenum	**7439-98-7**	**2.35**		**0.298**
Nickel	**7440-02-0**	**1.15**		**0.540**
Selenium	**7782-49-2**	**0.138**	LL, QB-04	**0.00743**
Thallium	**7440-28-0**	**0.00122**		**4.88E-4**
Vanadium	**7440-62-2**	**1.00**		**0.0438**
Zinc	7440-66-6	29.8	U	63.6

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050724-HM
Matrix: Air
Lab ID: 4051340-24
Sample Volume: 1783.885 m³
Filter ID:
Sampled: 05/07/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 07:14

Comments: Q9546683 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0498**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.319**		**0.00855**
Barium	**7440-39-3**	**3.69**		**0.976**
Beryllium	**7440-41-7**	**0.0137**		**0.00292**
Cadmium	7440-43-9	0.0123	U	0.0676
Chromium	**7440-47-3**	**2.88**		**2.02**
Cobalt	**7440-48-4**	**0.431**		**0.0398**
Copper	**7440-50-8**	**35.9**		**2.40**
Lead	**7439-92-1**	**0.832**		**0.195**
Manganese	**7439-96-5**	**12.6**		**1.72**
Molybdenum	**7439-98-7**	**2.09**		**0.327**
Nickel	**7440-02-0**	**1.14**		**0.595**
Selenium	**7782-49-2**	**0.139**	LL, QB-04	**0.00817**
Thallium	**7440-28-0**	**0.00142**		**5.37E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0482**
Zinc	7440-66-6	23.2	U	70.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-050724-HM
Matrix: Air
Lab ID: 4051340-25
Sample Volume: 2074.204 m³
Filter ID:
Sampled: 05/07/24 00:00
Received: 05/13/24 14:02
Analysis Date: 05/15/24 07:29

Comments: Q9546682 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00775	SL, U	0.0303
Arsenic	7440-38-2	0.00670	U	0.00735
Barium	7440-39-3	0.571	U	0.839
Beryllium	7440-41-7	0.00102	U	0.00251
Cadmium	7440-43-9	0.00154	U	0.0581
Chromium	7440-47-3	1.37	U	1.73
Cobalt	7440-48-4	0.0256	U	0.0342
Copper	7440-50-8	0.360	U	2.06
Lead	7439-92-1	0.0542	U	0.168
Manganese	7439-96-5	0.304	U	1.48
Molybdenum	7439-98-7	0.235	U	0.282
Nickel	7440-02-0	0.287	U	0.511
Selenium	7782-49-2	ND	BR, LL, QB-04, U	0.00703
Thallium	7440-28-0	1.14E-4	U	4.62E-4
Vanadium	7440-62-2	0.0160	U	0.0415
Zinc	7440-66-6	13.1	U	60.2

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050824-HM
Matrix: Air
Lab ID: 4051340-26
Sample Volume: 2014.906 m³
Filter ID:
Sampled: 05/08/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 07:43

Comments: Q9546681 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0647**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.240**		**0.00757**
Barium	**7440-39-3**	**4.13**		**0.864**
Beryllium	**7440-41-7**	**0.0115**		**0.00258**
Cadmium	7440-43-9	0.0120	U	0.0598
Chromium	**7440-47-3**	**2.42**		**1.78**
Cobalt	**7440-48-4**	**0.375**		**0.0352**
Copper	**7440-50-8**	**40.7**		**2.12**
Lead	**7439-92-1**	**0.642**		**0.173**
Manganese	**7439-96-5**	**9.64**		**1.53**
Molybdenum	**7439-98-7**	**2.06**		**0.290**
Nickel	**7440-02-0**	**1.47**		**0.526**
Selenium	**7782-49-2**	**0.194**	LL, QB-04	**0.00724**
Thallium	**7440-28-0**	**0.00182**		**4.76E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0427**
Zinc	7440-66-6	16.9	U	62.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050824-HM
Matrix: Air
Lab ID: 4051340-27
Sample Volume: 1991.782 m³
Filter ID:
Sampled: 05/08/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 07:57

Comments: Q9546680 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.294**		**0.00765**
Barium	**7440-39-3**	**4.23**		**0.874**
Beryllium	**7440-41-7**	**0.0193**		**0.00261**
Cadmium	7440-43-9	0.0211	U	0.0605
Chromium	**7440-47-3**	**3.09**		**1.81**
Cobalt	**7440-48-4**	**0.384**		**0.0356**
Copper	**7440-50-8**	**75.8**		**2.15**
Lead	**7439-92-1**	**1.90**		**0.175**
Manganese	**7439-96-5**	**9.69**		**1.54**
Molybdenum	**7439-98-7**	**2.59**		**0.293**
Nickel	**7440-02-0**	**1.58**		**0.533**
Selenium	**7782-49-2**	**0.197**	LL, QB-04	**0.00732**
Thallium	**7440-28-0**	**0.00190**		**4.81E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0432**
Zinc	7440-66-6	33.3	U	62.7

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050824-HM
Matrix: Air
Lab ID: 4051340-28
Sample Volume: 1782.39 m³
Filter ID:
Sampled: 05/08/24 23:59
Received: 05/13/24 14:02
Analysis Date: 05/15/24 08:13

Comments: Q8532960 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.146**	SL	**0.0352**
Arsenic	**7440-38-2**	**1.15**		**0.00855**
Barium	**7440-39-3**	**10.3**		**0.977**
Beryllium	**7440-41-7**	**0.0332**		**0.00292**
Cadmium	7440-43-9	0.0354	U	0.0676
Chromium	**7440-47-3**	**5.47**		**2.02**
Cobalt	**7440-48-4**	**1.19**		**0.0398**
Copper	**7440-50-8**	**46.9**		**2.40**
Lead	**7439-92-1**	**2.16**		**0.195**
Manganese	**7439-96-5**	**43.2**		**1.73**
Molybdenum	**7439-98-7**	**1.87**		**0.328**
Nickel	**7440-02-0**	**3.76**		**0.595**
Selenium	**7782-49-2**	**0.309**	LL, QB-04	**0.00818**
Thallium	**7440-28-0**	**0.00308**		**5.38E-4**
Vanadium	**7440-62-2**	**3.31**		**0.0483**
Zinc	7440-66-6	46.0	U	70.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
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 2405044 - B4D1709										
Calibration Blank (2405044-CCB1)				Prepared & Analyzed: 05/14/24						
Antimony	3.78		ng/l							
Arsenic	4.17		ng/l							
Barium	1.43		ng/l							
Beryllium	0.177		ng/l							
Cadmium	0.339		ng/l							
Chromium	4.21		ng/l							
Cobalt	0.909		ng/l							
Copper	96.2		ng/l							
Lead	29.1		ng/l							
Manganese	9.03		ng/l							
Molybdenum	35.1		ng/l							
Nickel	1.63		ng/l							
Selenium	13.6		ng/l							
Thallium	1.08		ng/l							
Vanadium	-44.0		ng/l							U
Zinc	-2.39		ng/l							U
Calibration Blank (2405044-CCB2)				Prepared & Analyzed: 05/14/24						
Antimony	2.65		ng/l							
Arsenic	3.13		ng/l							
Barium	2.39		ng/l							
Beryllium	0.306		ng/l							
Cadmium	0.383		ng/l							
Chromium	1.97		ng/l							
Cobalt	0.702		ng/l							
Copper	78.7		ng/l							
Lead	16.4		ng/l							
Manganese	7.07		ng/l							
Molybdenum	12.2		ng/l							
Nickel	1.59		ng/l							
Selenium	6.32		ng/l							
Thallium	0.416		ng/l							
Vanadium	-45.1		ng/l							U
Zinc	8.72		ng/l							
Calibration Blank (2405044-CCB3)				Prepared: 05/14/24 Analyzed: 05/15/24						
Antimony	0.235		ng/l							
Arsenic	1.93		ng/l							
Barium	0.401		ng/l							
Beryllium	0.274		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405044 - B4D1709										
Calibration Blank (2405044-CCB3) Contin				Prepared: 05/14/24 Analyzed: 05/15/24						
Cadmium	9.72E-5		ng/l							
Chromium	0.444		ng/l							
Cobalt	0.0969		ng/l							
Copper	79.3		ng/l							
Lead	4.25		ng/l							
Manganese	1.82		ng/l							
Molybdenum	4.84		ng/l							
Nickel	0.0556		ng/l							
Selenium	-9.38		ng/l							U
Thallium	0.579		ng/l							
Vanadium	-44.3		ng/l							U
Zinc	172		ng/l							
Calibration Blank (2405044-CCB4)				Prepared: 05/14/24 Analyzed: 05/15/24						
Antimony	0.454		ng/l							
Arsenic	4.50		ng/l							
Barium	0.850		ng/l							
Beryllium	3.48E-5		ng/l							
Cadmium	0.0931		ng/l							
Chromium	0.125		ng/l							
Cobalt	0.366		ng/l							
Copper	72.2		ng/l							
Lead	3.15		ng/l							
Manganese	2.91		ng/l							
Molybdenum	4.31		ng/l							
Nickel	0.562		ng/l							
Selenium	-18.2		ng/l							U
Thallium	0.518		ng/l							
Vanadium	-45.7		ng/l							U
Zinc	-10.9		ng/l							U
Calibration Blank (2405044-CCB5)				Prepared: 05/14/24 Analyzed: 05/15/24						
Antimony	0.423		ng/l							
Arsenic	8.57		ng/l							
Barium	2.44		ng/l							
Beryllium	-0.135		ng/l							U
Cadmium	0.0991		ng/l							
Chromium	2.17		ng/l							
Cobalt	0.370		ng/l							
Copper	68.8		ng/l							

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405044 - B4D1709										
Calibration Blank (2405044-CCB5) Contin				Prepared: 05/14/24 Analyzed: 05/15/24						
Lead	3.06		ng/l							
Manganese	4.87		ng/l							
Molybdenum	3.12		ng/l							
Nickel	0.939		ng/l							
Selenium	-32.2		ng/l							LL, QB-04, U
Thallium	0.651		ng/l							
Vanadium	-44.5		ng/l							U
Zinc	-6.02		ng/l							U
Calibration Blank (2405044-CCB6)				Prepared: 05/14/24 Analyzed: 05/15/24						
Antimony	0.764		ng/l							
Arsenic	2.81		ng/l							
Barium	1.97		ng/l							
Beryllium	-0.00196		ng/l							U
Cadmium	0.270		ng/l							
Chromium	2.26		ng/l							
Cobalt	0.632		ng/l							
Copper	73.7		ng/l							
Lead	3.71		ng/l							
Manganese	6.07		ng/l							
Molybdenum	4.77		ng/l							
Nickel	1.05		ng/l							
Selenium	-42.4		ng/l							LL, QB-04, U
Thallium	0.731		ng/l							
Vanadium	-52.8		ng/l							U
Zinc	6.56		ng/l							
Calibration Check (2405044-CCV1)				Prepared & Analyzed: 05/14/24						
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	213000		ng/l	200000		107	90-110			
Beryllium	4790		ng/l	5000.0		95.9	90-110			
Cadmium	19700		ng/l	20000		98.3	90-110			
Chromium	238000		ng/l	240000		99.1	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	490000		ng/l	500000		97.9	90-110			
Molybdenum	48600		ng/l	50000		97.1	90-110			
Nickel	123000		ng/l	120000		103	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405044 - B4D1709										
Calibration Check (2405044-CCV1) Contin					Prepared & Analyzed: 05/14/24					
Selenium	20000		ng/l	20000		100	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Calibration Check (2405044-CCV2)					Prepared & Analyzed: 05/14/24					
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	217000		ng/l	200000		109	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	239000		ng/l	240000		99.7	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	490000		ng/l	500000		98.1	90-110			
Molybdenum	49600		ng/l	50000		99.1	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2405044-CCV3)					Prepared & Analyzed: 05/14/24					
Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5110		ng/l	5000.0		102	90-110			
Cadmium	19800		ng/l	20000		98.8	90-110			
Chromium	236000		ng/l	240000		98.2	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.4	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	486000		ng/l	500000		97.2	90-110			
Molybdenum	49000		ng/l	50000		98.1	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	480		ng/l	500.00		95.9	90-110			
Vanadium	19500		ng/l	20000		97.7	90-110			
Zinc	502000		ng/l	500000		100	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 2405044 - B4D1709										
Calibration Check (2405044-CCV4)				Prepared: 05/14/24 Analyzed: 05/15/24						
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	220000		ng/l	200000		110	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	52500		ng/l	50000		105	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	51000		ng/l	50000		102	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	482		ng/l	500.00		96.3	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2405044-CCV5)				Prepared: 05/14/24 Analyzed: 05/15/24						
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	218000		ng/l	200000		109	90-110			
Beryllium	5140		ng/l	5000.0		103	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	201000		ng/l	200000		100	90-110			
Manganese	502000		ng/l	500000		100	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Thallium	474		ng/l	500.00		94.7	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2405044-CCV6)				Prepared: 05/14/24 Analyzed: 05/15/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	213000		ng/l	200000		107	90-110			
Beryllium	4900		ng/l	5000.0		97.9	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405044 - B4D1709										
Calibration Check (2405044-CCV6) Contin					Prepared: 05/14/24 Analyzed: 05/15/24					
Cadmium	20500		ng/l	20000		102	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	51900		ng/l	50000		104	90-110			
Nickel	125000		ng/l	120000		105	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	472		ng/l	500.00		94.5	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	524000		ng/l	500000		105	90-110			
High Cal Check (2405044-HCV1)					Prepared & Analyzed: 05/14/24					
Antimony	40100		ng/l	40000		100	95-105			
Arsenic	39600		ng/l	40000		99.1	95-105			
Barium	396000		ng/l	400000		99.0	95-105			
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	39800		ng/l	40000		99.4	95-105			
Chromium	476000		ng/l	480000		99.1	95-105			
Cobalt	97800		ng/l	100000		97.8	95-105			
Copper	3.93E6		ng/l	4.0000E6		98.1	95-105			
Lead	397000		ng/l	400000		99.2	95-105			
Manganese	997000		ng/l	1.0000E6		99.7	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	233000		ng/l	240000		97.2	95-105			
Selenium	39800		ng/l	40000		99.5	95-105			
Thallium	973		ng/l	1000.0		97.3	95-105			
Vanadium	39700		ng/l	40000		99.2	95-105			
Zinc	993000		ng/l	1.0000E6		99.3	95-105			
Initial Cal Blank (2405044-ICB1)					Prepared & Analyzed: 05/14/24					
Antimony	2.17		ng/l							
Arsenic	4.02		ng/l							
Barium	2.17		ng/l							
Beryllium	0.330		ng/l							
Cadmium	0.228		ng/l							
Chromium	2.36		ng/l							
Cobalt	0.628		ng/l							
Copper	76.9		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405044 - B4D1709										
Initial Cal Blank (2405044-ICB1) Continu				Prepared & Analyzed: 05/14/24						
Lead	37.8		ng/l							
Manganese	6.83		ng/l							
Molybdenum	20.1		ng/l							
Nickel	1.39		ng/l							
Selenium	-1.69		ng/l							U
Thallium	1.18		ng/l							
Vanadium	-45.1		ng/l							U
Zinc	8.43		ng/l							
Initial Cal Check (2405044-ICV1)				Prepared & Analyzed: 05/14/24						
Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	494000		ng/l	500000		98.9	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	506		ng/l	500.00		101	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	509000		ng/l	500000		102	90-110			
Interference Check A (2405044-IFA1)				Prepared & Analyzed: 05/14/24						
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	285000		ng/l	300000		95.1	80-120			
Nickel	0.00		ng/l				80-120			U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405044 - B4D1709										
Interference Check A (2405044-IFA1) Co					Prepared & Analyzed: 05/14/24					
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
Interference Check B (2405044-IFB1)					Prepared & Analyzed: 05/14/24					
Antimony	20100		ng/l	20000		101	80-120			
Arsenic	20300		ng/l	20000		101	80-120			
Barium	213000		ng/l	200000		106	80-120			
Beryllium	4950		ng/l	5000.0		99.0	80-120			
Cadmium	19200		ng/l	20000		96.0	80-120			
Chromium	232000		ng/l	240000		96.8	80-120			
Cobalt	50800		ng/l	50000		102	80-120			
Copper	1.89E6		ng/l	2.0000E6		94.5	80-120			
Lead	203000		ng/l	200000		102	80-120			
Manganese	505000		ng/l	500000		101	80-120			
Molybdenum	341000		ng/l	350000		97.3	80-120			
Nickel	118000		ng/l	120000		98.7	80-120			
Selenium	19100		ng/l	20000		95.5	80-120			
Thallium	502		ng/l	500.00		100	80-120			
Vanadium	18800		ng/l	20000		94.0	80-120			
Zinc	466000		ng/l	500000		93.1	80-120			
Batch 2405054 - B4D1903										
Calibration Blank (2405054-CCB1)					Prepared: 05/16/24 Analyzed: 05/17/24					
Antimony	1.07		ng/l							
Arsenic	9.10		ng/l							
Barium	2.76		ng/l							
Beryllium	0.350		ng/l							
Cadmium	0.220		ng/l							
Chromium	2.87		ng/l							
Cobalt	1.15		ng/l							
Copper	265		ng/l							
Lead	10.3		ng/l							
Manganese	13.0		ng/l							
Molybdenum	19.6		ng/l							
Nickel	1.51		ng/l							
Selenium	-4.00		ng/l							LJ, QX, U
Thallium	1.30		ng/l							
Vanadium	-63.3		ng/l							U

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
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 2405054 - B4D1903										
Calibration Blank (2405054-CCB1) Contin				Prepared: 05/16/24 Analyzed: 05/17/24						
Zinc	22.2		ng/l							
Calibration Blank (2405054-CCB2)				Prepared: 05/16/24 Analyzed: 05/17/24						
Antimony	0.428		ng/l							
Arsenic	12.6		ng/l							
Barium	1.46		ng/l							
Beryllium	0.0625		ng/l							
Cadmium	0.178		ng/l							
Chromium	1.25		ng/l							
Cobalt	0.592		ng/l							
Copper	71.4		ng/l							
Lead	5.90		ng/l							
Manganese	7.76		ng/l							
Molybdenum	1.02		ng/l							
Nickel	1.48		ng/l							
Selenium	-21.8		ng/l							LJ, QX, U
Thallium	1.29		ng/l							
Vanadium	-68.7		ng/l							U
Zinc	3.81		ng/l							
Calibration Blank (2405054-CCB3)				Prepared: 05/16/24 Analyzed: 05/18/24						
Antimony	0.533		ng/l							
Arsenic	14.0		ng/l							
Barium	4.63		ng/l							
Beryllium	-0.0702		ng/l							U
Cadmium	0.429		ng/l							
Chromium	2.44		ng/l							
Cobalt	0.745		ng/l							
Copper	64.9		ng/l							
Lead	5.69		ng/l							
Manganese	10.9		ng/l							
Molybdenum	1.00		ng/l							
Nickel	3.70		ng/l							
Selenium	-2.26		ng/l							LJ, QX, U
Thallium	1.14		ng/l							
Vanadium	-73.9		ng/l							U
Zinc	4.48		ng/l							
Calibration Blank (2405054-CCB4)				Prepared: 05/16/24 Analyzed: 05/18/24						
Antimony	0.621		ng/l							
Arsenic	14.0		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405054 - B4D1903										
Calibration Blank (2405054-CCB4) Contin				Prepared: 05/16/24 Analyzed: 05/18/24						
Barium	2.33		ng/l							
Beryllium	-0.488		ng/l							U
Cadmium	0.263		ng/l							
Chromium	0.676		ng/l							
Cobalt	0.466		ng/l							
Copper	13.5		ng/l							
Lead	4.38		ng/l							
Manganese	5.80		ng/l							
Molybdenum	1.86		ng/l							
Nickel	3.33		ng/l							
Selenium	-7.38		ng/l							LJ, QX, U
Thallium	1.09		ng/l							
Vanadium	-74.7		ng/l							U
Zinc	4.05		ng/l							
Calibration Blank (2405054-CCB5)				Prepared: 05/16/24 Analyzed: 05/18/24						
Antimony	0.565		ng/l							
Arsenic	10.3		ng/l							
Barium	1.46		ng/l							
Beryllium	-0.218		ng/l							U
Cadmium	0.260		ng/l							
Chromium	-0.574		ng/l							U
Cobalt	0.125		ng/l							
Copper	-0.724		ng/l							U
Lead	3.52		ng/l							
Manganese	3.61		ng/l							
Molybdenum	-0.631		ng/l							U
Nickel	3.00		ng/l							
Selenium	6.50		ng/l							LJ, QX
Thallium	1.27		ng/l							
Vanadium	-77.1		ng/l							U
Zinc	14.7		ng/l							
Calibration Check (2405054-CCV1)				Prepared: 05/16/24 Analyzed: 05/17/24						
Antimony	19600		ng/l	20000		98.1	90-110			
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	4770		ng/l	5000.0		95.4	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	237000		ng/l	240000		98.8	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 2405054 - B4D1903										
Calibration Check (2405054-CCV1) Contin					Prepared: 05/16/24 Analyzed: 05/17/24					
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	196000		ng/l	200000		98.1	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	49000		ng/l	50000		98.1	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19800		ng/l	20000		98.8	90-110			LJ, QX
Thallium	475		ng/l	500.00		94.9	90-110			
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2405054-CCV2)					Prepared: 05/16/24 Analyzed: 05/17/24					
Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	4790		ng/l	5000.0		95.7	90-110			
Cadmium	19900		ng/l	20000		99.4	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	49900		ng/l	50000		99.9	90-110			
Copper	2.01E6		ng/l	2.0000E6		101	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49500		ng/l	50000		98.9	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			LJ, QX
Thallium	463		ng/l	500.00		92.5	90-110			
Vanadium	19700		ng/l	20000		98.4	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Calibration Check (2405054-CCV3)					Prepared: 05/16/24 Analyzed: 05/17/24					
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	198000		ng/l	200000		99.0	90-110			
Beryllium	4840		ng/l	5000.0		96.7	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	239000		ng/l	240000		99.8	90-110			
Cobalt	50200		ng/l	50000		100	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	506000		ng/l	500000		101	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 2405054 - B4D1903										
Calibration Check (2405054-CCV3) Contin				Prepared: 05/16/24 Analyzed: 05/17/24						
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Selenium	20000		ng/l	20000		100	90-110			LJ, QX
Thallium	458		ng/l	500.00		91.5	90-110			
Vanadium	19800		ng/l	20000		98.8	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2405054-CCV4)				Prepared: 05/16/24 Analyzed: 05/18/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4860		ng/l	5000.0		97.2	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	50600		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	511000		ng/l	500000		102	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	20000		ng/l	20000		100	90-110			LJ, QX
Thallium	458		ng/l	500.00		91.6	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2405054-CCV5)				Prepared: 05/16/24 Analyzed: 05/18/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	239000		ng/l	240000		99.7	90-110			
Cobalt	50000		ng/l	50000		99.9	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	20100		ng/l	20000		100	90-110			LJ, QX
Thallium	455		ng/l	500.00		90.9	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 2405054 - B4D1903										
Calibration Check (2405054-CCV5) Contin				Prepared: 05/16/24 Analyzed: 05/18/24						
Vanadium	19600		ng/l	20000		97.8	90-110			
Zinc	510000		ng/l	500000		102	90-110			
High Cal Check (2405054-HCV1)				Prepared: 05/16/24 Analyzed: 05/17/24						
Antimony	39500		ng/l	40000		98.8	95-105			
Arsenic	39600		ng/l	40000		99.0	95-105			
Barium	388000		ng/l	400000		97.1	95-105			
Beryllium	10400		ng/l	10000		104	95-105			
Cadmium	39200		ng/l	40000		98.0	95-105			
Chromium	473000		ng/l	480000		98.4	95-105			
Cobalt	98300		ng/l	100000		98.3	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.8	95-105			
Lead	393000		ng/l	400000		98.3	95-105			
Manganese	987000		ng/l	1.0000E6		98.7	95-105			
Molybdenum	98900		ng/l	100000		98.9	95-105			
Nickel	236000		ng/l	240000		98.1	95-105			
Selenium	39000		ng/l	40000		97.4	95-105			LJ, QX
Thallium	984		ng/l	1000.0		98.4	95-105			
Vanadium	39500		ng/l	40000		98.8	95-105			
Zinc	985000		ng/l	1.0000E6		98.5	95-105			
Initial Cal Blank (2405054-ICB1)				Prepared: 05/16/24 Analyzed: 05/17/24						
Antimony	0.744		ng/l							
Arsenic	3.90		ng/l							
Barium	1.04		ng/l							
Beryllium	-0.0446		ng/l							U
Cadmium	0.120		ng/l							
Chromium	1.29		ng/l							
Cobalt	0.518		ng/l							
Copper	188		ng/l							
Lead	6.40		ng/l							
Manganese	5.79		ng/l							
Molybdenum	2.83		ng/l							
Nickel	-1.50		ng/l							U
Selenium	-18.6		ng/l							LJ, QX, U
Thallium	0.319		ng/l							
Vanadium	-72.1		ng/l							U
Zinc	7.20		ng/l							
Initial Cal Check (2405054-ICV1)				Prepared: 05/16/24 Analyzed: 05/17/24						
Antimony	19700		ng/l	20000		98.3	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 2405054 - B4D1903										
Initial Cal Check (2405054-ICV1) Continu					Prepared: 05/16/24 Analyzed: 05/17/24					
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	5070		ng/l	5000.0		101	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	235000		ng/l	240000		97.9	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Manganese	496000		ng/l	500000		99.1	90-110			
Molybdenum	49300		ng/l	50000		98.6	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20400		ng/l	20000		102	90-110			LJ, QX
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Interference Check A (2405054-IFA1)					Prepared: 05/16/24 Analyzed: 05/17/24					
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	299000		ng/l	300000		99.5	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2405054-IFB1)					Prepared: 05/16/24 Analyzed: 05/17/24					
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20300		ng/l	20000		102	80-120			
Barium	197000		ng/l	200000		98.3	80-120			
Beryllium	4610		ng/l	5000.0		92.2	80-120			
Cadmium	19500		ng/l	20000		97.5	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 2405054 - B4D1903										
Interference Check B (2405054-IFB1) Co				Prepared: 05/16/24 Analyzed: 05/17/24						
Chromium	231000		ng/l	240000		96.2	80-120			
Cobalt	49300		ng/l	50000		98.7	80-120			
Copper	1.90E6		ng/l	2.0000E6		95.0	80-120			
Lead	204000		ng/l	200000		102	80-120			
Manganese	508000		ng/l	500000		102	80-120			
Molybdenum	353000		ng/l	350000		101	80-120			
Nickel	116000		ng/l	120000		96.3	80-120			
Selenium	18900		ng/l	20000		94.7	80-120			LJ, QX
Thallium	498		ng/l	500.00		99.7	80-120			
Vanadium	19500		ng/l	20000		97.5	80-120			
Zinc	465000		ng/l	500000		93.0	80-120			
Batch B4E1406 - ICP-MS Extraction										
Blank (B4E1406-BLK1)				Prepared & Analyzed: 05/14/24						
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 (B4E1406-BS1)				Prepared & Analyzed: 05/14/24						
Antimony	0.697	0.0386	ng/m³ Air	1.3829		50.4	80-120			SL
Arsenic	2.68	0.00937	ng/m³ Air	2.7658		96.8	80-120			
Barium	30.2	1.07	ng/m³ Air	27.658		109	80-120			
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		96.4	80-120			
Cadmium	1.31	0.0741	ng/m³ Air	1.3829		94.6	80-120			
Chromium	14.9	2.21	ng/m³ Air	13.829		108	80-120			
Cobalt	1.43	0.0436	ng/m³ Air	1.3829		104	80-120			
Copper	28.4	2.63	ng/m³ Air	27.658		103	80-120			

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
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 B4E1406 - ICP-MS Extraction										
LCS (B4E1406-BS1) Continued				Prepared & Analyzed: 05/14/24						
Lead	13.6	0.214	ng/m³ Air	13.829		98.1	80-120			
Manganese	8.01	1.89	ng/m³ Air	8.2975		96.5	80-120			
Molybdenum	1.54	0.359	ng/m³ Air	1.3829		111	80-120			
Nickel	3.04	0.652	ng/m³ Air	2.7658		110	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		98.9	80-120			
Thallium	0.132	5.89E-4	ng/m³ Air	0.13829		95.6	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.7	80-120			
Zinc	128	76.8	ng/m³ Air	82.975		154	80-120			
LCS (B4E1406-BS2)				Prepared & Analyzed: 05/14/24						
Antimony	0.660	0.0386	ng/m³ Air	1.3829		47.7	80-120			SL
Arsenic	2.58	0.00937	ng/m³ Air	2.7658		93.1	80-120			
Barium	29.0	1.07	ng/m³ Air	27.658		105	80-120			
Beryllium	1.27	0.00320	ng/m³ Air	1.3829		92.1	80-120			
Cadmium	1.26	0.0741	ng/m³ Air	1.3829		90.9	80-120			
Chromium	14.7	2.21	ng/m³ Air	13.829		106	80-120			
Cobalt	1.46	0.0436	ng/m³ Air	1.3829		105	80-120			
Copper	28.0	2.63	ng/m³ Air	27.658		101	80-120			
Lead	13.1	0.214	ng/m³ Air	13.829		94.9	80-120			
Manganese	7.77	1.89	ng/m³ Air	8.2975		93.6	80-120			
Molybdenum	1.51	0.359	ng/m³ Air	1.3829		109	80-120			
Nickel	3.12	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.65	0.00896	ng/m³ Air	2.7658		95.6	80-120			
Thallium	0.129	5.89E-4	ng/m³ Air	0.13829		93.5	80-120			
Vanadium	2.63	0.0529	ng/m³ Air	2.7658		95.2	80-120			
Zinc	122	76.8	ng/m³ Air	82.975		147	80-120			
Duplicate (B4E1406-DUP1)		**Source: 4051340-16**		Prepared & Analyzed: 05/14/24						
Antimony	0.0849	0.0317	ng/m³ Air		0.0818			3.79	10	SL
Arsenic	0.206	0.00770	ng/m³ Air		0.233			12.5	10	
Barium	3.00	0.879	ng/m³ Air		3.06			1.73	10	
Beryllium	0.0188	0.00263	ng/m³ Air		0.0191			1.82	10	
Cadmium	ND	0.0609	ng/m³ Air		ND				10	U
Chromium	2.11	1.82	ng/m³ Air		2.15			1.92	10	
Cobalt	0.356	0.0358	ng/m³ Air		0.390			9.16	10	
Copper	38.3	2.16	ng/m³ Air		38.2			0.357	10	
Lead	0.562	0.176	ng/m³ Air		0.568			1.07	10	
Manganese	8.29	1.55	ng/m³ Air		8.39			1.13	10	
Molybdenum	2.10	0.295	ng/m³ Air		2.05			2.49	10	
Nickel	1.16	0.536	ng/m³ Air		1.18			2.39	10	

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
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 B4E1406 - ICP-MS Extraction										
Duplicate (B4E1406-DUP1) Continued			**Source: 4051340-16**		Prepared & Analyzed: 05/14/24					
Selenium	0.132	0.00736	ng/m³ Air		0.137			3.92	10	
Thallium	0.00125	4.84E-4	ng/m³ Air		0.00131			4.36	10	
Vanadium	0.945	0.0435	ng/m³ Air		0.968			2.39	10	
Zinc	ND	63.1	ng/m³ Air		ND				10	U
Duplicate (B4E1406-DUP2)			**Source: 4051340-02**		Prepared & Analyzed: 05/14/24					
Antimony	0.142	0.0313	ng/m³ Air		0.132			7.60	10	SL
Arsenic	0.437	0.00761	ng/m³ Air		0.408			6.73	10	
Barium	6.88	0.869	ng/m³ Air		6.79			1.27	10	
Beryllium	0.0178	0.00260	ng/m³ Air		0.0174			1.84	10	
Cadmium	ND	0.0602	ng/m³ Air		ND				10	U
Chromium	2.42	1.79	ng/m³ Air		2.52			4.36	10	
Cobalt	0.571	0.0354	ng/m³ Air		0.533			6.82	10	
Copper	43.9	2.14	ng/m³ Air		42.3			3.75	10	
Lead	1.34	0.174	ng/m³ Air		1.33			0.760	10	
Manganese	16.5	1.53	ng/m³ Air		15.4			6.84	10	
Molybdenum	2.21	0.291	ng/m³ Air		2.11			4.18	10	
Nickel	1.98	0.529	ng/m³ Air		1.93			2.50	10	
Selenium	0.270	0.00727	ng/m³ Air		0.255			5.72	10	
Thallium	0.00224	4.78E-4	ng/m³ Air		0.00226			0.937	10	
Vanadium	2.04	0.0430	ng/m³ Air		2.00			2.09	10	
Zinc	ND	62.4	ng/m³ Air		ND				10	U
Duplicate (B4E1406-DUP3)			**Source: 4051340-28**		Prepared: 05/14/24 Analyzed: 05/15/24					
Antimony	0.145	0.0352	ng/m³ Air		0.146			0.914	10	SL
Arsenic	1.15	0.00855	ng/m³ Air		1.15			0.287	10	
Barium	10.2	0.977	ng/m³ Air		10.3			1.32	10	
Beryllium	0.0341	0.00292	ng/m³ Air		0.0332			2.87	10	
Cadmium	ND	0.0676	ng/m³ Air		ND				10	U
Chromium	5.44	2.02	ng/m³ Air		5.47			0.514	10	
Cobalt	1.20	0.0398	ng/m³ Air		1.19			0.717	10	
Copper	46.9	2.40	ng/m³ Air		46.9			0.0427	10	
Lead	2.14	0.195	ng/m³ Air		2.16			0.521	10	
Manganese	43.2	1.73	ng/m³ Air		43.2			0.0469	10	
Molybdenum	1.87	0.328	ng/m³ Air		1.87			0.288	10	
Nickel	3.76	0.595	ng/m³ Air		3.76			0.0698	10	
Selenium	0.311	0.00818	ng/m³ Air		0.309			0.600	10	LL, QB-04
Thallium	0.00292	5.38E-4	ng/m³ Air		0.00308			5.42	10	
Vanadium	3.29	0.0483	ng/m³ Air		3.31			0.738	10	
Zinc	ND	70.1	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
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 B4E1406 - ICP-MS Extraction										
Duplicate (B4E1406-DUP4)		**Source: 4051340-05**		Prepared: 05/14/24 Analyzed: 05/15/24						
Antimony	0.0760	0.0325	ng/m³ Air		0.0765			0.612	10	SL
Arsenic	0.933	0.00789	ng/m³ Air		0.938			0.577	10	
Barium	7.13	0.901	ng/m³ Air		7.21			1.14	10	
Beryllium	0.0274	0.00269	ng/m³ Air		0.0281			2.36	10	
Cadmium	ND	0.0624	ng/m³ Air		ND				10	U
Chromium	5.60	1.86	ng/m³ Air		5.65			0.860	10	
Cobalt	1.45	0.0367	ng/m³ Air		1.46			0.942	10	
Copper	228	2.21	ng/m³ Air		229			0.255	10	
Lead	0.575	0.180	ng/m³ Air		0.577			0.330	10	
Manganese	31.6	1.59	ng/m³ Air		31.8			0.338	10	
Molybdenum	13.2	0.302	ng/m³ Air		13.2			0.620	10	
Nickel	4.99	0.549	ng/m³ Air		5.01			0.549	10	
Selenium	0.197	0.00754	ng/m³ Air		0.205			4.09	10	
Thallium	0.00195	4.96E-4	ng/m³ Air		0.00196			0.433	10	
Vanadium	3.37	0.0445	ng/m³ Air		3.37			0.0372	10	
Zinc	ND	64.7	ng/m³ Air		ND				10	U
Matrix Spike (B4E1406-MS1)		**Source: 4051340-16**		Prepared & Analyzed: 05/14/24						
Antimony	0.682	0.0317	ng/m³ Air	1.1365	0.0818	52.8	80-120			SL
Arsenic	2.36	0.00770	ng/m³ Air	2.2729	0.233	93.6	80-120			
Barium	27.3	0.879	ng/m³ Air	22.729	3.06	107	80-120			
Beryllium	1.08	0.00263	ng/m³ Air	1.1365	0.0191	93.1	80-120			
Cadmium	1.06	0.0609	ng/m³ Air	1.1365	ND	92.9	80-120			
Chromium	12.9	1.82	ng/m³ Air	11.365	2.15	94.4	80-120			
Cobalt	1.48	0.0358	ng/m³ Air	1.1365	0.390	95.8	80-120			
Copper	59.7	2.16	ng/m³ Air	22.729	38.2	94.6	80-120			
Lead	11.7	0.176	ng/m³ Air	11.365	0.568	98.2	80-120			
Manganese	14.3	1.55	ng/m³ Air	6.8188	8.39	86.3	80-120			
Molybdenum	3.14	0.295	ng/m³ Air	1.1365	2.05	95.6	80-120			
Nickel	3.37	0.536	ng/m³ Air	2.2729	1.18	96.0	80-120			
Selenium	2.34	0.00736	ng/m³ Air	2.2729	0.137	97.1	80-120			
Thallium	0.109	4.84E-4	ng/m³ Air	0.11365	0.00131	94.7	80-120			
Vanadium	3.12	0.0435	ng/m³ Air	2.2729	0.968	94.8	80-120			
Zinc	90.8	63.1	ng/m³ Air	68.188	ND	133	80-120			
Matrix Spike (B4E1406-MS2)		**Source: 4051340-02**		Prepared & Analyzed: 05/14/24						
Antimony	0.757	0.0313	ng/m³ Air	1.1228	0.132	55.7	80-120			SL
Arsenic	2.54	0.00761	ng/m³ Air	2.2456	0.408	95.1	80-120			
Barium	30.7	0.869	ng/m³ Air	22.456	6.79	107	80-120			
Beryllium	1.19	0.00260	ng/m³ Air	1.1228	0.0174	104	80-120			

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FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E1406 - ICP-MS Extraction										
Matrix Spike (B4E1406-MS2) Continued Source: 4051340-02 Prepared & Analyzed: 05/14/24										
Cadmium	1.06	0.0602	ng/m³ Air	1.1228	ND	94.3	80-120			
Chromium	13.2	1.79	ng/m³ Air	11.228	2.52	95.2	80-120			
Cobalt	1.68	0.0354	ng/m³ Air	1.1228	0.533	102	80-120			
Copper	63.6	2.14	ng/m³ Air	22.456	42.3	95.0	80-120			
Lead	12.4	0.174	ng/m³ Air	11.228	1.33	98.4	80-120			
Manganese	21.6	1.53	ng/m³ Air	6.7368	15.4	92.7	80-120			
Molybdenum	3.16	0.291	ng/m³ Air	1.1228	2.11	92.7	80-120			
Nickel	4.15	0.529	ng/m³ Air	2.2456	1.93	98.9	80-120			
Selenium	2.41	0.00727	ng/m³ Air	2.2456	0.255	95.9	80-120			
Thallium	0.108	4.78E-4	ng/m³ Air	0.11228	0.00226	94.3	80-120			
Vanadium	4.11	0.0430	ng/m³ Air	2.2456	2.00	93.7	80-120			
Zinc	106	62.4	ng/m³ Air	67.368	ND	157	80-120			
Matrix Spike Dup (B4E1406-MSD1) Source: 4051340-16 Prepared & Analyzed: 05/14/24										
Antimony	0.720	0.0317	ng/m³ Air	1.1365	0.0818	56.1	80-120	5.31	20	SL
Arsenic	2.40	0.00770	ng/m³ Air	2.2729	0.233	95.3	80-120	1.60	20	
Barium	27.7	0.879	ng/m³ Air	22.729	3.06	109	80-120	1.68	20	
Beryllium	0.995	0.00263	ng/m³ Air	1.1365	0.0191	85.9	80-120	7.92	20	
Cadmium	1.08	0.0609	ng/m³ Air	1.1365	ND	94.7	80-120	1.90	20	
Chromium	13.2	1.82	ng/m³ Air	11.365	2.15	97.6	80-120	2.77	20	
Cobalt	1.49	0.0358	ng/m³ Air	1.1365	0.390	96.6	80-120	0.581	20	
Copper	58.4	2.16	ng/m³ Air	22.729	38.2	89.2	80-120	2.10	20	
Lead	11.8	0.176	ng/m³ Air	11.365	0.568	99.0	80-120	0.787	20	
Manganese	14.5	1.55	ng/m³ Air	6.8188	8.39	89.3	80-120	1.41	20	
Molybdenum	3.20	0.295	ng/m³ Air	1.1365	2.05	101	80-120	2.04	20	
Nickel	3.37	0.536	ng/m³ Air	2.2729	1.18	96.3	80-120	0.203	20	
Selenium	2.38	0.00736	ng/m³ Air	2.2729	0.137	98.7	80-120	1.50	20	
Thallium	0.112	4.84E-4	ng/m³ Air	0.11365	0.00131	97.3	80-120	2.69	20	
Vanadium	3.17	0.0435	ng/m³ Air	2.2729	0.968	97.1	80-120	1.61	20	
Zinc	85.7	63.1	ng/m³ Air	68.188	ND	126	80-120	5.77	20	
Matrix Spike Dup (B4E1406-MSD2) Source: 4051340-02 Prepared & Analyzed: 05/14/24										
Antimony	0.755	0.0313	ng/m³ Air	1.1228	0.132	55.6	80-120	0.195	20	SL
Arsenic	2.61	0.00761	ng/m³ Air	2.2456	0.408	97.8	80-120	2.39	20	
Barium	31.1	0.869	ng/m³ Air	22.456	6.79	108	80-120	1.09	20	
Beryllium	1.13	0.00260	ng/m³ Air	1.1228	0.0174	98.8	80-120	5.41	20	
Cadmium	1.06	0.0602	ng/m³ Air	1.1228	ND	94.8	80-120	0.540	20	
Chromium	13.4	1.79	ng/m³ Air	11.228	2.52	96.5	80-120	1.09	20	
Cobalt	1.69	0.0354	ng/m³ Air	1.1228	0.533	103	80-120	0.891	20	
Copper	66.5	2.14	ng/m³ Air	22.456	42.3	108	80-120	4.39	20	

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FILE #: 4205.00.003.001
REPORTED: 05/21/24 15:55
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E1406 - ICP-MS Extraction										
Matrix Spike Dup (B4E1406-MSD2) Contir		**Source: 4051340-02**			Prepared & Analyzed: 05/14/24					
Lead	12.4	0.174	ng/m³ Air	11.228	1.33	98.8	80-120	0.369	20	
Manganese	21.8	1.53	ng/m³ Air	6.7368	15.4	95.0	80-120	0.696	20	
Molybdenum	3.29	0.291	ng/m³ Air	1.1228	2.11	104	80-120	4.04	20	
Nickel	4.17	0.529	ng/m³ Air	2.2456	1.93	99.9	80-120	0.526	20	
Selenium	2.48	0.00727	ng/m³ Air	2.2456	0.255	99.1	80-120	2.94	20	
Thallium	0.109	4.78E-4	ng/m³ Air	0.11228	0.00226	94.8	80-120	0.582	20	
Vanadium	4.17	0.0430	ng/m³ Air	2.2456	2.00	96.7	80-120	1.62	20	
Zinc	104	62.4	ng/m³ Air	67.368	ND	154	80-120	1.80	20	
Post Spike (B4E1406-PS1)		**Source: 4051340-16**			Prepared & Analyzed: 05/14/24					
Antimony	0.306	0.0317	ng/m³ Air	0.22729	0.0818	98.7	75-125			SL
Arsenic	1.31	0.00770	ng/m³ Air	1.1365	0.233	94.4	75-125			
Barium	5.48	0.879	ng/m³ Air	2.2729	3.06	106	75-125			
Beryllium	0.238	0.00263	ng/m³ Air	0.22729	0.0191	96.4	75-125			
Cadmium	0.124	0.0609	ng/m³ Air	0.11365	ND	109	75-125			
Chromium	3.20	1.82	ng/m³ Air	1.1365	2.15	91.8	75-125			
Cobalt	0.605	0.0358	ng/m³ Air	0.22729	0.390	94.4	75-125			
Copper	48.9	2.16	ng/m³ Air	11.365	38.2	94.3	75-125			
Lead	23.0	0.176	ng/m³ Air	22.729	0.568	98.8	75-125			
Manganese	10.3	1.55	ng/m³ Air	2.2729	8.39	84.2	75-125			
Molybdenum	3.09	0.295	ng/m³ Air	1.1365	2.05	91.1	75-125			
Nickel	3.42	0.536	ng/m³ Air	2.2729	1.18	98.3	75-125			
Selenium	1.25	0.00736	ng/m³ Air	1.1365	0.137	97.6	75-125			
Thallium	0.0572	4.84E-4	ng/m³ Air	5.6823E-2	0.00131	98.3	75-125			
Vanadium	2.05	0.0435	ng/m³ Air	1.1365	0.968	94.9	75-125			
Zinc	ND	63.1	ng/m³ Air	22.729	ND		75-125			U
Post Spike (B4E1406-PS2)		**Source: 4051340-02**			Prepared & Analyzed: 05/14/24					
Antimony	0.361	0.0313	ng/m³ Air	0.22456	0.132	102	75-125			SL
Arsenic	1.50	0.00761	ng/m³ Air	1.1228	0.408	96.9	75-125			
Barium	9.31	0.869	ng/m³ Air	2.2456	6.79	112	75-125			
Beryllium	0.234	0.00260	ng/m³ Air	0.22456	0.0174	96.3	75-125			
Cadmium	0.141	0.0602	ng/m³ Air	0.11228	ND	125	75-125			
Chromium	3.67	1.79	ng/m³ Air	1.1228	2.52	102	75-125			
Cobalt	0.774	0.0354	ng/m³ Air	0.22456	0.533	107	75-125			
Copper	54.7	2.14	ng/m³ Air	11.228	42.3	111	75-125			
Lead	23.7	0.174	ng/m³ Air	22.456	1.33	99.7	75-125			
Manganese	17.8	1.53	ng/m³ Air	2.2456	15.4	109	75-125			
Molybdenum	3.23	0.291	ng/m³ Air	1.1228	2.11	98.9	75-125			
Nickel	4.26	0.529	ng/m³ Air	2.2456	1.93	104	75-125			

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
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 B4E1406 - ICP-MS Extraction										
Post Spike (B4E1406-PS2) Continued		**Source: 4051340-02**		Prepared & Analyzed: 05/14/24						
Selenium	1.32	0.00727	ng/m³ Air	1.1228	0.255	95.0	75-125			
Thallium	0.0563	4.78E-4	ng/m³ Air	5.6140E-2	0.00226	96.3	75-125			
Vanadium	3.10	0.0430	ng/m³ Air	1.1228	2.00	97.7	75-125			
Zinc	72.6	62.4	ng/m³ Air	22.456	ND	323	75-125			
Dilution Check (B4E1406-SRL1)		**Source: 4051340-16**		Prepared & Analyzed: 05/14/24						
Antimony	ND	0.159	ng/m³ Air		ND				10	SL, U
Arsenic	0.231	0.0385	ng/m³ Air		0.233			0.857	10	
Barium	ND	4.40	ng/m³ Air		ND				10	U
Beryllium	0.0188	0.0131	ng/m³ Air		0.0191			1.80	10	
Cadmium	ND	0.304	ng/m³ Air		ND				10	U
Chromium	ND	9.08	ng/m³ Air		ND				10	U
Cobalt	0.388	0.179	ng/m³ Air		0.390			0.629	10	
Copper	39.4	10.8	ng/m³ Air		38.2			3.11	10	
Lead	ND	0.879	ng/m³ Air		ND				10	U
Manganese	8.32	7.77	ng/m³ Air		8.39			0.800	10	
Molybdenum	2.00	1.48	ng/m³ Air		2.05			2.35	10	
Nickel	ND	2.68	ng/m³ Air		ND				10	U
Selenium	0.137	0.0368	ng/m³ Air		0.137			0.0297	10	
Thallium	0.00271	0.00242	ng/m³ Air		ND			69.6	10	
Vanadium	0.967	0.217	ng/m³ Air		0.968			0.113	10	
Zinc	ND	316	ng/m³ Air		ND				10	U
Dilution Check (B4E1406-SRL2)		**Source: 4051340-02**		Prepared & Analyzed: 05/14/24						
Antimony	ND	0.157	ng/m³ Air		ND				10	SL, U
Arsenic	0.406	0.0380	ng/m³ Air		0.408			0.573	10	
Barium	6.71	4.34	ng/m³ Air		6.79			1.22	10	
Beryllium	0.0181	0.0130	ng/m³ Air		0.0174			3.64	10	
Cadmium	ND	0.301	ng/m³ Air		ND				10	U
Chromium	ND	8.97	ng/m³ Air		ND				10	U
Cobalt	0.535	0.177	ng/m³ Air		0.533			0.390	10	
Copper	45.2	10.7	ng/m³ Air		42.3			6.70	10	
Lead	1.29	0.869	ng/m³ Air		1.33			3.05	10	
Manganese	15.5	7.67	ng/m³ Air		15.4			0.860	10	
Molybdenum	2.11	1.46	ng/m³ Air		2.11			0.255	10	
Nickel	ND	2.65	ng/m³ Air		ND				10	U
Selenium	0.267	0.0364	ng/m³ Air		0.255			4.42	10	
Thallium	0.00420	0.00239	ng/m³ Air		ND			59.9	10	
Vanadium	1.98	0.215	ng/m³ Air		2.00			1.05	10	
Zinc	ND	312	ng/m³ Air		ND				10	U

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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: 05/21/24 15:55
SUBMITTED: 05/13/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
LL	Analyte identified; Reported value may be biased low.
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
BR	Sample Value Below Acceptable Range
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 05/23/2024 and Shanna Vasser 05/24/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 05/02/2024 – 05/08/2024
Report No: 4051340

√	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.
√	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:

4. MFL-AM01-050224-HM and MFL-AM01-050524-HM were listed on the CoC, crossed out, voided, and not shipped to the laboratory due to insufficient sample volume. MFL-AM01-050624-HM, MFL-AM-01-050724-HM, and MFL-AM01-050824-HM were not included on the CoC, sampled, or sent to the laboratory. No results were present in the laboratory report for any of these samples.
13. Field blank detections above the method detection limit were reported for barium in MFL-FB01-050324-HM and barium and nickel in MFL-FB01-050524-HM

Notes:

2. The laboratory stated that all samples were received in acceptable condition unless otherwise noted. MFL-AM03-050224-HM, MFL-AM03-050324-HM, MFL-AM04-050324-HM, MFL-AM01-050424-HM, MFL-AM04-050424-HM, MFL-AM03-050524-HM/MS/MS, MFL-AM02-

050624-HM, and MFL-AM03-050724-HM were nonhomogeneous samples. MFL-AM02-050324-HM and MFL-AM03-050524-HM/MS/MS were refolding samples. There were no additional details; therefore, it is assumed the other samples met method criteria for analysis.

7. MFL-AM01-050424-HM was analyzed at a two-fold dilution for vanadium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

May 9 through May 15, 2024
[Report Updated: December 4, 2024}

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address the evaluation and documentation of air quality and inhalation exposure risks during debris removal operations performed in response to the 2023 Maui Wildfires. Air monitoring and sampling as prescribed in the CAMSP will continue until debris removal activities are complete or until HDOH advises otherwise.

Particulate monitoring and air sampling occurred from May 9 through May 15, 2024, at the community locations 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)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from May 9 through May 15 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms per cubic meter ($\mu g/m^3$), which was selected as the screening level for this activity.

This weekly report does not address air quality monitoring results for fine particulate matter (particle size diameter of 2.5 µm or less [$PM_{2.5}$]). This was not necessary because the Department of Health/U.S. Environmental Protection Agency (EPA) monitors for this parameter at six locations in Lahaina, and the results from that monitoring are accessible at https://fire.airnow.gov/.

Air samples were analyzed for asbestos and 16 metals, including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc. Analytical results were compared to Site Screening Action Levels (SSALs) as presented in the CAMSP.

Air Monitoring Results

In addition to the air sampling activities, real-time PM_{10} concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station. The PM_{10} monitoring results were found to have exceeded the screening level at Lahaina Intermediate School on 5/15, as shown in **Table 1**. **(rev. December 4, 2024)** Winds at this location averaged about 2.5 mph with gusts up to 7 mph throughout the day. No debris crews were working nearby, and visible dust was not observed in the area during the times of the exceedance, therefore this exceedance was related to USACE operations.

Air Sampling Results

A total of 28 samples for asbestos fibers were collected during this reporting period. Of the 28 samples collected, one sample collected at Leialii Hawaiian Homelands on May 14 was voided due to a greater than 10 percent (%) discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling standard operating procedure (SOP). All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as results were below the laboratory's analytical sensitivity (see **Table 2**). The laboratory included the comment "Numerous gypsum fibers present" for samples collected at WW Pump Station #4 on May 11 and 13.

Gypsum is a common material used in drywall, plaster, and cement, so its presence in the sample filters likely resulted from debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers in the samples was not sufficient to obscure asbestos analyses; nor did this pose a health and safety concern. Occupational health exposure thresholds for gypsum are 5 milligrams per cubic meter (mg/m^3) for respirable dust, and 10 mg/m^3 and 15 mg/m^3 for total dust (both as time-weighted averages), specified by the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA). While total dust sampling was not performed, results of size-discriminated particulate sampling (PM_{10}) at these locations did not approach these thresholds and are orders of magnitude less than occupational gypsum exposure criteria.

Heavy metal samples from Leialii Hawaiian Homelands from May 9 through May 15 were not collected due to complications with the Tisch sampler that have persisted since the previous week. During the reporting week of May 2 through May 8, the field team observed that the power source appeared to be overloading once residents returned to the home. This resulted in the fuse blowing and creating issues with the motor and mass flow controller within the Tisch. After troubleshooting the issue, it was determined a new mass flow controller was needed and has since been installed. Sampling at this location has resumed as of May 16. With the exception of the metals samples that were not able to be collected from Leialii Hawaiian Homelands from May 9 through May 15, low levels of metals were detected from samples collected at all community locations. However, all detections were below their respective SSALs. (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.2 miles per hour and were generally from a south-southeast direction. **Table 3** summarizes the collected meteorological data**.**

Quality Control Summary

This section presents quality control measures implemented throughout the air monitoring and sampling reporting period. All references and standard operating procedures (SOPs) are included in the CAMSP.

Air monitoring was performed using Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibrations. Leak checks and a flow audit were performed before each monitoring activity, in accordance with the manufacturer's procedures.

Asbestos sampling was performed using Casella Vortex 3 (or similar) air sampling pumps. Sampling flow rates were determined and documented by pre- and post-calibration of each sampling pump, using a primary calibration standard. Pump calibration and sampling were performed according to Tetra Tech SOPs 064-2 "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and EPA Environmental Response Team (ERT) SOPs 2008 "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

- EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and for PM_{10} by Use of a High Volume (HV) Sampler
- EPA Compendium Method IO-3.5: Compendium of Methods for Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Via Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) EPA/625/R-96/010a
- EPA 40 *Code of Federal Regulations* (CFR) Part 50, Method for Determination of Lead in Total Suspended Particulate Matter
- EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- American Society for Testing and Materials (ASTM) SOPs for Lead Monitoring by Use of a Total Suspended Particulate (TSP) High Volume Sampler

Field technicians conducted photographic and written documentation in accordance with Tetra Tech SOP No. 024-4, "Recording of Notes in Field Logbook".

Following receipt of air sampling results from off-site analytical laboratories, analytical data were compared to SSALs and are maintained in an electronic database. All data were subjected to Level 1 data verification and are reviewed by an industrial hygienist.

Attachments

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
May 9 through May 15, 2024
[Report Updated: December 4, 2024]

Screening Level		**150 µg/m^3**
5/9/2024	Leialii Hawaiian Homelands (AM-01)	8.3
	WW Pump Station #4 (AM-02)	8.0
	Lahaina Intermediate School (AM-03)	6.9
	Lahaina Boys & Girls Club (AM-04)	13
5/10/2024	Leialii Hawaiian Homelands (AM-01)	8.6
	WW Pump Station #4 (AM-02)	8.9
	Lahaina Intermediate School (AM-03)	100
	Lahaina Boys & Girls Club (AM-04)	12
5/11/2024	Leialii Hawaiian Homelands (AM-01)	7.3
	WW Pump Station #4 (AM-02)	9.0
	Lahaina Intermediate School (AM-03)	98
	Lahaina Boys & Girls Club (AM-04)	10
5/12/2024	Leialii Hawaiian Homelands (AM-01)	7.7
	WW Pump Station #4 (AM-02)	8.3
	Lahaina Intermediate School (AM-03)	5.8
	Lahaina Boys & Girls Club (AM-04)	6.5
5/13/2024	Leialii Hawaiian Homelands (AM-01)	7.6
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	6.5
	Lahaina Boys & Girls Club (AM-04)	5.3
5/14/2024	Leialii Hawaiian Homelands (AM-01)	8.0
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	8.4
5/15/2024	Leialii Hawaiian Homelands (AM-01)	9
	WW Pump Station #4 (AM-02)	9.9
	Lahaina Intermediate School (AM-03)	**170**
	Lahaina Boys & Girls Club (AM-04)	9.5

Notes:

µg/m3 = micrograms per cubic meter

24 hour TWA calculation results are shown in two significant figures

Results are based on 24 hour TWA calculation except for the following:

Results for all stations on 5/12 are based on a 23 hr. TWA because of equipment maintenance.

Results for Lahaina Boys & Girls Club (AM-04) on 5/10 are based on a 22 hr. TWA because of equipment maintenance.

Exceedance at Lahaina Intermediate School (AM-03) on 5/15 not related to USACE operations

Results from Leialii Hawaiian Homelands on 5/15 have been revised from previously submitted report.

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
May 9 through May 15, 2024
[Report Updated: December 4, 2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
5/9/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0027	0.000149	0.000558	0.00618	0.0000179	ND	0.00269	0.000552	0.0587	0.00166	0.0164	0.00209	0.00204	0.000254	0.00000218	0.00250	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000993	0.000277	0.00414	0.0000248	ND	0.00245	0.000479	0.0502	0.000602	0.0120	0.00240	0.00165	0.000219	0.00000205	0.00176	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000115	0.000412	0.00464	0.0000152	ND	0.00319	0.000514	0.0298	0.000844	0.0165	0.00186	0.00184	0.000251	0.00000225	0.00206	ND
5/10/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0027	0.0000597	0.000489	0.00314	0.00000934	ND	0.00238	0.000319	0.0562	0.00121	0.00871	0.00225	0.00112	0.000143	0.000000709	0.00112	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000504	0.000160	0.00256	0.0000122	ND	0.00242	0.000295	0.0509	0.000472	0.00704	0.00237	0.00106	0.000135	0.000000658	0.000900	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000850	0.000496	0.00292	0.00000800	ND	0.00246	0.000262	0.0314	0.00104	0.00813	0.00171	0.000948	0.000127	0.000000690	0.000833	ND
5/11/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000803	0.000544	0.00431	0.00000682	ND	0.00200	0.000207	0.0806	0.00101	0.00588	0.00289	0.000866	0.000165	0.00000119	0.000904	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000544	0.000163	0.00274	0.00000832	ND	0.00218	0.000292	0.0596	0.000440	0.00616	0.00288	0.00110	0.000142	0.00000107	0.00104	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000189	0.00131	0.00466	0.0000114	ND	0.00318	0.000372	0.0330	0.00176	0.0115	0.00160	0.00142	0.000174	0.00000159	0.00121	ND
5/12/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000961	0.000182	0.00290	0.00000583	ND	ND	0.000162	0.0795	0.000456	0.00484	0.00276	0.000815	0.000127	0.000000782	0.00101	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000381	0.000146	0.00154	0.00000610	ND	ND	0.000135	0.0540	0.000243	0.00334	0.00289	0.000814	0.000108	0.000000669	0.00101	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000777	0.000231	0.00261	0.00000694	ND	0.00221	0.000218	0.0261	0.000593	0.00703	0.00167	0.00125	0.000140	0.000000771	0.00136	ND
5/13/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000852	0.000219	0.00358	0.00000739	0.000834	0.00178	0.000212	0.0643	0.000737	0.00623	0.00235	0.000925	0.000138	0.000000581	0.00102	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000480	0.000158	0.00258	0.00000886	ND	0.00227	0.000310	0.0672	0.000527	0.00702	0.00287	0.00122	0.000115	ND	0.000976	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000945	0.000712	0.00409	0.0000124	ND	0.00269	0.000431	0.0239	0.00112	0.0119	0.00119	0.00142	0.000147	0.000000650	0.00119	ND
5/14/2024	Leialii Hawaiian Homelands (AM-01)																	
	WW Pump Station #4 (AM-02)	<0.0024	0.000122	0.00235	0.00268	0.00000733	ND	0.00250	0.000264	0.0715	0.000831	0.00737	0.00254	0.000904	0.000189	0.000000726	0.000859	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000623	0.000187	0.00220	0.00000969	ND	0.00225	0.000259	0.0453	0.000386	0.00579	0.00191	0.00114	0.000178	0.000000651	0.000723	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000103	0.00151	0.00324	0.00000927	ND	0.00250	0.000338	0.0316	0.000837	0.00915	0.00172	0.00104	0.000198	0.000000749	0.000833	ND
5/15/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024																
	WW Pump Station #4 (AM-02)	<0.0024	0.0000578	0.000475	0.00214	0.00000488	ND	0.00192	0.000146	0.0632	0.000746	0.00408	0.00212	0.000817	0.000208	0.000000821	0.000372	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000505	0.0000865	0.00180	0.00000758	ND	ND	0.000153	0.0376	0.000360	0.00349	0.00176	0.000643	0.000176	0.000000687	0.000310	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000702	0.000410	0.00273	0.00000443	ND	ND	0.000161	0.0328	0.000722	0.00430	0.00201	0.000657	0.000180	0.000000646	0.000332	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000810	0.00369	0.0000120	NA	0.00259	0.000350	0.0588	0.00100	0.0104	0.00241	0.000128	0.000180	0.00000120	0.00137	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs
Asbestos samples voided due to a greater than 10% discrepancy between the pre and post calibration flow rate values, as stated in the asbestos sampling standard operating procedure (SOP).
Heavy Metal samples voided due to equipment malfunction and mass flow controller replacement.

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Averaged Meteorological Data
Maui Wildfires, Lahaina
May 9 through May 15, 2024
[Reported Updated: December 4 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
5/9/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	79	65	759.1
5/9/2024	AM-02	WW Pump Station #4	1.0	SSE	78	68	761.4
5/9/2024	AM-03	Lahaina Intermediate School	1.1	SE	75	72	752.1
5/9/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	76	69	761.0
5/10/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	77	68	758.9
5/10/2024	AM-02	WW Pump Station #4	0.9	SE	77	72	761.2
5/10/2024	AM-03	Lahaina Intermediate School	1.7	ESE	74	76	751.9
5/10/2024	AM-04	Lahaina Boys & Girls Club	0.9	SSE	76	71	760.9
5/11/2024	AM-01	Leialii Hawaiian Homelands	1.2	SSE	78	64	759.1
5/11/2024	AM-02	WW Pump Station #4	0.8	S	78	67	761.4
5/11/2024	AM-03	Lahaina Intermediate School	1.2	SSE	75	71	752.0
5/11/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	76	69	761.1
5/12/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	80	62	759.9
5/12/2024	AM-02	WW Pump Station #4	0.9	S	80	67	762.0
5/12/2024	AM-03	Lahaina Intermediate School	1.3	SE	77	68	752.7
5/12/2024	AM-04	Lahaina Boys & Girls Club	1.3	SSW	76	69	761.7
5/13/2024	AM-01	Leialii Hawaiian Homelands	1.1	S	80	65	760.6
5/13/2024	AM-02	WW Pump Station #4	0.8	S	82	69	762.7
5/13/2024	AM-03	Lahaina Intermediate School	1.3	SSE	78	70	753.4
5/13/2024	AM-04	Lahaina Boys & Girls Club	1.2	S	78	68	762.3
5/14/2024	AM-01	Leialii Hawaiian Homelands	0.8	SE	81	67	760.3
5/14/2024	AM-02	WW Pump Station #4	1.0	SSE	80	74	762.4
5/14/2024	AM-03	Lahaina Intermediate School	1.4	SE	78	76	753.1
5/14/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	77	73	762.1
5/15/2024	AM-01	Leialii Hawaiian Homelands	1.6	SSE	80	73	758.4
5/15/2024	AM-02	WW Pump Station #4	1.3	SE	80	79	760.6
5/15/2024	AM-03	Lahaina Intermediate School	2.5	SE	77	82	751.3
5/15/2024	AM-04	Lahaina Boys & Girls Club	1.4	SSE	77	78	760.3

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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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:	05/15/2024 09:50 AM
Analysis Date:	05/17/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-050924-AB**		**Sample Description:**	**DK797522**
EMSL Sample Number:	042409835-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7132.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409835
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: 042409835-0001 **Customer Sample:** MFL-AM01-050924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B1	H3	None Detected									
B1	E7	None Detected									
B1	A6	None Detected									
B2	G6	None Detected									
B2	C3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	05/17/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-050924-AB** **Sample Description: DK797533**

EMSL Sample Number:	042409835-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7008.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409835-0002 **Customer Sample:** MFL-AM02-050924-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					
B6	D2	None Detected									
B6	F7	None Detected									
B6	I5	None Detected									
B7	G4	None Detected									
B7	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	05/17/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-050924-AB** **Sample Description: DK797556**

EMSL Sample Number:	042409835-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7406.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042409835-0003 **Customer Sample:** MFL-AM03-050924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	J7	None Detected									
C2	G3	None Detected									
C2	C6	None Detected									
C3	H6	None Detected									
C3	B5	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:	05/15/2024 09:50 AM
Analysis Date:	05/16/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-050924-AB**		**Sample Description:**	**DK797541**
EMSL Sample Number:	042409835-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7205.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409835
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: 042409835-0004 **Customer Sample:** MFL-AM04-050924-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	B6	None Detected									
C5	E5	None Detected									
C5	I3	None Detected									
C6	A6	None Detected									
C6	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042409835
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:	05/15/2024 09:50 AM
Analysis Date:	05/18/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-050924-AB** **Sample Description:** **DK797077**

EMSL Sample Number:	042409835-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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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: 042409835-0005 **Customer Sample:** MFL-FB01-050924-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	G7	None Detected									
D1	D5	None Detected									
D1	A8	None Detected									
D2	I6	None Detected									
D2	F3	None Detected									
D2	C5	None Detected									
D3	H4	None Detected									
D3	E8	None Detected									
D3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/18/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-051024-AB** **Sample Description: DK797545**

EMSL Sample Number:	042409835-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7100.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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: 042409835-0006 **Customer Sample:** MFL-AM01-051024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	I7	None Detected									
D6	E4	None Detected									
D6	A5	None Detected									
D7	D6	None Detected									
D7	H8	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:	05/15/2024 09:50 AM
Analysis Date:	05/18/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-051024-AB**	**Sample Description:**	**DK797544**
EMSL Sample Number:	042409835-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7074.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409835-0007 **Customer Sample:** MFL-AM02-051024-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	B8	None Detected									
F1	F6	None Detected									
F1	J4	None Detected									
F2	J7	None Detected									
F2	G3	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:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051024-AB** **Sample Description: DK797538**

EMSL Sample Number:	042409835-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7339.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409835-0008 **Customer Sample:** MFL-AM03-051024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	B7	None Detected									
E5	F6	None Detected									
E5	H3	None Detected									
E6	J8	None Detected									
E6	E3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-051024-AB**	**Sample Description:**	**DK797082**
EMSL Sample Number:	042409835-0009	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7014.8
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409835
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: 042409835-0009 **Customer Sample:** MFL-AM04-051024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I4	None Detected									
F1	G7	None Detected									
F1	D4	None Detected									
F2	G3	None Detected									
F2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042409835
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:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-051024-AB**		**Sample Description:**	**DK797081**
EMSL Sample Number:	042409835-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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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: 042409835-0010 **Customer Sample:** MFL-FB01-051024-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	J2	None Detected									
F5	H6	None Detected									
F5	E9	None Detected									
F5	C6	None Detected									
F6	A4	None Detected									
F6	F7	None Detected									
F6	I7	None Detected									
F7	B3	None Detected									
F7	E8	None Detected									
F7	J5	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:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051124-AB**	**Sample Description:**	**DK797106**
EMSL Sample Number:	042409835-0011	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7214.4
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	4		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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: 042409835-0011 **Customer Sample:** MFL-AM01-051124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	J4	None Detected									
G2	F7	None Detected									
G2	B2	None Detected									
G3	H6	None Detected									
G3	D3	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:	05/15/2024 09:50 AM
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Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-051124-AB**	**Sample Description:**	**DK797094**
EMSL Sample Number:	042409835-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7378.1
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042409835
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: 042409835-0012 **Customer Sample:** MFL-AM02-051124-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	A7	None Detected									
G5	F7	None Detected									
G5	J7	None Detected									
G7	H4	None Detected									
G7	D5	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:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051124-AB** **Sample Description: DK797127**

EMSL Sample Number:	042409835-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7269.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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EMSL Order ID: 042409835
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: 042409835-0013 **Customer Sample:** MFL-AM03-051124-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	D3	None Detected									
H1	H6	None Detected									
H2	B4	None Detected									
H2	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:	042409835
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

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Received Date:	05/15/2024 09:50 AM
Analysis Date:	05/21/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051124-AB** **Sample Description:** **DK797087**

EMSL Sample Number:	042409835-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7350.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042409835
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: 042409835-0014 **Customer Sample:** MFL-AM04-051124-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	H4	None Detected									
H6	J7	None Detected									
H6	F8	None Detected									
H6	C6	None Detected									
H7	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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Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-051124-AB**		**Sample Description:**	**DK797107**
EMSL Sample Number:	042409835-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409835-0015 **Customer Sample:** MFL-FB01-051124-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	I8	None Detected									
I1	G2	None Detected									
I1	E7	None Detected									
I1	B3	None Detected									
I2	J6	None Detected									
I2	G3	None Detected									
I2	D6	None Detected									
I3	A3	None Detected									
I3	B9	None Detected									
I3	G6	None Detected									

Abbreviations used:
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051224-AB**	**Sample Description:**	**DK797092**
EMSL Sample Number:	042409835-0016	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7116.0
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	5		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042409835-0016 **Customer Sample:** MFL-AM01-051224-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	J7	None Detected									
I5	F3	None Detected									
I5	C6	None Detected									
I6	H4	None Detected									
I6	D5	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-AM02-051224-AB**		**Sample Description:**	**DK797136**
EMSL Sample Number:	042409835-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7149.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042409835-0017 **Customer Sample:** MFL-AM02-051224-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	J8	None Detected									
J1	F4	None Detected									
J1	A5	None Detected									
J2	I6	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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Analysis Date:	05/22/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051224-AB** **Sample Description: DK797076**

EMSL Sample Number:	042409835-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7289.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409835
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: 042409835-0018 **Customer Sample:** MFL-AM03-051224-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	B6	None Detected									
J5	E8	None Detected									
J5	I4	None Detected									
J6	C3	None Detected									
J6	F6	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:	042409835
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:	05/15/2024 09:50 AM
Analysis Date:	05/22/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051224-AB** **Sample Description:** **DK797083**

EMSL Sample Number:	042409835-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7017.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409835
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: 042409835-0019 **Customer Sample:** MFL-AM04-051224-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	J5	None Detected									
K1	G3	None Detected									
K1	C7	None Detected									
K2	D4	None Detected									
K2	G7	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:	042409835
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:	05/15/2024 09:50 AM
Analysis Date:	05/22/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-051224-AB**		**Sample Description:**	**DK797089**
EMSL Sample Number:	042409835-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409835
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: 042409835-0020 **Customer Sample:** MFL-FB01-051224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J4	None Detected									
K5	I8	None Detected									
K5	E7	None Detected									
K5	A3	None Detected									
K6	H6	None Detected									
K6	F10	None Detected									
K6	G4	None Detected									
K7	A6	None Detected									
K7	E5	None Detected									
K7	J6	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:	042409835
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:	05/15/2024 09:50 AM
Analysis Date:	05/17/2024
Report Date:	05/22/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042409835-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042409835
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: 042409835-0021 **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	J8	None Detected									
A1	G4	None Detected									
A1	D6	None Detected									
A1	A5	None Detected									
A2	H9	None Detected									
A2	F3	None Detected									
A2	C5	None Detected									
A3	I5	None Detected									
A3	E7	None Detected									
A3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042409835

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409835

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	CHELSEA SABER
Street Address:	1560 BROADWAY STE 1400
City, State, Zip:	DENVER CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	Chelsea.Saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	MAUI FIRES-LAHAINA
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	ITAI BOJDAK-YATES
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

RECEIVED 2024 MAY 10 CINNAMINSON NJ

*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-AM01-050924-AB	DK797522	7132.336	05/09/24 1107
MFL-AM02-050924-AB	DK797533	7008.336	05/09/24 1126
MFL-AM03-050924-AB	DK797556	7406.928	05/09/24 1311
MFL-AM04-050924-AB	DK797541	7205.674	05/09/24 1332
MFL-~~X~~FB01-050924-AB (FB)	DK797077	0	05/09/24 1200
MFL-AM01-051024-AB	DK797545	7100.093	05/10/24 1100
MFL-AM02-051024-AB	DK797544	7074.058	05/10/24 1115
MFL-AM03-051024-AB	DK797538	7339.920	05/10/24 1302

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: 05/13/24 1100	Received by: FX Date/Time: 5/15/24 950
Relinquished by:		Date/Time:	Received by: Date/Time

(20) AP

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042409835

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042409835

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-AM04-051024-AB	DK797082	7014.779	05/10/24 1321
MFL-FB01-051024-AB	DK797081	0	05/10/24 1200
MFL-AM01-051124-AB	DK797106	7214.400	05/11/24 1103
MFL-AM02-051124-AB	DK797094	7378.127	05/11/24 1118
MFL-AM03-051124-AB	DK797127	7269.881	05/11/24 1304
MFL-AM04-051124-AB	DK797087	7350.480	05/11/24 1324
MFL-~~AM~~ FB01-051124-AB	DK797107	0	05/11/24 1200
MFL-~~AB~~ AM 01-051224-AB	DK797092	7115.976	05/12/24 1107
MFL-~~AB~~ AM 02-051224-AB	DK797136	7149.816	05/12/24 1124
MFL-~~AB~~ AM 03-051224-AB	DK797076	7289.182	05/12/24 1306
MFL-~~AB~~ AM 04-051224-AB	DK797083	7017.555	05/12/24 1328
MFL-FB01-051224-AB	DK797089	0	05/12/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 MAY 15 P 12:01

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/13/24 1100	Received by: FX	Date/Time 5/13/24 9:59A
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 05/22/2024 and Shanna Vasser 5/23/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/09/2024 – 05/12/2024
Report No: 42409835

√	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:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/22/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051324-AB**		**Sample Description:**	**DK797096**
EMSL Sample Number:	042410174-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410174
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: 042410174-0001 **Customer Sample:** MFL-AM01-051324-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	H4	None Detected									
B1	E7	None Detected									
B1	B4	None Detected									
B2	G5	None Detected									
B2	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/22/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-051324-AB** **Sample Description: DK797141**

EMSL Sample Number:	042410174-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7133.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410174
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: 042410174-0002 **Customer Sample:** MFL-AM02-051324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	E4	None Detected									
B5	I7	None Detected									
B6	H6	None Detected									
B6	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/22/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-051324-AB**		**Sample Description:**	**DK797123**
EMSL Sample Number:	042410174-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7159.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410174
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: 042410174-0003 **Customer Sample:** MFL-AM03-051324-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	G7	None Detected									
G1	E3	None Detected									
G1	B5	None Detected									
G2	A4	None Detected									
G2	F6	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:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051324-AB** **Sample Description: DK797102**

EMSL Sample Number:	042410174-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7141.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410174
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: 042410174-0004 **Customer Sample:** MFL-AM04-051324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	B7	None Detected									
C5	F6	None Detected									
C5	J4	None Detected									
C6	H8	None Detected									
C6	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

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:	05/20/2024 09:00 AM
Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051324-AB** **Sample Description: DK797084**

EMSL Sample Number:	042410174-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410174
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: 042410174-0005 **Customer Sample:** MFL-FB01-051324-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	B5	None Detected									
D1	A2	None Detected									
D2	C8	None Detected									
D2	F6	None Detected									
D2	J5	None Detected									
D3	H7	None Detected									
D3	E3	None Detected									
D3	B7	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:	042410174
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-051424-AB** **Sample Description: DK797078**

EMSL Sample Number:	042410174-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7168.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410174
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: 042410174-0006 **Customer Sample:** MFL-AM02-051424-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	A3	None Detected									
D5	D7	None Detected									
D5	I4	None Detected									
D6	B6	None Detected									
D6	E4	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
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Project ID:	N/A

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Phone:	(703) 489-2674
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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/23/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-051424-AB**		**Sample Description:**	**DK797139**
EMSL Sample Number:	042410174-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7166.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410174
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: 042410174-0007 **Customer Sample:** MFL-AM03-051424-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	J8	None Detected									
E1	F6	None Detected									
E1	B3	None Detected									
E2	I5	None Detected									
E2	D3	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-AM04-051424-AB** **Sample Description: DK797090**

EMSL Sample Number:	042410174-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7132.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410174
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: 042410174-0008 **Customer Sample:** MFL-AM04-051424-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	J8	None Detected									
E5	G6	None Detected									
E5	B3	None Detected									
E6	C6	None Detected									
E6	G7	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
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Project ID:	N/A

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Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051424-AB** **Sample Description: DK797085**

EMSL Sample Number:	042410174-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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EMSL Order ID: 042410174
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: 042410174-0009 **Customer Sample:** MFL-FB01-051424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	A7	None Detected									
F1	B3	None Detected									
F1	E5	None Detected									
F1	H8	None Detected									
F2	J6	None Detected									
F2	G8	None Detected									
F2	C5	None Detected									
F4	A2	None Detected									
F4	D5	None Detected									
F4	J7	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:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051524-AB**	**Sample Description:**	**DK797100**
EMSL Sample Number:	042410174-0010	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7212.3
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	6		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0008**	**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410174
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: 042410174-0010 **Customer Sample:** MFL-AM01-051524-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	B7	None Detected									
F5	E4	None Detected									
F5	I6	None Detected									
F6	J5	None Detected									
F6	D8	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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Fax:	N/A
Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-051524-AB**		**Sample Description:**	**DK797109**
EMSL Sample Number:	042410174-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7187.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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EMSL Order ID: 042410174
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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: 042410174-0011 **Customer Sample:** MFL-AM02-051524-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	C4	None Detected									
G1	G7	None Detected									
G1	J3	None Detected									
G2	A5	None Detected									
G2	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:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-051524-AB**		**Sample Description:**	**DK797080**
EMSL Sample Number:	042410174-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7231.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042410174
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: 042410174-0012 **Customer Sample:** MFL-AM03-051524-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	B8	None Detected									
G5	D3	None Detected									
G5	H6	None Detected									
G6	C5	None Detected									
G6	G8	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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Received Date:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-051524-AB**		**Sample Description:**	**DK797101**
EMSL Sample Number:	042410174-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7130.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410174
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: 042410174-0013 **Customer Sample:** MFL-AM04-051524-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	B6	None Detected									
H1	E4	None Detected									
H1	I5	None Detected									
H2	J6	None Detected									
H2	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:	05/20/2024 09:00 AM
Analysis Date:	05/24/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051524-AB** **Sample Description: DK797099**

EMSL Sample Number:	042410174-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	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): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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:	**042410174**
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: 042410174-0014 **Customer Sample:** MFL-FB01-051524-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	I5	None Detected									
H5	F3	None Detected									
H5	D8	None Detected									
H5	A4	None Detected									
H6	H2	None Detected									
H6	G8	None Detected									
H6	A6	None Detected									
H7	A4	None Detected									
H7	A9	None Detected									
H7	F8	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:	042410174
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:	05/20/2024 09:00 AM
Analysis Date:	05/22/2024
Report Date:	05/24/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042410174-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042410174
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: 042410174-0015 **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	B4	None Detected									
A1	D7	None Detected									
A1	G3	None Detected									
A1	J6	None Detected									
A2	I7	None Detected									
A2	E4	None Detected									
A2	B8	None Detected									
A3	A5	None Detected									
A3	D2	None Detected									
A3	H6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042410174

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410174

RECEIVED EMSL CINNAMINSON, NJ 24 MAY 20 AM 9:29

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: Chelsea.Saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES-LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected:
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: ITAI BOJDAK-YATES
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-AM01-051324-AB	DK797096	(28) ~~716~~ 7176.248	05/13/24 1100
MFL-AM02-051324-AB	DK797141	7133.336	05/13/24 1116
MFL-AM03-051324-AB	DK797~~084~~ 123 (28)	7159.436 Tetra	05/13/24 1301
MFL-AM04-051324-AB	DK797102	7141.277	05/13/24 1323
MFL-FB01-051324-AB (28)	DK797084	0	05/13/24 1200
~~MFL-AM01-051424-AB~~	~~DK797108~~	~~7897.536~~	~~05/14/24 1103~~ VOID
MFL-AM02-051424-AB	DK797078	7168.608	05/14/24 1120
MFL-AM03-051424-AB	DK797139	7166.453	05/14/24 1309

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

MFL-AM01-051424-AB voided because post-cal value was greater than 10% deviation from pre-cal value.

All samples received acceptable for analysis. 14CJL

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/16/24 400	Received by: FX	Date/Time: 5/20/24 9a
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.

14CJL

OrderID: 042410174

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410174

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAY 20 AM 9:29

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-AM04-051424-AB	DK797090	7132.176	05/14/24 1328
MFL-FB01-051424-AB	DK797085	0	05/14/24 1200
MFL-AM01-051524-AB	DK797~~089~~100	7212.289	05/15/24 1107
MFL-AM02-051524-AB	DK797109	7187.782	05/15/24 1125
MFL-AM03-051524-AB	DK797080	7231.845	05/15/24 1304
MFL-AM04-051524-AB	DK797101	7129.957	05/15/24 1329
MFL-FB01-051524-AB	DK797099	0	05/15/24 1200

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/16/24 1400	Received by: Fx	Date/Time: 5/20/24 9[illegible]
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 05/28/2024 and Shanna Vasser 05/30/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/13/2024 – 05/15/2024
Report No: 42410174

√	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-AM01-051424-AB was listed on the CoC, crossed out, voided (due to post-cal value exceeding the criteria), and not shipped to the laboratory. No results were present in the laboratory report for either sample because they were not shipped.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

May 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 05/20/24 14:25.

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM02-050924-HM	4052040-01	Air	05/09/24 23:59	05/20/24 14:25
MFL-AM03-050924-HM	4052040-02	Air	05/09/24 23:59	05/20/24 14:25
MFL-AM04-050924-HM	4052040-03	Air	05/09/24 23:59	05/20/24 14:25
MFL-FB01-050924-HM	4052040-04	Air	05/09/24 00:00	05/20/24 14:25
MFL-AM02-051024-HM	4052040-05	Air	05/10/24 23:59	05/20/24 14:25
MFL-AM03-051024-HM	4052040-06	Air	05/10/24 23:59	05/20/24 14:25
MFL-AM04-051024-HM	4052040-07	Air	05/10/24 23:59	05/20/24 14:25
MFL-AM02-051124-HM	4052040-08	Air	05/11/24 23:59	05/20/24 14:25
MFL-AM03-051124-HM	4052040-09	Air	05/11/24 23:59	05/20/24 14:25
MFL-AM04-051124-HM	4052040-10	Air	05/11/24 23:59	05/20/24 14:25
MFL-FB01-051124-HM	4052040-11	Air	05/11/24 00:00	05/20/24 14:25
MFL-AM02-051224-HM	4052040-12	Air	05/12/24 23:59	05/20/24 14:25
MFL-AM03-051224-HM	4052040-13	Air	05/12/24 23:59	05/20/24 14:25
MFL-AM04-051224-HM	4052040-14	Air	05/12/24 23:59	05/20/24 14:25
MFL-AM02-051324-HM	4052040-15	Air	05/13/24 23:59	05/20/24 14:25
MFL-AM03-051324-HM	4052040-16	Air	05/13/24 23:59	05/20/24 14:25
MFL-AM04-051324-HM	4052040-17	Air	05/13/24 23:59	05/20/24 14:25
MFL-FB01-051324-HM	4052040-18	Air	05/13/24 00:00	05/20/24 14:25
MFL-AM02-051424-HM	4052040-19	Air	05/14/24 23:59	05/20/24 14:25
MFL-AM03-051424-HM	4052040-20	Air	05/14/24 23:59	05/20/24 14:25
MFL-AM04-051424-HM	4052040-21	Air	05/14/24 23:59	05/20/24 14:25

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM02-051524-HM	4052040-22	Air	05/15/24 23:59	05/20/24 14:25
MFL-AM03-051524-HM	4052040-23	Air	05/15/24 23:59	05/20/24 14:25
MFL-AM04-051524-HM	4052040-24	Air	05/15/24 23:59	05/20/24 14:25
MFL-FB01-051524-HM	4052040-25	Air	05/15/24 00:00	05/20/24 14:25

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-050924-HM
Matrix: Air
Lab ID: 4052040-01
Sample Volume: 2063.968 m³
Filter ID:
Sampled: 05/09/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 03:54

Comments: Q8532959 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.558**		**0.00739**
Barium	**7440-39-3**	**6.18**		**0.843**
Beryllium	**7440-41-7**	**0.0179**		**0.00252**
Cadmium	7440-43-9	0.0221	U	0.0584
Chromium	**7440-47-3**	**2.69**		**1.74**
Cobalt	**7440-48-4**	**0.552**		**0.0344**
Copper	**7440-50-8**	**58.7**		**2.07**
Lead	**7439-92-1**	**1.66**		**0.169**
Manganese	**7439-96-5**	**16.4**		**1.49**
Molybdenum	**7439-98-7**	**2.09**		**0.283**
Nickel	**7440-02-0**	**2.04**		**0.514**
Selenium	**7782-49-2**	**0.254**	B, LJ, QX	**0.00706**
Thallium	**7440-28-0**	**0.00218**		**4.64E-4**
Vanadium	**7440-62-2**	**2.50**		**0.0417**
Zinc	7440-66-6	49.9	U, GC-BS	60.5

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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-050924-HM
Matrix: Air
Lab ID: 4052040-02
Sample Volume: 1968.279 m³
Filter ID:
Sampled: 05/09/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 01:04

Comments: Q8532957 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0993**	SL	**0.0319**
Arsenic	**7440-38-2**	**0.277**		**0.00775**
Barium	**7440-39-3**	**4.14**		**0.884**
Beryllium	**7440-41-7**	**0.0248**		**0.00265**
Cadmium	7440-43-9	0.0114	U	0.0613
Chromium	**7440-47-3**	**2.45**		**1.83**
Cobalt	**7440-48-4**	**0.479**		**0.0360**
Copper	**7440-50-8**	**50.2**		**2.17**
Lead	**7439-92-1**	**0.602**		**0.177**
Manganese	**7439-96-5**	**12.0**		**1.56**
Molybdenum	**7439-98-7**	**2.40**		**0.297**
Nickel	**7440-02-0**	**1.65**		**0.539**
Selenium	**7782-49-2**	**0.219**	B, LJ, QX, SRD-01	**0.00741**
Thallium	**7440-28-0**	**0.00205**		**4.87E-4**
Vanadium	**7440-62-2**	**1.76**		**0.0437**
Zinc	7440-66-6	29.5	U, GC-BS	63.5

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-050924-HM
Matrix: Air
Lab ID: 4052040-03
Sample Volume: 1786.127 m³
Filter ID:
Sampled: 05/09/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 04:14

Comments: Q8532956 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.115**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.412**		**0.00854**
Barium	**7440-39-3**	**4.64**		**0.975**
Beryllium	**7440-41-7**	**0.0152**		**0.00291**
Cadmium	7440-43-9	0.0145	U	0.0675
Chromium	**7440-47-3**	**3.19**		**2.01**
Cobalt	**7440-48-4**	**0.514**		**0.0397**
Copper	**7440-50-8**	**29.8**		**2.40**
Lead	**7439-92-1**	**0.844**		**0.195**
Manganese	**7439-96-5**	**16.5**		**1.72**
Molybdenum	**7439-98-7**	**1.86**		**0.327**
Nickel	**7440-02-0**	**1.84**		**0.594**
Selenium	**7782-49-2**	**0.251**	B, LJ, QX	**0.00816**
Thallium	**7440-28-0**	**0.00225**		**5.37E-4**
Vanadium	**7440-62-2**	**2.06**		**0.0482**
Zinc	7440-66-6	31.0	U, GC-BS	70.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-050924-HM
Matrix: Air
Lab ID: 4052040-04
Sample Volume: 2063.968 m³
Filter ID:
Sampled: 05/09/24 00:00
Received: 05/20/24 14:25
Analysis Date: 05/22/24 04:33

Comments: Q9546674 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00844	SL, U	0.0304
Arsenic	**7440-38-2**	**0.00744**	FB-01	**0.00739**
Barium	7440-39-3	0.609	U	0.843
Beryllium	7440-41-7	6.99E-4	U	0.00252
Cadmium	7440-43-9	0.00164	U	0.0584
Chromium	7440-47-3	1.38	U	1.74
Cobalt	7440-48-4	0.0271	U	0.0344
Copper	**7440-50-8**	**3.24**	FB-01	**2.07**
Lead	7439-92-1	0.137	U	0.169
Manganese	7439-96-5	0.223	U	1.49
Molybdenum	7439-98-7	0.255	U	0.283
Nickel	7440-02-0	0.287	U	0.514
Selenium	**7782-49-2**	**0.00732**	B, FB-01, LJ, QX	**0.00706**
Thallium	7440-28-0	ND	U	4.64E-4
Vanadium	7440-62-2	0.0193	U	0.0417
Zinc	7440-66-6	18.5	GC-BS, U	60.5

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051024-HM
Matrix: Air
Lab ID: 4052040-05
Sample Volume: 2065.429 m³
Filter ID:
Sampled: 05/10/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 04:49

Comments: Q9546677 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0597**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.489**		**0.00738**
Barium	**7440-39-3**	**3.14**		**0.843**
Beryllium	**7440-41-7**	**0.00934**		**0.00252**
Cadmium	7440-43-9	0.0201	U	0.0584
Chromium	**7440-47-3**	**2.38**		**1.74**
Cobalt	**7440-48-4**	**0.319**		**0.0343**
Copper	**7440-50-8**	**56.2**		**2.07**
Lead	**7439-92-1**	**1.21**		**0.169**
Manganese	**7439-96-5**	**8.71**		**1.49**
Molybdenum	**7439-98-7**	**2.25**		**0.283**
Nickel	**7440-02-0**	**1.12**		**0.514**
Selenium	**7782-49-2**	**0.143**	B, LJ, QX	**0.00706**
Thallium	**7440-28-0**	**7.09E-4**		**4.64E-4**
Vanadium	**7440-62-2**	**1.12**		**0.0417**
Zinc	7440-66-6	24.1	GC-BS, U	60.5

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051024-HM
Matrix: Air
Lab ID: 4052040-06
Sample Volume: 1986.778 m³
Filter ID:
Sampled: 05/10/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 05:06

Comments: Q9546675 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0504**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.160**		**0.00767**
Barium	**7440-39-3**	**2.56**		**0.876**
Beryllium	**7440-41-7**	**0.0122**		**0.00262**
Cadmium	7440-43-9	0.00926	U	0.0607
Chromium	**7440-47-3**	**2.42**		**1.81**
Cobalt	**7440-48-4**	**0.295**		**0.0357**
Copper	**7440-50-8**	**50.9**		**2.15**
Lead	**7439-92-1**	**0.472**		**0.175**
Manganese	**7439-96-5**	**7.04**		**1.55**
Molybdenum	**7439-98-7**	**2.37**		**0.294**
Nickel	**7440-02-0**	**1.06**		**0.534**
Selenium	**7782-49-2**	**0.135**	B, LJ, QX	**0.00734**
Thallium	**7440-28-0**	**6.58E-4**		**4.82E-4**
Vanadium	**7440-62-2**	**0.900**		**0.0433**
Zinc	7440-66-6	21.8	GC-BS, U	62.9

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051024-HM
Matrix: Air
Lab ID: 4052040-07
Sample Volume: 1794.355 m³
Filter ID:
Sampled: 05/10/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 05:22

Comments: Q9546673 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0850**	SL	**0.0350**
Arsenic	**7440-38-2**	**0.496**		**0.00850**
Barium	**7440-39-3**	**2.92**		**0.970**
Beryllium	**7440-41-7**	**0.00800**		**0.00290**
Cadmium	7440-43-9	0.0123	U	0.0672
Chromium	**7440-47-3**	**2.46**		**2.00**
Cobalt	**7440-48-4**	**0.262**		**0.0395**
Copper	**7440-50-8**	**31.4**		**2.38**
Lead	**7439-92-1**	**1.04**		**0.194**
Manganese	**7439-96-5**	**8.13**		**1.71**
Molybdenum	**7439-98-7**	**1.71**		**0.326**
Nickel	**7440-02-0**	**0.948**		**0.591**
Selenium	**7782-49-2**	**0.127**	B, LJ, QX	**0.00812**
Thallium	**7440-28-0**	**6.90E-4**		**5.34E-4**
Vanadium	**7440-62-2**	**0.833**		**0.0480**
Zinc	7440-66-6	25.4	GC-BS, U	69.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051124-HM
Matrix: Air
Lab ID: 4052040-08
Sample Volume: 2082.012 m³
Filter ID:
Sampled: 05/11/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 05:39

Comments: Q9546672 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0803**	SL	**0.0302**
Arsenic	**7440-38-2**	**0.544**		**0.00732**
Barium	**7440-39-3**	**4.31**		**0.836**
Beryllium	**7440-41-7**	**0.00682**		**0.00250**
Cadmium	7440-43-9	0.0151	U	0.0579
Chromium	**7440-47-3**	**2.00**		**1.73**
Cobalt	**7440-48-4**	**0.207**		**0.0341**
Copper	**7440-50-8**	**80.6**		**2.06**
Lead	**7439-92-1**	**1.01**		**0.167**
Manganese	**7439-96-5**	**5.88**		**1.48**
Molybdenum	**7439-98-7**	**2.89**		**0.281**
Nickel	**7440-02-0**	**0.866**		**0.510**
Selenium	**7782-49-2**	**0.165**	B, LJ, QX	**0.00700**
Thallium	**7440-28-0**	**0.00119**		**4.60E-4**
Vanadium	**7440-62-2**	**0.904**		**0.0413**
Zinc	7440-66-6	27.1	GC-BS, U	60.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051124-HM
Matrix: Air
Lab ID: 4052040-09
Sample Volume: 1991.782 m³
Filter ID:
Sampled: 05/11/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 05:59

Comments: Q9543352 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0544**	SL	**0.0315**
Arsenic	**7440-38-2**	**0.163**		**0.00765**
Barium	**7440-39-3**	**2.74**		**0.874**
Beryllium	**7440-41-7**	**0.00832**		**0.00261**
Cadmium	7440-43-9	0.0111	U	0.0605
Chromium	**7440-47-3**	**2.18**		**1.81**
Cobalt	**7440-48-4**	**0.292**		**0.0356**
Copper	**7440-50-8**	**59.6**		**2.15**
Lead	**7439-92-1**	**0.440**		**0.175**
Manganese	**7439-96-5**	**6.16**		**1.54**
Molybdenum	**7439-98-7**	**2.88**		**0.293**
Nickel	**7440-02-0**	**1.10**		**0.533**
Selenium	**7782-49-2**	**0.142**	B, LJ, QX	**0.00732**
Thallium	**7440-28-0**	**0.00107**		**4.81E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0432**
Zinc	7440-66-6	24.5	GC-BS, U	62.7

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051124-HM
Matrix: Air
Lab ID: 4052040-10
Sample Volume: 1832.227 m³
Filter ID:
Sampled: 05/11/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 06:13

Comments: Q9543351 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.189**	SL	**0.0343**
Arsenic	**7440-38-2**	**1.31**		**0.00832**
Barium	**7440-39-3**	**4.66**		**0.950**
Beryllium	**7440-41-7**	**0.0114**		**0.00284**
Cadmium	7440-43-9	0.0300	U	0.0658
Chromium	**7440-47-3**	**3.18**		**1.96**
Cobalt	**7440-48-4**	**0.372**		**0.0387**
Copper	**7440-50-8**	**33.0**		**2.34**
Lead	**7439-92-1**	**1.76**		**0.190**
Manganese	**7439-96-5**	**11.5**		**1.68**
Molybdenum	**7439-98-7**	**1.60**		**0.319**
Nickel	**7440-02-0**	**1.42**		**0.579**
Selenium	**7782-49-2**	**0.174**	B, LJ, QX	**0.00796**
Thallium	**7440-28-0**	**0.00159**		**5.23E-4**
Vanadium	**7440-62-2**	**1.21**		**0.0470**
Zinc	7440-66-6	28.8	GC-BS, U	68.2

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051124-HM
Matrix: Air
Lab ID: 4052040-11
Sample Volume: 2082.012 m³
Filter ID:
Sampled: 05/11/24 00:00
Received: 05/20/24 14:25
Analysis Date: 05/22/24 07:41

Comments: Q9543341 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.00982	SL, U	0.0302
Arsenic	7440-38-2	0.00591	U	0.00732
Barium	7440-39-3	0.436	U	0.836
Beryllium	7440-41-7	7.88E-4	U	0.00250
Cadmium	7440-43-9	0.00225	U	0.0579
Chromium	7440-47-3	1.06	U	1.73
Cobalt	7440-48-4	0.0213	U	0.0341
Copper	7440-50-8	0.230	U	2.06
Lead	7439-92-1	0.0304	U	0.167
Manganese	7439-96-5	0.146	U	1.48
Molybdenum	7439-98-7	0.162	U	0.281
Nickel	7440-02-0	0.247	U	0.510
Selenium	**7782-49-2**	**0.0141**	B, FB-01, LJ, QB-04, QX	**0.00700**
Thallium	7440-28-0	ND	U	4.60E-4
Vanadium	7440-62-2	0.0173	U	0.0413
Zinc	7440-66-6	14.6	GC-BS, U	60.0

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051224-HM
Matrix: Air
Lab ID: 4052040-12
Sample Volume: 2068.763 m³
Filter ID:
Sampled: 05/12/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 07:55

Comments: Q9543348 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0961**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.182**		**0.00737**
Barium	**7440-39-3**	**2.90**		**0.842**
Beryllium	**7440-41-7**	**0.00583**		**0.00252**
Cadmium	7440-43-9	0.0112	U	0.0583
Chromium	7440-47-3	1.57	U	1.74
Cobalt	**7440-48-4**	**0.162**		**0.0343**
Copper	**7440-50-8**	**79.5**		**2.07**
Lead	**7439-92-1**	**0.456**		**0.168**
Manganese	**7439-96-5**	**4.84**		**1.49**
Molybdenum	**7439-98-7**	**2.76**		**0.282**
Nickel	**7440-02-0**	**0.815**		**0.513**
Selenium	**7782-49-2**	**0.127**	B, LJ, QB-04, QX	**0.00705**
Thallium	**7440-28-0**	**7.82E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0416**
Zinc	7440-66-6	19.3	GC-BS, U	60.4

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051224-HM
Matrix: Air
Lab ID: 4052040-13
Sample Volume: 2012.028 m³
Filter ID:
Sampled: 05/12/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 08:10

Comments: Q9543347 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0381**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.146**		**0.00758**
Barium	**7440-39-3**	**1.54**		**0.865**
Beryllium	**7440-41-7**	**0.00610**		**0.00259**
Cadmium	7440-43-9	0.0103	U	0.0599
Chromium	7440-47-3	1.60	U	1.79
Cobalt	**7440-48-4**	**0.135**		**0.0353**
Copper	**7440-50-8**	**54.0**		**2.13**
Lead	**7439-92-1**	**0.243**		**0.173**
Manganese	**7439-96-5**	**3.34**		**1.53**
Molybdenum	**7439-98-7**	**2.89**		**0.290**
Nickel	**7440-02-0**	**0.814**		**0.527**
Selenium	**7782-49-2**	**0.108**	B, LJ, QB-04, QX	**0.00725**
Thallium	**7440-28-0**	**6.69E-4**		**4.76E-4**
Vanadium	**7440-62-2**	**1.01**		**0.0428**
Zinc	7440-66-6	19.5	GC-BS, U	62.1

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051224-HM
Matrix: Air
Lab ID: 4052040-14
Sample Volume: 1806.832 m³
Filter ID:
Sampled: 05/12/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 08:24

Comments: Q9543343 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0777**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.231**		**0.00844**
Barium	**7440-39-3**	**2.61**		**0.964**
Beryllium	**7440-41-7**	**0.00694**		**0.00288**
Cadmium	7440-43-9	0.0332	U	0.0667
Chromium	**7440-47-3**	**2.21**		**1.99**
Cobalt	**7440-48-4**	**0.218**		**0.0393**
Copper	**7440-50-8**	**26.1**		**2.37**
Lead	**7439-92-1**	**0.593**		**0.193**
Manganese	**7439-96-5**	**7.03**		**1.70**
Molybdenum	**7439-98-7**	**1.67**		**0.323**
Nickel	**7440-02-0**	**1.25**		**0.587**
Selenium	**7782-49-2**	**0.140**	B, LJ, QB-04, QX	**0.00807**
Thallium	**7440-28-0**	**7.71E-4**		**5.30E-4**
Vanadium	**7440-62-2**	**1.36**		**0.0476**
Zinc	7440-66-6	32.2	GC-BS, U	69.2

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051324-HM
Matrix: Air
Lab ID: 4052040-15
Sample Volume: 2051.691 m³
Filter ID:
Sampled: 05/13/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 08:41

Comments: Q9543340 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0852**	SL	**0.0306**
Arsenic	**7440-38-2**	**0.219**		**0.00743**
Barium	**7440-39-3**	**3.58**		**0.849**
Beryllium	**7440-41-7**	**0.00739**		**0.00254**
Cadmium	**7440-43-9**	**0.834**		**0.0588**
Chromium	**7440-47-3**	**1.78**		**1.75**
Cobalt	**7440-48-4**	**0.212**		**0.0346**
Copper	**7440-50-8**	**64.3**		**2.09**
Lead	**7439-92-1**	**0.737**		**0.170**
Manganese	**7439-96-5**	**6.23**		**1.50**
Molybdenum	**7439-98-7**	**2.35**		**0.285**
Nickel	**7440-02-0**	**0.925**		**0.517**
Selenium	**7782-49-2**	**0.138**	B, LJ, QB-04, QX	**0.00711**
Thallium	**7440-28-0**	**5.81E-4**		**4.67E-4**
Vanadium	**7440-62-2**	**1.02**		**0.0419**
Zinc	7440-66-6	28.1	GC-BS, U	60.9

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051324-HM
Matrix: Air
Lab ID: 4052040-16
Sample Volume: 1997.163 m³
Filter ID:
Sampled: 05/13/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 08:59

Comments: Q9543339 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0480**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.158**		**0.00763**
Barium	**7440-39-3**	**2.58**		**0.872**
Beryllium	**7440-41-7**	**0.00886**		**0.00261**
Cadmium	7440-43-9	0.00784	U	0.0604
Chromium	**7440-47-3**	**2.27**		**1.80**
Cobalt	**7440-48-4**	**0.310**		**0.0355**
Copper	**7440-50-8**	**67.2**		**2.14**
Lead	**7439-92-1**	**0.527**		**0.174**
Manganese	**7439-96-5**	**7.02**		**1.54**
Molybdenum	**7439-98-7**	**2.87**		**0.292**
Nickel	**7440-02-0**	**1.22**		**0.531**
Selenium	**7782-49-2**	**0.115**	B, LJ, QB-04, QX	**0.00730**
Thallium	7440-28-0	4.79E-4	U	4.80E-4
Vanadium	**7440-62-2**	**0.976**		**0.0431**
Zinc	7440-66-6	27.5	GC-BS, U	62.6

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051324-HM
Matrix: Air
Lab ID: 4052040-17
Sample Volume: 1851.759 m³
Filter ID:
Sampled: 05/13/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 09:17

Comments: Q9543338 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0945**	SL	**0.0339**
Arsenic	**7440-38-2**	**0.712**		**0.00823**
Barium	**7440-39-3**	**4.09**		**0.940**
Beryllium	**7440-41-7**	**0.0124**		**0.00281**
Cadmium	7440-43-9	0.0168	U	0.0651
Chromium	**7440-47-3**	**2.69**		**1.94**
Cobalt	**7440-48-4**	**0.431**		**0.0383**
Copper	**7440-50-8**	**23.9**		**2.31**
Lead	**7439-92-1**	**1.12**		**0.188**
Manganese	**7439-96-5**	**11.9**		**1.66**
Molybdenum	**7439-98-7**	**1.19**		**0.315**
Nickel	**7440-02-0**	**1.42**		**0.573**
Selenium	**7782-49-2**	**0.147**	B, LJ, QB-04, QX	**0.00787**
Thallium	**7440-28-0**	**6.50E-4**		**5.18E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0465**
Zinc	7440-66-6	29.1	GC-BS, U	67.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051324-HM
Matrix: Air
Lab ID: 4052040-18
Sample Volume: 2051.691 m³
Filter ID:
Sampled: 05/13/24 00:00
Received: 05/20/24 14:25
Analysis Date: 05/22/24 09:33

Comments: Q9543337 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0100	SL, U	0.0306
Arsenic	7440-38-2	0.00633	U	0.00743
Barium	7440-39-3	0.633	U	0.849
Beryllium	7440-41-7	8.98E-4	U	0.00254
Cadmium	7440-43-9	0.00268	U	0.0588
Chromium	7440-47-3	1.32	U	1.75
Cobalt	7440-48-4	0.0250	U	0.0346
Copper	7440-50-8	0.276	U	2.09
Lead	7439-92-1	0.0346	U	0.170
Manganese	7439-96-5	0.155	U	1.50
Molybdenum	7439-98-7	0.195	U	0.285
Nickel	7440-02-0	0.371	U	0.517
Selenium	**7782-49-2**	**0.0132**	B, FB-01, LJ, QB-04, QX	**0.00711**
Thallium	7440-28-0	ND	U	4.67E-4
Vanadium	7440-62-2	0.0235	U	0.0419
Zinc	7440-66-6	14.7	GC-BS, U	60.9

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051424-HM
Matrix: Air
Lab ID: 4052040-19
Sample Volume: 2091.597 m³
Filter ID:
Sampled: 05/14/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 09:47

Comments: Q9543336 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0300**
Arsenic	**7440-38-2**	**2.35**		**0.00729**
Barium	**7440-39-3**	**2.68**		**0.832**
Beryllium	**7440-41-7**	**0.00733**		**0.00249**
Cadmium	7440-43-9	0.0124	U	0.0576
Chromium	**7440-47-3**	**2.50**		**1.72**
Cobalt	**7440-48-4**	**0.264**		**0.0339**
Copper	**7440-50-8**	**71.5**		**2.05**
Lead	**7439-92-1**	**0.831**		**0.166**
Manganese	**7439-96-5**	**7.37**		**1.47**
Molybdenum	**7439-98-7**	**2.54**		**0.279**
Nickel	**7440-02-0**	**0.904**		**0.507**
Selenium	**7782-49-2**	**0.189**	B, LJ, QB-04, QX	**0.00697**
Thallium	**7440-28-0**	**7.26E-4**		**4.58E-4**
Vanadium	**7440-62-2**	**0.859**		**0.0411**
Zinc	7440-66-6	19.7	GC-BS, U	59.7

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051424-HM
Matrix: Air
Lab ID: 4052040-20
Sample Volume: 2037.486 m³
Filter ID:
Sampled: 05/14/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/21/24 20:58

Comments: Q9543334 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0623**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.187**		**0.00748**
Barium	**7440-39-3**	**2.20**		**0.854**
Beryllium	**7440-41-7**	**0.00969**		**0.00256**
Cadmium	7440-43-9	0.0217	U	0.0592
Chromium	**7440-47-3**	**2.25**		**1.76**
Cobalt	**7440-48-4**	**0.259**		**0.0348**
Copper	**7440-50-8**	**45.3**		**2.10**
Lead	**7439-92-1**	**0.386**		**0.171**
Manganese	**7439-96-5**	**5.79**		**1.51**
Molybdenum	**7439-98-7**	**1.91**		**0.287**
Nickel	**7440-02-0**	**1.14**		**0.521**
Selenium	**7782-49-2**	**0.178**	B, LJ, QB-04, QX	**0.00715**
Thallium	**7440-28-0**	**6.51E-4**		**4.70E-4**
Vanadium	**7440-62-2**	**0.723**		**0.0422**
Zinc	7440-66-6	16.7	GC-BS, 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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051424-HM
Matrix: Air
Lab ID: 4052040-21
Sample Volume: 1847.565 m³
Filter ID:
Sampled: 05/14/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 10:02

Comments: Q9543333 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0340**
Arsenic	**7440-38-2**	**1.51**		**0.00825**
Barium	**7440-39-3**	**3.24**		**0.942**
Beryllium	**7440-41-7**	**0.00927**		**0.00282**
Cadmium	7440-43-9	0.0169	U	0.0653
Chromium	**7440-47-3**	**2.50**		**1.95**
Cobalt	**7440-48-4**	**0.338**		**0.0384**
Copper	**7440-50-8**	**31.6**		**2.32**
Lead	**7439-92-1**	**0.837**		**0.188**
Manganese	**7439-96-5**	**9.15**		**1.66**
Molybdenum	**7439-98-7**	**1.72**		**0.316**
Nickel	**7440-02-0**	**1.04**		**0.574**
Selenium	**7782-49-2**	**0.198**	B, LJ, QB-04, QX	**0.00789**
Thallium	**7440-28-0**	**7.49E-4**		**5.19E-4**
Vanadium	**7440-62-2**	**0.833**		**0.0466**
Zinc	7440-66-6	25.9	GC-BS, U	67.6

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051524-HM
Matrix: Air
Lab ID: 4052040-22
Sample Volume: 2068.174 m³
Filter ID:
Sampled: 05/15/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 11:09

Comments: Q9543331 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0578**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.475**		**0.00737**
Barium	**7440-39-3**	**2.14**		**0.842**
Beryllium	**7440-41-7**	**0.00488**		**0.00252**
Cadmium	7440-43-9	0.0458	U	0.0583
Chromium	**7440-47-3**	**1.92**		**1.74**
Cobalt	**7440-48-4**	**0.146**		**0.0343**
Copper	**7440-50-8**	**63.2**		**2.07**
Lead	**7439-92-1**	**0.746**		**0.168**
Manganese	**7439-96-5**	**4.08**		**1.49**
Molybdenum	**7439-98-7**	**2.12**		**0.282**
Nickel	**7440-02-0**	**0.817**		**0.513**
Selenium	**7782-49-2**	**0.208**	B, LJ, QB-04, QX	**0.00705**
Thallium	**7440-28-0**	**8.21E-4**		**4.63E-4**
Vanadium	**7440-62-2**	**0.372**		**0.0416**
Zinc	7440-66-6	17.7	GC-BS, U	60.4

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051524-HM
Matrix: Air
Lab ID: 4052040-23
Sample Volume: 2040.432 m³
Filter ID:
Sampled: 05/15/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 11:40

Comments: Q9543330 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0505**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.0865**		**0.00747**
Barium	**7440-39-3**	**1.80**		**0.853**
Beryllium	**7440-41-7**	**0.00758**		**0.00255**
Cadmium	7440-43-9	0.0107	U	0.0591
Chromium	7440-47-3	1.72	U	1.76
Cobalt	**7440-48-4**	**0.153**		**0.0348**
Copper	**7440-50-8**	**37.6**		**2.10**
Lead	**7439-92-1**	**0.360**		**0.171**
Manganese	**7439-96-5**	**3.49**		**1.51**
Molybdenum	**7439-98-7**	**1.76**		**0.286**
Nickel	**7440-02-0**	**0.643**		**0.520**
Selenium	**7782-49-2**	**0.176**	B, LJ, QB-04, QX	**0.00714**
Thallium	**7440-28-0**	**6.87E-4**		**4.70E-4**
Vanadium	**7440-62-2**	**0.310**		**0.0422**
Zinc	7440-66-6	18.4	GC-BS, U	61.2

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051524-HM
Matrix: Air
Lab ID: 4052040-24
Sample Volume: 1803.364 m³
Filter ID:
Sampled: 05/15/24 23:59
Received: 05/20/24 14:25
Analysis Date: 05/22/24 11:55

Comments: Q9543328 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0702**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.410**		**0.00845**
Barium	**7440-39-3**	**2.73**		**0.965**
Beryllium	**7440-41-7**	**0.00443**		**0.00289**
Cadmium	7440-43-9	0.0183	U	0.0669
Chromium	7440-47-3	1.96	U	1.99
Cobalt	**7440-48-4**	**0.161**		**0.0393**
Copper	**7440-50-8**	**32.8**		**2.37**
Lead	**7439-92-1**	**0.722**		**0.193**
Manganese	**7439-96-5**	**4.30**		**1.71**
Molybdenum	**7439-98-7**	**2.01**		**0.324**
Nickel	**7440-02-0**	**0.657**		**0.588**
Selenium	**7782-49-2**	**0.180**	B, LJ, QB-04, QX	**0.00808**
Thallium	**7440-28-0**	**6.46E-4**		**5.31E-4**
Vanadium	**7440-62-2**	**0.332**		**0.0477**
Zinc	7440-66-6	19.4	GC-BS, U	69.3

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051524-HM
Matrix: Air
Lab ID: 4052040-25
Sample Volume: 2068.174 m³
Filter ID:
Sampled: 05/15/24 00:00
Received: 05/20/24 14:25
Analysis Date: 05/22/24 12:11

Comments: Q9543323 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0145	SL, U	0.0304
Arsenic	**7440-38-2**	**0.00859**	FB-01	**0.00737**
Barium	7440-39-3	0.422	U	0.842
Beryllium	7440-41-7	8.26E-4	U	0.00252
Cadmium	7440-43-9	0.00290	U	0.0583
Chromium	7440-47-3	1.17	U	1.74
Cobalt	7440-48-4	0.0238	U	0.0343
Copper	7440-50-8	1.22	U	2.07
Lead	7439-92-1	0.0373	U	0.168
Manganese	7439-96-5	0.201	U	1.49
Molybdenum	7439-98-7	0.217	U	0.282
Nickel	7440-02-0	0.257	U	0.513
Selenium	**7782-49-2**	**0.00789**	B, FB-01, LJ, QB-04, QX	**0.00705**
Thallium	7440-28-0	ND	U	4.63E-4
Vanadium	7440-62-2	0.0269	U	0.0416
Zinc	7440-66-6	10.0	GC-BS, U	60.4

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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 2405068 - B4D2904										
Calibration Blank (2405068-CCB1)				Prepared & Analyzed: 05/21/24						
Antimony	0.0295		ng/l							
Arsenic	13.5		ng/l							
Barium	0.0354		ng/l							
Beryllium	-0.424		ng/l							U
Cadmium	-0.0144		ng/l							U
Chromium	1.68		ng/l							
Cobalt	0.291		ng/l							
Copper	156		ng/l							
Lead	-5.60		ng/l							U
Manganese	3.30		ng/l							
Molybdenum	7.08		ng/l							
Nickel	3.12		ng/l							
Selenium	34.2		ng/l							LJ, QB-04, QX
Thallium	0.226		ng/l							
Vanadium	-11.2		ng/l							U
Zinc	-1020		ng/l							U
Calibration Blank (2405068-CCB2)				Prepared & Analyzed: 05/21/24						
Antimony	-0.645		ng/l							U
Arsenic	9.11		ng/l							
Barium	-1.77		ng/l							U
Beryllium	-0.247		ng/l							U
Cadmium	-0.137		ng/l							U
Chromium	-0.340		ng/l							U
Cobalt	-0.194		ng/l							U
Copper	-137		ng/l							U
Lead	-9.58		ng/l							U
Manganese	-1.59		ng/l							U
Molybdenum	-5.57		ng/l							U
Nickel	2.59		ng/l							
Selenium	4.83		ng/l							LJ, QX
Thallium	-0.0110		ng/l							U
Vanadium	-12.6		ng/l							U
Zinc	-1060		ng/l							U
Calibration Blank (2405068-CCB3)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	-0.549		ng/l							U
Arsenic	14.3		ng/l							
Barium	0.281		ng/l							
Beryllium	-0.534		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 2405068 - B4D2904										
Calibration Blank (2405068-CCB3) Contin				Prepared: 05/21/24 Analyzed: 05/22/24						
Cadmium	0.0606		ng/l							
Chromium	1.49		ng/l							
Cobalt	-0.0812		ng/l							U
Copper	-209		ng/l							U
Lead	-8.57		ng/l							U
Manganese	-1.37		ng/l							U
Molybdenum	-4.82		ng/l							U
Nickel	3.98		ng/l							
Selenium	4.62		ng/l							LJ, QX
Thallium	0.0759		ng/l							
Vanadium	-16.9		ng/l							U
Zinc	-1050		ng/l							U
Calibration Blank (2405068-CCB4)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	-0.468		ng/l							U
Arsenic	13.5		ng/l							
Barium	0.00173		ng/l							
Beryllium	-0.884		ng/l							U
Cadmium	-0.0505		ng/l							U
Chromium	1.43		ng/l							
Cobalt	0.0642		ng/l							
Copper	-224		ng/l							U
Lead	-9.07		ng/l							U
Manganese	0.617		ng/l							
Molybdenum	-7.46		ng/l							U
Nickel	6.03		ng/l							
Selenium	18.5		ng/l							LJ, QX
Thallium	-0.199		ng/l							U
Vanadium	-16.6		ng/l							U
Zinc	-1060		ng/l							U
Calibration Blank (2405068-CCB5)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	0.429		ng/l							
Arsenic	13.9		ng/l							
Barium	0.592		ng/l							
Beryllium	-1.01		ng/l							U
Cadmium	0.151		ng/l							
Chromium	3.03		ng/l							
Cobalt	0.632		ng/l							
Copper	-201		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 2405068 - B4D2904										
Calibration Blank (2405068-CCB5) Contin				Prepared: 05/21/24 Analyzed: 05/22/24						
Lead	-3.66		ng/l							U
Manganese	5.74		ng/l							
Molybdenum	9.19		ng/l							
Nickel	6.47		ng/l							
Selenium	35.5		ng/l							LJ, QB-04, QX
Thallium	1.21		ng/l							
Vanadium	-28.7		ng/l							U
Zinc	-1040		ng/l							U
Calibration Blank (2405068-CCB6)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	-0.725		ng/l							U
Arsenic	13.9		ng/l							
Barium	-1.77		ng/l							U
Beryllium	-1.38		ng/l							U
Cadmium	-0.00852		ng/l							U
Chromium	-0.00927		ng/l							U
Cobalt	0.0241		ng/l							
Copper	-283		ng/l							U
Lead	-9.65		ng/l							U
Manganese	-1.74		ng/l							U
Molybdenum	-5.35		ng/l							U
Nickel	4.84		ng/l							
Selenium	31.1		ng/l							LJ, QB-04, QX
Thallium	-0.213		ng/l							U
Vanadium	-27.6		ng/l							U
Zinc	-1040		ng/l							U
Calibration Check (2405068-CCV1)				Prepared & Analyzed: 05/21/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4650		ng/l	5000.0		93.0	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	236000		ng/l	240000		98.3	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	49800		ng/l	50000		99.6	90-110			
Nickel	122000		ng/l	120000		102	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 2405068 - B4D2904										
Calibration Check (2405068-CCV1) Contin				Prepared & Analyzed: 05/21/24						
Selenium	20400		ng/l	20000		102	90-110			LJ, QX
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2405068-CCV2)				Prepared & Analyzed: 05/21/24						
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4840		ng/l	5000.0		96.9	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Selenium	20600		ng/l	20000		103	90-110			LJ, QX
Thallium	489		ng/l	500.00		97.7	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2405068-CCV3)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Chromium	238000		ng/l	240000		99.1	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Thallium	484		ng/l	500.00		96.9	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	507000		ng/l	500000		101	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 2405068 - B4D2904										
Calibration Check (2405068-CCV4)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4900		ng/l	5000.0		98.1	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	203000		ng/l	200000		101	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Thallium	479		ng/l	500.00		95.8	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2405068-CCV5)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	4850		ng/l	5000.0		96.9	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	52700		ng/l	50000		105	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20300		ng/l	20000		102	90-110			LJ, QX
Thallium	478		ng/l	500.00		95.6	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	526000		ng/l	500000		105	90-110			
Calibration Check (2405068-CCV6)				Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	20700		ng/l	20000		104	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	211000		ng/l	200000		105	90-110			
Beryllium	4830		ng/l	5000.0		96.6	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 2405068 - B4D2904										
Calibration Check (2405068-CCV6) Contin				Prepared: 05/21/24 Analyzed: 05/22/24						
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	243000		ng/l	240000		101	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	514000		ng/l	500000		103	90-110			
Molybdenum	52100		ng/l	50000		104	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20500		ng/l	20000		102	90-110			LJ, QX
Thallium	475		ng/l	500.00		95.0	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	527000		ng/l	500000		105	90-110			
High Cal Check (2405068-HCV1)				Prepared & Analyzed: 05/21/24						
Antimony	40400		ng/l	40000		101	95-105			
Arsenic	40300		ng/l	40000		101	95-105			
Barium	417000		ng/l	400000		104	95-105			
Beryllium	9890		ng/l	10000		98.9	95-105			
Cadmium	39800		ng/l	40000		99.5	95-105			
Chromium	480000		ng/l	480000		100	95-105			
Cobalt	99700		ng/l	100000		99.7	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.3	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	237000		ng/l	240000		98.6	95-105			
Selenium	40200		ng/l	40000		100	95-105			LJ, QX
Thallium	993		ng/l	1000.0		99.3	95-105			
Vanadium	40000		ng/l	40000		99.9	95-105			
Zinc	1.00E6		ng/l	1.0000E6		100	95-105			
Initial Cal Blank (2405068-ICB1)				Prepared & Analyzed: 05/21/24						
Antimony	-0.438		ng/l							U
Arsenic	1.49		ng/l							
Barium	-1.00		ng/l							U
Beryllium	-0.746		ng/l							U
Cadmium	-0.00367		ng/l							U
Chromium	-0.143		ng/l							U
Cobalt	-0.0873		ng/l							U
Copper	-38.4		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 2405068 - B4D2904										
Initial Cal Blank (2405068-ICB1) Continu				Prepared & Analyzed: 05/21/24						
Lead	-7.80		ng/l							U
Manganese	0.279		ng/l							
Molybdenum	-6.54		ng/l							U
Nickel	-0.0124		ng/l							U
Selenium	17.0		ng/l							LJ, QX
Thallium	-0.243		ng/l							U
Vanadium	-8.01		ng/l							U
Zinc	-1050		ng/l							U
Initial Cal Check (2405068-ICV1)				Prepared & Analyzed: 05/21/24						
Antimony	19700		ng/l	20000		98.7	90-110			
Arsenic	19600		ng/l	20000		97.8	90-110			
Barium	199000		ng/l	200000		99.7	90-110			
Beryllium	4870		ng/l	5000.0		97.5	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	237000		ng/l	240000		98.9	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	49500		ng/l	50000		98.9	90-110			
Nickel	120000		ng/l	120000		99.8	90-110			
Selenium	19800		ng/l	20000		99.0	90-110			LJ, QX
Thallium	507		ng/l	500.00		101	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Interference Check A (2405068-IFA1)				Prepared & Analyzed: 05/21/24						
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	304000		ng/l	300000		101	80-120			
Nickel	0.00		ng/l				80-120			U

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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: 05/31/24 09:23
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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 2405068 - B4D2904										
Interference Check A (2405068-IFA1) Co					Prepared & Analyzed: 05/21/24					
Selenium	0.00		ng/l				80-120			LJ, QX, U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2405068-IFB1)					Prepared & Analyzed: 05/21/24					
Antimony	20700		ng/l	20000		104	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	212000		ng/l	200000		106	80-120			
Beryllium	4620		ng/l	5000.0		92.5	80-120			
Cadmium	19700		ng/l	20000		98.3	80-120			
Chromium	228000		ng/l	240000		95.1	80-120			
Cobalt	49000		ng/l	50000		97.9	80-120			
Copper	1.88E6		ng/l	2.0000E6		94.2	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	505000		ng/l	500000		101	80-120			
Molybdenum	352000		ng/l	350000		101	80-120			
Nickel	115000		ng/l	120000		96.0	80-120			
Selenium	19000		ng/l	20000		95.1	80-120			LJ, QX
Thallium	516		ng/l	500.00		103	80-120			
Vanadium	19300		ng/l	20000		96.6	80-120			
Zinc	463000		ng/l	500000		92.5	80-120			
Batch B4E2105 - ICP-MS Extraction										
Blank (B4E2105-BLK1)					Prepared & Analyzed: 05/21/24					
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	0.0102	0.00896	ng/m³ Air							B, LJ, QB-04, QX
Thallium	ND	5.89E-4	ng/m³ Air							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 B4E2105 - ICP-MS Extraction										
Blank (B4E2105-BLK1) Continued					Prepared & Analyzed: 05/21/24					
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							GC-BS, U
LCS (B4E2105-BS1)					Prepared & Analyzed: 05/21/24					
Antimony	0.693	0.0386	ng/m³ Air	1.3829		50.1	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	29.6	1.07	ng/m³ Air	27.658		107	80-120			
Beryllium	1.40	0.00320	ng/m³ Air	1.3829		102	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.4	80-120			
Chromium	15.8	2.21	ng/m³ Air	13.829		114	80-120			
Cobalt	1.45	0.0436	ng/m³ Air	1.3829		105	80-120			
Copper	29.5	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.53	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.57	0.359	ng/m³ Air	1.3829		113	80-120			
Nickel	3.12	0.652	ng/m³ Air	2.7658		113	80-120			
Selenium	2.83	0.00896	ng/m³ Air	2.7658		102	80-120			B, LJ, QB-04, QX
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.6	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.9	80-120			
Zinc	126	76.8	ng/m³ Air	82.975		151	80-120			GC-BS
LCS (B4E2105-BS2)					Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.696	0.0386	ng/m³ Air	1.3829		50.3	80-120			SL
Arsenic	2.77	0.00937	ng/m³ Air	2.7658		100	80-120			
Barium	29.5	1.07	ng/m³ Air	27.658		107	80-120			
Beryllium	1.30	0.00320	ng/m³ Air	1.3829		94.3	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.0	80-120			
Chromium	15.7	2.21	ng/m³ Air	13.829		113	80-120			
Cobalt	1.44	0.0436	ng/m³ Air	1.3829		104	80-120			
Copper	29.5	2.63	ng/m³ Air	27.658		107	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.64	1.89	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.56	0.359	ng/m³ Air	1.3829		113	80-120			
Nickel	3.10	0.652	ng/m³ Air	2.7658		112	80-120			
Selenium	2.79	0.00896	ng/m³ Air	2.7658		101	80-120			B, LJ, QX
Thallium	0.138	5.89E-4	ng/m³ Air	0.13829		99.8	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.9	80-120			
Zinc	131	76.8	ng/m³ Air	82.975		158	80-120			GC-BS
Duplicate (B4E2105-DUP1)				**Source: 4052040-20**	Prepared & Analyzed: 05/21/24					

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REPORTED: 05/31/24 09:23
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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 B4E2105 - ICP-MS Extraction										
Duplicate (B4E2105-DUP1) Continued			**Source: 4052040-20**		Prepared & Analyzed: 05/21/24					
Antimony	0.0543	0.0308	ng/m³ Air		0.0623			13.6	10	SL
Arsenic	0.158	0.00748	ng/m³ Air		0.187			17.2	10	
Barium	2.48	0.854	ng/m³ Air		2.20			11.8	10	
Beryllium	0.00994	0.00256	ng/m³ Air		0.00969			2.57	10	
Cadmium	ND	0.0592	ng/m³ Air		ND				10	U
Chromium	1.99	1.76	ng/m³ Air		2.25			12.4	10	
Cobalt	0.262	0.0348	ng/m³ Air		0.259			1.29	10	
Copper	45.8	2.10	ng/m³ Air		45.3			1.04	10	
Lead	0.429	0.171	ng/m³ Air		0.386			10.6	10	
Manganese	5.75	1.51	ng/m³ Air		5.79			0.614	10	
Molybdenum	1.88	0.287	ng/m³ Air		1.91			1.38	10	
Nickel	1.02	0.521	ng/m³ Air		1.14			11.6	10	
Selenium	0.192	0.00715	ng/m³ Air		0.178			7.66	10	B, LJ, QB-04, QX
Thallium	6.82E-4	4.70E-4	ng/m³ Air		6.51E-4			4.63	10	
Vanadium	0.717	0.0422	ng/m³ Air		0.723			0.813	10	
Zinc	ND	61.3	ng/m³ Air		ND				10	GC-BS, U
Duplicate (B4E2105-DUP2)			**Source: 4052040-02**		Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.107	0.0319	ng/m³ Air		0.0993			7.39	10	SL
Arsenic	0.284	0.00775	ng/m³ Air		0.277			2.68	10	
Barium	4.67	0.884	ng/m³ Air		4.14			12.1	10	
Beryllium	0.0263	0.00265	ng/m³ Air		0.0248			5.58	10	
Cadmium	ND	0.0613	ng/m³ Air		ND				10	U
Chromium	2.55	1.83	ng/m³ Air		2.45			4.09	10	
Cobalt	0.488	0.0360	ng/m³ Air		0.479			1.74	10	
Copper	50.8	2.17	ng/m³ Air		50.2			1.14	10	
Lead	0.624	0.177	ng/m³ Air		0.602			3.55	10	
Manganese	12.2	1.56	ng/m³ Air		12.0			2.20	10	
Molybdenum	2.54	0.297	ng/m³ Air		2.40			5.64	10	
Nickel	1.76	0.539	ng/m³ Air		1.65			6.38	10	
Selenium	0.245	0.00741	ng/m³ Air		0.219			11.4	10	B, LJ, QX
Thallium	0.00204	4.87E-4	ng/m³ Air		0.00205			0.683	10	
Vanadium	1.81	0.0437	ng/m³ Air		1.76			2.71	10	
Zinc	ND	63.5	ng/m³ Air		ND				10	GC-BS, U
Duplicate (B4E2105-DUP3)			**Source: 4052040-10**		Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.191	0.0343	ng/m³ Air		0.189			0.927	10	SL
Arsenic	1.31	0.00832	ng/m³ Air		1.31			0.0795	10	
Barium	4.68	0.950	ng/m³ Air		4.66			0.377	10	

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FILE #: 4205.00.003.001
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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 B4E2105 - ICP-MS Extraction										
Duplicate (B4E2105-DUP3) Continued		**Source: 4052040-10**		Prepared: 05/21/24 Analyzed: 05/22/24						
Beryllium	0.0112	0.00284	ng/m³ Air		0.0114			1.49	10	
Cadmium	ND	0.0658	ng/m³ Air		ND				10	U
Chromium	3.15	1.96	ng/m³ Air		3.18			0.836	10	
Cobalt	0.371	0.0387	ng/m³ Air		0.372			0.275	10	
Copper	33.1	2.34	ng/m³ Air		33.0			0.340	10	
Lead	1.76	0.190	ng/m³ Air		1.76			0.0117	10	
Manganese	11.5	1.68	ng/m³ Air		11.5			0.0660	10	
Molybdenum	1.60	0.319	ng/m³ Air		1.60			0.383	10	
Nickel	1.43	0.579	ng/m³ Air		1.42			0.405	10	
Selenium	0.174	0.00796	ng/m³ Air		0.174			0.343	10	B, LJ, QX
Thallium	0.00158	5.23E-4	ng/m³ Air		0.00159			0.239	10	
Vanadium	1.21	0.0470	ng/m³ Air		1.21			0.176	10	
Zinc	ND	68.2	ng/m³ Air		ND				10	GC-BS, U
Duplicate (B4E2105-DUP4)		**Source: 4052040-22**		Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	0.0579	0.0304	ng/m³ Air		0.0578			0.219	10	SL
Arsenic	0.476	0.00737	ng/m³ Air		0.475			0.194	10	
Barium	2.13	0.842	ng/m³ Air		2.14			0.358	10	
Beryllium	0.00492	0.00252	ng/m³ Air		0.00488			0.772	10	
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	1.91	1.74	ng/m³ Air		1.92			0.511	10	
Cobalt	0.146	0.0343	ng/m³ Air		0.146			0.0643	10	
Copper	63.3	2.07	ng/m³ Air		63.2			0.170	10	
Lead	0.749	0.168	ng/m³ Air		0.746			0.438	10	
Manganese	4.10	1.49	ng/m³ Air		4.08			0.553	10	
Molybdenum	2.13	0.282	ng/m³ Air		2.12			0.0490	10	
Nickel	0.819	0.513	ng/m³ Air		0.817			0.263	10	
Selenium	0.205	0.00705	ng/m³ Air		0.208			1.65	10	QX, B, LJ, QB-04
Thallium	8.04E-4	4.63E-4	ng/m³ Air		8.21E-4			2.04	10	
Vanadium	0.372	0.0416	ng/m³ Air		0.372			0.0585	10	
Zinc	ND	60.4	ng/m³ Air		ND				10	GC-BS, U
Matrix Spike (B4E2105-MS1)		**Source: 4052040-20**		Prepared & Analyzed: 05/21/24						
Antimony	0.617	0.0308	ng/m³ Air	1.1043	0.0623	50.3	80-120			SL
Arsenic	2.33	0.00748	ng/m³ Air	2.2086	0.187	96.9	80-120			
Barium	25.2	0.854	ng/m³ Air	22.086	2.20	104	80-120			
Beryllium	1.03	0.00256	ng/m³ Air	1.1043	0.00969	92.5	80-120			
Cadmium	1.05	0.0592	ng/m³ Air	1.1043	ND	95.2	80-120			
Chromium	13.1	1.76	ng/m³ Air	11.043	2.25	98.4	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 B4E2105 - ICP-MS Extraction										
Matrix Spike (B4E2105-MS1) Continued		**Source: 4052040-20**		Prepared & Analyzed: 05/21/24						
Cobalt	1.37	0.0348	ng/m³ Air	1.1043	0.259	100	80-120			
Copper	69.2	2.10	ng/m³ Air	22.086	45.3	108	80-120			
Lead	11.6	0.171	ng/m³ Air	11.043	0.386	101	80-120			
Manganese	12.2	1.51	ng/m³ Air	6.6258	5.79	96.8	80-120			
Molybdenum	2.95	0.287	ng/m³ Air	1.1043	1.91	93.9	80-120			
Nickel	3.14	0.521	ng/m³ Air	2.2086	1.14	90.5	80-120			
Selenium	2.38	0.00715	ng/m³ Air	2.2086	0.178	99.5	80-120			B, LJ, QB-04, QX
Thallium	0.109	4.70E-4	ng/m³ Air	0.11043	6.51E-4	98.0	80-120			
Vanadium	2.84	0.0422	ng/m³ Air	2.2086	0.723	95.7	80-120			
Zinc	85.6	61.3	ng/m³ Air	66.258	ND	129	80-120			GC-BS
Matrix Spike (B4E2105-MS2)		**Source: 4052040-02**		Prepared: 05/21/24 Analyzed: 05/22/24						
Antimony	0.747	0.0319	ng/m³ Air	1.1431	0.0993	56.7	80-120			SL
Arsenic	2.49	0.00775	ng/m³ Air	2.2863	0.277	96.7	80-120			
Barium	27.6	0.884	ng/m³ Air	22.863	4.14	102	80-120			
Beryllium	1.10	0.00265	ng/m³ Air	1.1431	0.0248	94.4	80-120			
Cadmium	1.08	0.0613	ng/m³ Air	1.1431	ND	94.3	80-120			
Chromium	13.7	1.83	ng/m³ Air	11.431	2.45	98.5	80-120			
Cobalt	1.62	0.0360	ng/m³ Air	1.1431	0.479	99.5	80-120			
Copper	72.8	2.17	ng/m³ Air	22.863	50.2	98.7	80-120			
Lead	12.1	0.177	ng/m³ Air	11.431	0.602	101	80-120			
Manganese	18.7	1.56	ng/m³ Air	6.8588	12.0	98.2	80-120			
Molybdenum	3.45	0.297	ng/m³ Air	1.1431	2.40	91.8	80-120			
Nickel	3.87	0.539	ng/m³ Air	2.2863	1.65	97.4	80-120			
Selenium	2.46	0.00741	ng/m³ Air	2.2863	0.219	98.2	80-120			B, LJ, QX
Thallium	0.112	4.87E-4	ng/m³ Air	0.11431	0.00205	96.3	80-120			
Vanadium	3.91	0.0437	ng/m³ Air	2.2863	1.76	94.0	80-120			
Zinc	96.1	63.5	ng/m³ Air	68.588	ND	140	80-120			GC-BS
Matrix Spike Dup (B4E2105-MSD1)		**Source: 4052040-20**		Prepared & Analyzed: 05/21/24						
Antimony	0.596	0.0308	ng/m³ Air	1.1043	0.0623	48.4	80-120	3.43	20	SL
Arsenic	2.32	0.00748	ng/m³ Air	2.2086	0.187	96.8	80-120	0.109	20	
Barium	25.1	0.854	ng/m³ Air	22.086	2.20	104	80-120	0.129	20	
Beryllium	1.03	0.00256	ng/m³ Air	1.1043	0.00969	92.8	80-120	0.278	20	
Cadmium	1.06	0.0592	ng/m³ Air	1.1043	ND	95.9	80-120	0.728	20	
Chromium	13.0	1.76	ng/m³ Air	11.043	2.25	97.2	80-120	0.990	20	
Cobalt	1.37	0.0348	ng/m³ Air	1.1043	0.259	100	80-120	0.187	20	
Copper	71.2	2.10	ng/m³ Air	22.086	45.3	117	80-120	2.91	20	
Lead	11.5	0.171	ng/m³ Air	11.043	0.386	101	80-120	0.534	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E2105 - ICP-MS Extraction										
Matrix Spike Dup (B4E2105-MSD1) Contir		**Source: 4052040-20**			Prepared & Analyzed: 05/21/24					
Manganese	12.1	1.51	ng/m³ Air	6.6258	5.79	95.3	80-120	0.823	20	
Molybdenum	3.11	0.287	ng/m³ Air	1.1043	1.91	109	80-120	5.40	20	
Nickel	3.16	0.521	ng/m³ Air	2.2086	1.14	91.2	80-120	0.459	20	
Selenium	2.38	0.00715	ng/m³ Air	2.2086	0.178	99.6	80-120	0.123	20	B, LJ, QB-04, QX
Thallium	0.109	4.70E-4	ng/m³ Air	0.11043	6.51E-4	98.2	80-120	0.226	20	
Vanadium	2.83	0.0422	ng/m³ Air	2.2086	0.723	95.2	80-120	0.387	20	
Zinc	82.4	61.3	ng/m³ Air	66.258	ND	124	80-120	3.86	20	GC-BS
Matrix Spike Dup (B4E2105-MSD2)		**Source: 4052040-02**			Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.720	0.0319	ng/m³ Air	1.1431	0.0993	54.3	80-120	3.69	20	SL
Arsenic	2.45	0.00775	ng/m³ Air	2.2863	0.277	95.0	80-120	1.63	20	
Barium	27.7	0.884	ng/m³ Air	22.863	4.14	103	80-120	0.643	20	
Beryllium	1.09	0.00265	ng/m³ Air	1.1431	0.0248	92.8	80-120	1.74	20	
Cadmium	1.08	0.0613	ng/m³ Air	1.1431	ND	94.9	80-120	0.590	20	
Chromium	13.8	1.83	ng/m³ Air	11.431	2.45	99.6	80-120	0.965	20	
Cobalt	1.63	0.0360	ng/m³ Air	1.1431	0.479	101	80-120	0.922	20	
Copper	74.0	2.17	ng/m³ Air	22.863	50.2	104	80-120	1.68	20	
Lead	12.1	0.177	ng/m³ Air	11.431	0.602	100	80-120	0.282	20	
Manganese	19.2	1.56	ng/m³ Air	6.8588	12.0	105	80-120	2.39	20	
Molybdenum	3.66	0.297	ng/m³ Air	1.1431	2.40	110	80-120	6.00	20	
Nickel	3.97	0.539	ng/m³ Air	2.2863	1.65	102	80-120	2.42	20	
Selenium	2.45	0.00741	ng/m³ Air	2.2863	0.219	97.5	80-120	0.617	20	B, LJ, QX
Thallium	0.112	4.87E-4	ng/m³ Air	0.11431	0.00205	96.1	80-120	0.210	20	
Vanadium	3.99	0.0437	ng/m³ Air	2.2863	1.76	97.5	80-120	2.02	20	
Zinc	94.2	63.5	ng/m³ Air	68.588	ND	137	80-120	1.94	20	GC-BS
Post Spike (B4E2105-PS1)		**Source: 4052040-20**			Prepared & Analyzed: 05/21/24					
Antimony	0.275	0.0308	ng/m³ Air	0.22086	0.0623	96.3	75-125			SL
Arsenic	1.25	0.00748	ng/m³ Air	1.1043	0.187	96.4	75-125			
Barium	4.36	0.854	ng/m³ Air	2.2086	2.20	98.0	75-125			
Beryllium	0.216	0.00256	ng/m³ Air	0.22086	0.00969	93.6	75-125			
Cadmium	0.128	0.0592	ng/m³ Air	0.11043	ND	116	75-125			
Chromium	3.32	1.76	ng/m³ Air	1.1043	2.25	97.3	75-125			
Cobalt	0.475	0.0348	ng/m³ Air	0.22086	0.259	97.8	75-125			
Copper	56.8	2.10	ng/m³ Air	11.043	45.3	104	75-125			
Lead	22.2	0.171	ng/m³ Air	22.086	0.386	98.6	75-125			
Manganese	7.96	1.51	ng/m³ Air	2.2086	5.79	98.1	75-125			
Molybdenum	2.92	0.287	ng/m³ Air	1.1043	1.91	91.5	75-125			
Nickel	3.31	0.521	ng/m³ Air	2.2086	1.14	98.2	75-125			

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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: 05/31/24 09:23
SUBMITTED: 05/20/24
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 B4E2105 - ICP-MS Extraction										
Post Spike (B4E2105-PS1) Continued			**Source: 4052040-20**		Prepared & Analyzed: 05/21/24					
Selenium	1.23	0.00715	ng/m³ Air	1.1043	0.178	95.3	75-125			B, LJ, QB-04, QX
Thallium	0.0554	4.70E-4	ng/m³ Air	5.5215E-2	6.51E-4	99.2	75-125			
Vanadium	1.78	0.0422	ng/m³ Air	1.1043	0.723	95.5	75-125			
Zinc	ND	61.3	ng/m³ Air	22.086	ND		75-125			GC-BS, U
Post Spike (B4E2105-PS2)			**Source: 4052040-02**		Prepared: 05/21/24 Analyzed: 05/22/24					
Antimony	0.333	0.0319	ng/m³ Air	0.22863	0.0993	102	75-125			SL
Arsenic	1.39	0.00775	ng/m³ Air	1.1431	0.277	97.2	75-125			
Barium	6.50	0.884	ng/m³ Air	2.2863	4.14	103	75-125			
Beryllium	0.240	0.00265	ng/m³ Air	0.22863	0.0248	94.1	75-125			
Cadmium	0.125	0.0613	ng/m³ Air	0.11431	ND	110	75-125			
Chromium	3.56	1.83	ng/m³ Air	1.1431	2.45	96.9	75-125			
Cobalt	0.704	0.0360	ng/m³ Air	0.22863	0.479	98.1	75-125			
Copper	62.0	2.17	ng/m³ Air	11.431	50.2	103	75-125			
Lead	23.4	0.177	ng/m³ Air	22.863	0.602	99.8	75-125			
Manganese	14.3	1.56	ng/m³ Air	2.2863	12.0	100	75-125			
Molybdenum	3.48	0.297	ng/m³ Air	1.1431	2.40	94.3	75-125			
Nickel	3.92	0.539	ng/m³ Air	2.2863	1.65	99.4	75-125			
Selenium	1.32	0.00741	ng/m³ Air	1.1431	0.219	96.7	75-125			QX, B, LJ
Thallium	0.0582	4.87E-4	ng/m³ Air	5.7157E-2	0.00205	98.2	75-125			
Vanadium	2.85	0.0437	ng/m³ Air	1.1431	1.76	96.0	75-125			
Zinc	ND	63.5	ng/m³ Air	22.863	ND		75-125			GC-BS, U
Dilution Check (B4E2105-SRL1)			**Source: 4052040-20**		Prepared & Analyzed: 05/21/24					
Antimony	ND	0.154	ng/m³ Air		ND				10	SL, U
Arsenic	0.190	0.0374	ng/m³ Air		0.187			1.49	10	
Barium	ND	4.27	ng/m³ Air		ND				10	U
Beryllium	ND	0.0128	ng/m³ Air		ND				10	U
Cadmium	ND	0.296	ng/m³ Air		ND				10	U
Chromium	ND	8.82	ng/m³ Air		ND				10	U
Cobalt	0.261	0.174	ng/m³ Air		0.259			0.857	10	
Copper	46.0	10.5	ng/m³ Air		45.3			1.56	10	
Lead	ND	0.854	ng/m³ Air		ND				10	U
Manganese	ND	7.55	ng/m³ Air		ND				10	U
Molybdenum	1.89	1.43	ng/m³ Air		1.91			0.824	10	
Nickel	ND	2.60	ng/m³ Air		ND				10	U
Selenium	0.234	0.0358	ng/m³ Air		0.178			27.3	10	B, LJ, QB-04, QX
Thallium	ND	0.00235	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 05/31/24 09:23
SUBMITTED: 05/20/24
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 B4E2105 - ICP-MS Extraction										
Dilution Check (B4E2105-SRL1) Continue				**Source: 4052040-20**			Prepared & Analyzed: 05/21/24			
Vanadium	0.770	0.211	ng/m³ Air		0.723			6.21	10	
Zinc	ND	307	ng/m³ Air		ND				10	GC-BS, U
Dilution Check (B4E2105-SRL2)				**Source: 4052040-02**			Prepared: 05/21/24 Analyzed: 05/22/24			
Antimony	ND	0.160	ng/m³ Air		ND				10	SL, U
Arsenic	0.290	0.0387	ng/m³ Air		0.277			4.57	10	
Barium	ND	4.42	ng/m³ Air		ND				10	U
Beryllium	0.0246	0.0132	ng/m³ Air		0.0248			0.967	10	
Cadmium	ND	0.306	ng/m³ Air		ND				10	U
Chromium	ND	9.13	ng/m³ Air		ND				10	U
Cobalt	0.485	0.180	ng/m³ Air		0.479			1.09	10	
Copper	51.7	10.9	ng/m³ Air		50.2			2.87	10	
Lead	ND	0.884	ng/m³ Air		ND				10	U
Manganese	12.1	7.81	ng/m³ Air		12.0			1.41	10	
Molybdenum	2.44	1.48	ng/m³ Air		2.40			1.65	10	
Nickel	ND	2.69	ng/m³ Air		ND				10	U
Selenium	0.250	0.0370	ng/m³ Air		0.219			13.5	10	B, LJ, QX, SRD-01
Thallium	0.00278	0.00243	ng/m³ Air		ND			30.0	10	
Vanadium	1.81	0.219	ng/m³ Air		1.76			2.83	10	
Zinc	ND	317	ng/m³ Air		ND				10	GC-BS, U

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AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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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 05/30/2024 & Shanna Vasser 06/03/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 05/09/2024-05/14
Report No: 4052040

√	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.
√	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.
√	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, copper, and selenium in MFL-FB01-050924-HM, for selenium in MFL-FB01-051124-HM, for selenium in MFL-FB01-051324-HM, and arsenic and selenium MFL-FB01-051524-HM.

Notes:

1. Report was revised on 05/31/2024 to correct sample ID for MFL-FB01-051524-HM.
2. The laboratory noted that samples MFL-AM02-051024-HM, MFL-AM02-051124-HM, MFL-AM02-051324-HM, MFL-AM03-051324-HM, MFL-AM04-051324-HM, and MFL-AM03-051424-HM were nonhomogeneous. There were no additional details; therefore, it is assumed the other samples met method criteria for analysis.

Ambient Community Air Monitoring Weekly Report
For the Hawaii Department of Health – Clean Air Branch

Lahaina, Maui

5/16/2024 – 5/22/2024

Due to ongoing debris removal operations in response to the Maui Wildfires, a Community Air Monitoring and Sampling Plan (CAMSP) has been drafted and sampling is being performed at 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)

This approach includes ambient community air monitoring and sampling to monitor 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 HDOH via online shared site and this weekly report. This approach to air monitoring and sampling will continue until debris removal activities are complete or until HDOH CAB advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the draft CAMSP. Additionally, daily air samples were collected at all community locations, as depicted in **Figure 1**. Summary analytical data is presented in **Tables 1 and 2**. **Appendix 1** provides detailed analytical results for all community locations where air sampling was performed. Analytical results were compared to site-specific screening levels for particulate matter, asbestos, and heavy metals as described in the draft CAMSP. A summary of meteorological data is presented in **Table 3.** Overall wind conditions show approximately 1.3 mph in a generally Southerly direction.

Results for Community Locations:
Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), as this is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from May 16- May 22 at each of the following locations: Leialii Hawaiian Homelands, WW Pump Station #4, and Lahaina Boys & Girls Club, with the exception of Lahaina Intermediate School on May 19 and 20 because the weather head for the instrument malfunctioned and was being replaced.

The PM_{10} monitoring results were not found to have exceeded the screening level during this reporting period, as shown in **Table 2**.

Please note that ambient air monitoring for fine particulate matter, with a particle size diameter of 2.5 micrometers or less ($PM_{2.5}$) is not included in this report. This monitoring is being performed by the Department of Health/EPA at six locations in Lahaina and can be viewed at: https://fire.airnow.gov/.

There were 28 samples collected for asbestos fibers at community monitoring locations throughout this reporting period. All asbestos results were below the Site Screening Action Level (SSAL) of 0.003 fibers per cubic centimeter (fibers/cc) and less than the laboratory's analytical sensitivity (see Table 1). Notably, the laboratory commented "Numerous gypsum fibers present" on samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on May 18, 20 and 22

- WW Pump Station #4 on May 16-20 and 22
- Lahaina Intermediate School on May 17, 19, 20, and 22
- Lahaina Boys & Girls Club on May 18-20, and 22

Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers found in the samples were not sufficient to obscure asbestos analysis; nor are they indicative of a health and safety concern. Occupational health exposure thresholds (National Institute for Occupational Safety and Health [NIOSH] and OSHA) 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. While total dust sampling has not been conducted, the size-discriminated particulate sampling (PM_{10}) at these locations indicates these thresholds are not being approached and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of heavy metals were detected in ambient air samples at all of the other community sampling locations. Although heavy metals were detected, all concentrations were below the SSALs (see Table 1). The laboratory data sheets for the metals and asbestos samples collected from the community locations are found in **Appendix 1.**

Quality Control:

This section briefly discusses the quality control efforts made by Tetra Tech throughout the air monitoring and sampling process. All references and SOPs can be found provided with the CAMSP.

Tetra Tech is utilizing Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the National Ambient Air Quality Standards (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 prior to monitoring according to the manufacturer's procedures.

For asbestos sampling, Tetra Tech uses 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 using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Tetra Tech is using Tisch Environmental High Volume Air Samplers, or equivalent, collocated with the real-time particulate monitors and asbestos samplers described above. Air samples for elemental metals at community locations are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a 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 the off-site analytical laboratories, analytical data is maintained in an electronic database and compared to the SSALs. Level 1 data verification is completed on all analytical data and results are reviewed by an industrial hygienist.

Attachments

Basemap: ESRI ArcGIS World Street Map

Table 1
HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results by Date
Maui Wildfire, Lahaina
5/16/2024-5/22/2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
5/16/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000108	0.00136	0.00566	0.0000198	ND	0.00480	0.000951	0.0458	0.00123	0.0227	0.00188	0.00308	0.000252	0.00000207	0.00238	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000571	0.000555	0.000961	0.00000284	ND	ND	0.0000750	0.0374	0.000360	0.00206	0.00135	ND	0.000200	0.00000113	0.000198	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000567	0.000107	0.00160	0.00000440	ND	ND	0.0000982	0.0156	0.000269	0.00205	0.000850	0.000538	0.000202	0.00000106	0.000195	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000836	0.000538	0.00176	0.00000480	ND	ND	0.000165	0.0451	0.000644	0.00453	0.00200	0.000670	0.000210	0.00000114	0.000367	ND
5/17/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000189	0.00213	0.00635	0.0000224	ND	0.00587	0.00117	0.0573	0.00123	0.0274	0.00239	0.00328	0.000367	0.00000199	0.00302	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000841	0.00128	0.00169	0.00000535	ND	0.00208	0.000138	0.0670	0.00106	0.00435	0.00197	0.000734	0.000303	0.00000141	0.000405	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000793	0.000321	0.00265	0.00000856	ND	0.00232	0.000332	0.0253	0.000408	0.00665	0.00127	0.00127	0.000306	0.00000139	0.000790	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000944	0.000472	0.00205	0.00000557	0.0000702	0.00195	0.000190	0.0403	0.000835	0.00482	0.00173	0.000765	0.000317	0.00000137	0.000462	ND
5/18/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000106	0.000371	0.00343	0.00000863	ND	0.00278	0.000387	0.153	0.000513	0.00939	0.00532	0.00158	0.000326	0.00000134	0.00132	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000682	0.000298	0.00193	0.00000574	ND	0.00198	0.000150	0.0327	0.000556	0.00451	0.00141	0.000990	0.000324	0.00000117	0.000709	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000551	0.000221	0.00288	0.0000153	ND	0.00269	0.000456	0.0211	0.000306	0.00973	0.000927	0.00158	0.000327	0.00000128	0.00128	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000196	0.000618	0.00463	0.00000921	ND	0.00261	0.000335	0.0330	0.00151	0.00884	0.000998	0.00125	0.000311	0.00000126	0.00106	ND
5/19/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000103	0.00110	0.00382	0.00000753	ND	0.00237	0.000310	0.150	0.000507	0.00865	0.00515	0.00135	0.000252	0.00000166	0.00136	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000709	0.000345	0.00223	0.00000412	ND	0.00193	0.000115	0.0325	0.000544	0.00366	0.00134	0.00122	0.000250	0.00000121	0.000790	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000679	0.000166	0.00283	0.00000684	ND	0.00189	0.000281	0.0201	0.000318	0.00635	0.000844	0.00121	0.000208	0.00000124	0.000953	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000125	0.000516	0.00321	0.00000447	ND	ND	0.000144	0.0334	0.000753	0.00450	0.00116	0.000953	0.000214	0.00000129	0.000718	ND
5/20/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000983	0.00227	0.00374	0.00000678	ND	0.00256	0.000312	0.198	0.000556	0.00819	0.00623	0.00145	0.000257	0.00000183	0.00134	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000104	0.000631	0.00370	0.00000458	ND	0.00220	0.000130	0.0353	0.000625	0.00394	0.00135	0.00136	0.000281	0.00000199	0.000974	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000835	0.000245	0.00327	0.00000743	ND	0.00204	0.000290	0.0390	0.000438	0.00687	0.00180	0.00128	0.000276	0.00000190	0.00123	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000768	0.000364	0.00245	0.00000610	ND	ND	0.000180	0.0268	0.000593	0.00530	0.00105	0.000890	0.000249	0.00000178	0.000994	ND
5/21/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000804	0.000189	0.00226	0.00000449	ND	0.00199	0.000163	0.164	0.000287	0.00412	0.00590	0.000856	0.000191	0.00000130	0.000840	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000108	0.000383	0.00346	0.00000618	ND	0.00207	0.000240	0.0277	0.000432	0.00638	0.00104	0.00139	0.000160	0.00000104	0.000942	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000808	0.000252	0.00444	0.0000136	ND	0.00300	0.000530	0.0383	0.000987	0.0120	0.00213	0.00180	0.000212	0.00000151	0.00175	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000117	0.000414	0.00492	0.0000122	ND	0.00254	0.000386	0.0233	0.00116	0.0116	0.000975	0.00148	0.000225	0.00000141	0.00139	ND
5/22/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000816	0.000842	0.00664	0.0000236	ND	0.00572	0.00129	0.176	0.000669	0.0297	0.00828	0.00360	0.000284	0.00000191	0.00358	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000960	0.000971	0.00440	0.00000950	ND	0.00275	0.000304	0.0305	0.000641	0.0101	0.00125	0.00153	0.000211	0.00000138	0.00111	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000814	0.000292	0.00512	0.0000531	ND	0.00323	0.000678	0.0245	0.000554	0.0151	0.00174	0.00200	0.000261	0.00000162	0.00167	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.0000964	0.000497	0.00457	0.0000122	ND	0.00260	0.000369	0.0268	0.000834	0.0114	0.00136	0.00129	0.000211	0.00000142	0.00132	ND
95% Upper Confidence Limit[2]		NA	0.000110	0.000860	0.00414	0.0000130	NA	0.00314	0.000480	0.0743	0.000800	0.0119	0.00284	0.00170	0.000280	0.00000160	0.00161	NA

Notes:
[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.
[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test
s/cc = structures per cubic centimeter
ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Table 2
HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results for PM_{10}
Maui Wildfire, Lahaina
5/16/2024 - 5/22/2024

Screening Level		**150 µg/m^3**
5/16/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	20
	Lahaina Intermediate School (AM-03)	76
	Lahaina Boys & Girls Club (AM-04)	12
5/17/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	27
	Lahaina Intermediate School (AM-03)	14
	Lahaina Boys & Girls Club (AM-04)	14
5/18/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	17
	Lahaina Intermediate School (AM-03)	8.7
	Lahaina Boys & Girls Club (AM-04)	11
5/19/2024	Leialii Hawaiian Homelands (AM-01)	8.9
	WW Pump Station #4 (AM-02)	17
	Lahaina Intermediate School (AM-03)	
	Lahaina Boys & Girls Club (AM-04)	9.7
5/20/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	15
	Lahaina Intermediate School (AM-03)	
	Lahaina Boys & Girls Club (AM-04)	10
5/21/2024	Leialii Hawaiian Homelands (AM-01)	9.7
	WW Pump Station #4 (AM-02)	17
	Lahaina Intermediate School (AM-03)	9.4
	Lahaina Boys & Girls Club (AM-04)	9.2
5/22/2024	Leialii Hawaiian Homelands (AM-01)	8.0
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	7.3

Notes:

µg/m3 = micrograms per cubic meter

24 hour TWA calculation results are shown in two significant figures

Results are based on 24 hour TWA calculation except for the following:

Results for Leialii Hawaiian Homelands (AM-01) on 5/16 are based on a 21 hr. TWA because of equipment maintenance.

Results for WW Pump Station #4 (AM-02) on 5/16 are based on a 22 hr. TWA because of equipment maintenance.

Results for Lahaina Boys & Girls Club (AM-04) on 5/18 are based on a 22 hr. TWA because of equipment maintenance.

Results for Lahaina Intermediate School (AM-03) on 5/18 are based on a 8 hr. TWA because of equipment malfunction.

Results for Lahaina Intermediate School (AM-03) on 5/21 are based on a 7 hr. TWA because of equipment malfunction.

No 24hr TWA results for Lahaina Intermediate School (AM-03) on 5/19 and 5/20 because of equipment malfunction and repair.

Table 3
Maui Wildfire - Lahaina
Meteorological Data
5/16/2024-5/22/2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
5/16/2024	AM-01	Leialii Hawaiian Homelands	2.0	SSE	80	76	756.9
5/16/2024	AM-02	WW Pump Station #4	1.7	SSE	80	81	759.2
5/16/2024	AM-03	Lahaina Intermediate School	3.5	SSE	78	84	749.9
5/16/2024	AM-04	Lahaina Boys & Girls Club	1.7	SSE	78	80	758.9
5/17/2024	AM-01	Leialii Hawaiian Homelands	1.5	SSW	83	70	758.4
5/17/2024	AM-02	WW Pump Station #4	1.0	S	83	76	760.6
5/17/2024	AM-03	Lahaina Intermediate School	1.7	SSE	80	77	751.4
5/17/2024	AM-04	Lahaina Boys & Girls Club	1.7	S	80	76	760.3
5/18/2024	AM-01	Leialii Hawaiian Homelands	1.0	S	80	76	760.0
5/18/2024	AM-02	WW Pump Station #4	0.7	S	82	79	762.1
5/18/2024	AM-03	Lahaina Intermediate School	2.6	SSE	79	80	750.7
5/18/2024	AM-04	Lahaina Boys & Girls Club	1.1	SW	78	79	761.8
5/19/2024	AM-01	Leialii Hawaiian Homelands	1.3	S	79	72	761.0
5/19/2024	AM-02	WW Pump Station #4	0.8	S	80	77	763.2
5/19/2024	AM-03	Lahaina Intermediate School					
5/19/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	77	75	762.8
5/20/2024	AM-01	Leialii Hawaiian Homelands	1.0	SSE	81	66	761.1
5/20/2024	AM-02	WW Pump Station #4	0.9	S	81	71	763.2
5/20/2024	AM-03	Lahaina Intermediate School					
5/20/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	77	71	762.9
5/21/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	81	63	760.8
5/21/2024	AM-02	WW Pump Station #4	1.0	SSE	81	69	763.0
5/21/2024	AM-03	Lahaina Intermediate School	1.3	ESE	78	69	752.7
5/21/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	78	69	762.6
5/22/2024	AM-01	Leialii Hawaiian Homelands	0.8	S	83	63	761.0
5/22/2024	AM-02	WW Pump Station #4	1.1	S	82	70	763.2
5/22/2024	AM-03	Lahaina Intermediate School	1.2	SSE	80	67	753.7
5/22/2024	AM-04	Lahaina Boys & Girls Club	1.2	SW	79	69	762.8

Notes:
°F - Fahrenheit
mBar - millibar
mph - miles per hour
Weather data for Lahaina Intermediate School on May 18 and 21 are averaged over an 8 hr period due to Equipment Malfunction

Appendix 1

Please note, comments pertaining to gypsum may be mentioned in the lab reports below. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042410348
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:	05/22/2024 09:40 AM
Analysis Date:	05/24/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-051624-AB** **Sample Description:** **Dk797097**

EMSL Sample Number:	042410348-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7180.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410348
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: 042410348-0001 **Customer Sample:** MFL-AM01-051624-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	G5	None Detected									
B1	D2	None Detected									
B1	A4	None Detected									
B2	I6	None Detected									
B2	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/24/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-051624-AB** **Sample Description: DK797135**

EMSL Sample Number:	042410348-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7148.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410348
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: 042410348-0002 **Customer Sample:** MFL-AM02-051624-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	J7	None Detected									
B5	F4	None Detected									
B5	A7	None Detected									
B6	C8	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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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/25/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051624-AB** **Sample Description: DK797128**

EMSL Sample Number:	042410348-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7283.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410348
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: 042410348-0003 **Customer Sample:** MFL-AM03-051624-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	B6	None Detected									
C1	F8	None Detected									
C1	I5	None Detected									
C2	J8	None Detected									
C2	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:	042410348
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:	05/22/2024 09:40 AM
Analysis Date:	05/25/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-051624-AB**		**Sample Description:**	**DK797093**
EMSL Sample Number:	042410348-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7148.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410348
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: 042410348-0004 **Customer Sample:** MFL-AM04-051624-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	A6	None Detected									
C5	F3	None Detected									
C5	I5	None Detected									
C6	B3	None Detected									
C6	E5	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:	042410348
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/28/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051624-AB** **Sample Description: DK797079**

EMSL Sample Number:	042410348-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410348
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: 042410348-0005 **Customer Sample:** MFL-FB01-051624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D2	J8	None Detected									
D2	I3	None Detected									
D2	E5	None Detected									
D2	A10	None Detected									
D3	J9	None Detected									
D3	H4	None Detected									
D3	F7	None Detected									
D4	J5	None Detected									
D4	G1	None Detected									
D4	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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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/28/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-051724-AB**		**Sample Description:**	**DK797113**
EMSL Sample Number:	042410348-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7106.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042410348**
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: 042410348-0006 **Customer Sample:** MFL-AM01-051724-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	A8	None Detected									
D5	D5	None Detected									
D5	I2	None Detected									
D6	H7	None Detected									
D6	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042410348
Customer ID:	TTDC42
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Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/23/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-051724-AB** **Sample Description:** **DK797098**

EMSL Sample Number:	042410348-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7198.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410348
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: 042410348-0007 **Customer Sample:** MFL-AM02-051724-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	B5	None Detected									
E2	F8	None Detected									
E2	J7	None Detected									
E3	I4	None Detected									
E3	E7	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:	042410348
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/28/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051724-AB** **Sample Description: DK797122**

EMSL Sample Number:	042410348-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7254.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Approved Signatory

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EMSL Order ID: 042410348
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: 042410348-0008 **Customer Sample:** MFL-AM03-051724-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	G5	None Detected									
E5	B4	None Detected									
E6	H6	None Detected									
E6	D3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	05/29/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051724-AB** **Sample Description:** **DK797091**

EMSL Sample Number:	042410348-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7219.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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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: 042410348-0009 **Customer Sample:** MFL-AM04-051724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	C3	None Detected									
F1	F5	None Detected									
F1	J8	None Detected									
F2	H6	None Detected									
F2	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051724-AB** **Sample Description: DK797075**

EMSL Sample Number:	042410348-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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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: 042410348-0010 **Customer Sample:** MFL-FB01-051724-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	A8	None Detected									
F5	B4	None Detected									
F5	F4	None Detected									
F5	I7	None Detected									
F6	A3	None Detected									
F6	E7	None Detected									
F6	H8	None Detected									
F7	J4	None Detected									
F7	G2	None Detected									
F7	D5	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-AM01-051824-AB**		**Sample Description:**	**DK797095**
EMSL Sample Number:	042410348-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7228.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042410348-0011 **Customer Sample:** MFL-AM01-051824-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	H4	None Detected									
G1	E5	None Detected									
G1	A8	None Detected									
G2	D3	None Detected									
G2	G6	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:	05/22/2024 09:40 AM
Analysis Date:	05/29/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-051824-AB**		**Sample Description:**	**DK797104**
EMSL Sample Number:	042410348-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7227.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410348
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: 042410348-0012 **Customer Sample:** MFL-AM02-051824-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	B4	None Detected									
G5	E7	None Detected									
G5	J3	None Detected									
G6	I7	None Detected									
G6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/29/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051824-AB** **Sample Description: DK797086**

EMSL Sample Number:	042410348-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7238.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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: 042410348-0013 **Customer Sample:** MFL-AM03-051824-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	I3	None Detected									
H1	F6	None Detected									
H1	B7	None Detected									
H2	A7	None Detected									
H2	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	05/29/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-051824-AB**		**Sample Description:**	**DK797111**
EMSL Sample Number:	042410348-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7228.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042410348-0014 **Customer Sample:** MFL-AM04-051824-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	J6	None Detected									
H5	G3	None Detected									
H5	C5	None Detected									
H6	H4	None Detected									
H6	E7	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:	05/22/2024 09:40 AM
Analysis Date:	05/29/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051824-AB** **Sample Description:** **DK797112**

EMSL Sample Number:	042410348-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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: 042410348-0015 **Customer Sample:** MFL-FB01-051824-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	B8	None Detected									
I1	C5	None Detected									
I1	J8	None Detected									
I2	A5	None Detected									
I2	C9	None Detected									
I2	F6	None Detected									
I2	J4	None Detected									
I3	A6	None Detected									
I3	E5	None Detected									
I3	J6	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-AM01-051924-AB**		**Sample Description:**	**DK797110**
EMSL Sample Number:	042410348-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7218.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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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: 042410348-0016 **Customer Sample:** MFL-AM01-051924-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	B4	None Detected									
I5	F8	None Detected									
I5	I5	None Detected									
I6	J4	None Detected									
I6	E3	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-AM02-051924-AB** **Sample Description: DK797114**

EMSL Sample Number:	042410348-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7119.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042410348
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: 042410348-0017 **Customer Sample:** MFL-AM02-051924-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	I3	None Detected									
J1	G8	None Detected									
J1	A4	None Detected									
J2	D7	None Detected									
J2	H4	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:	042410348
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:	05/22/2024 09:40 AM
Analysis Date:	05/29/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-051924-AB** **Sample Description: DK797137**

EMSL Sample Number:	042410348-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7229.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410348
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: 042410348-0018 **Customer Sample:** MFL-AM03-051924-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	J7	None Detected									
J5	G4	None Detected									
J5	C6	None Detected									
J6	I6	None Detected									
J6	E4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/29/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-051924-AB** **Sample Description: DK797103**

EMSL Sample Number:	042410348-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7123.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042410348-0019 **Customer Sample:** MFL-AM04-051924-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	A4	None Detected									
K1	D7	None Detected									
K1	H5	None Detected									
K2	I4	None Detected									
K2	F3	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
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/29/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-051924-AB** **Sample Description: DK797105**

EMSL Sample Number:	042410348-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410348
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: 042410348-0020 **Customer Sample:** MFL-FB01-051924-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	J3	None Detected									
K5	I7	None Detected									
K5	E5	None Detected									
K5	A8	None Detected									
K6	H6	None Detected									
K6	D3	None Detected									
K6	B6	None Detected									
K7	I3	None Detected									
K7	G6	None Detected									
K7	A4	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:	042410348
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/22/2024 09:40 AM
Analysis Date:	05/24/2024
Report Date:	05/30/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042410348-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	0			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042410348-0021 **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	J7	None Detected									
A1	H4	None Detected									
A1	D8	None Detected									
A1	A6	None Detected									
A2	B7	None Detected									
A2	A5	None Detected									
A2	I4	None Detected									
A3	J3	None Detected									
A3	H6	None Detected									
A3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042410348

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410348

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	CHELSEA SABER
Street Address:	1560 BROADWAY STE 1400
City, State, Zip:	DENVER, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	MAUI FIRES- LAHAINA
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	E. KARYSA SALDAÑA
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.

RECEIVED EMSL CINNAMINSON, NJ MAY 22 PM 12:24

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-051624-AB	DK797097	7,180.901	05/16/24 1104
MFL-AM02-051624-AB	DK797135	7,148.498	05/16/24 1120
MFL-AM03-051624-AB	DK797128	7,283.437	05/16/24 1303
MFL-AM04-051624-AB	DK797093	7,148.501	05/16/24 1323
MFL-FB01-051624-AB	DK797079	0	05/16/24 1200
MFL-AM01-051724-AB	DK797113	7,106.190	05/17/24 1052
MFL-AM02-051724-AB	DK797098	7,198.344	05/17/24 1124
MFL-AM03-051724-AB	DK797122	7,254.104	05/17/24 1257

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/20/24 1100	Received by: FF	Date/Time 5/22/24 940
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 MC

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410348

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-AM04-051724-AB	DK797091	7,219.656	05/17/24 1326
MFL-FB01-051724-AB	DK797075	0	05/17/24 1200
MFL-AM01-051824-AB	DK797095	7,228.368	05/18/24 1055
MFL-AM02-051824-AB	DK797104	7,227.942	05/18/24 1124
MFL-AM03-051824-AB	DK797086	7,238.880	05/18/24 1301
MFL-AM04-051824-AB	DK797111	7,228.239	05/18/24 1346
MFL-FB01-051824-AB	DK797112	0	05/18/24 1200
MFL-AM01-051924-AB	DK797110	7,218.039	05/19/24 1100
MFL-AM02-051924-AB	DK797114	7,119.564	05/19/24 1117
MFL-AM03-051924-AB	DK797137	7,229.081	05/19/24 1306
MFL-AM04-051924-AB	DK797103	7,123.181	05/19/24 1328
MFL-FB01-051924-AB	DK797105	0	05/19/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAY 22 PM 12:24

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/20/24 1100	Received by:	Date/Time
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 05/30/2024 and Shanna Vasser 06/03/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/16/2024 – 05/19/2024
Report No: 42410348

√	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:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	05/30/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-052024-AB**		**Sample Description:**	**DK797088**
EMSL Sample Number:	042410618-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7257.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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: 042410618
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: 042410618-0001 **Customer Sample:** MFL-AM01-052024-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	A4	None Detected									
B2	E7	None Detected									
B2	H5	None Detected									
B3	C8	None Detected									
B3	F4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	05/30/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-052024-AB** **Sample Description: DK797144**

EMSL Sample Number:	042410618-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7364.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	**042410618**
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: 042410618-0002 **Customer Sample:** MFL-AM02-052024-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	G7	None Detected									
B5	D4	None Detected									
B5	A3	None Detected									
B6	B5	None Detected									
B6	F9	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:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	05/30/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-052024-AB**		**Sample Description:**	**DK797390**
EMSL Sample Number:	042410618-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7193.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
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EMSL Order ID: 042410618
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: 042410618-0003 **Customer Sample:** MFL-AM03-052024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C2	I3	None Detected									
C2	F7	None Detected									
C2	B4	None Detected									
C3	A3	None Detected									
C3	E5	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:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	05/30/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-052024-AB**		**Sample Description:**	**DK797377**
EMSL Sample Number:	042410618-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7256.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410618
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: 042410618-0004 **Customer Sample:** MFL-AM04-052024-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	G3	None Detected									
C5	D6	None Detected									
C5	A8	None Detected									
C6	H4	None Detected									
C6	C7	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**

Phone:	(703) 489-2674
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Analysis Date:	05/30/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-052024-AB** **Sample Description: DK797405**

EMSL Sample Number:	042410618-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410618
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: 042410618-0005 **Customer Sample:** MFL-FB01-052024-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	A3	None Detected									
D1	C8	None Detected									
D1	F4	None Detected									
D1	J7	None Detected									
D2	B7	None Detected									
D2	D9	None Detected									
D2	H4	None Detected									
D3	A2	None Detected									
D3	E8	None Detected									
D3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer 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:	05/28/2024 09:10 AM
Analysis Date:	05/30/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-052124-AB**		**Sample Description:**	**DK797379**
EMSL Sample Number:	042410618-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7418.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	2			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410618
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: 042410618-0006 **Customer Sample:** MFL-AM01-052124-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	J8	None Detected									
D5	G5	None Detected									
D5	C3	None Detected									
D6	I6	None Detected									
D6	D6	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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Received Date:	05/28/2024 09:10 AM
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Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-052124-AB**	**Sample Description:**	**DK797432**
EMSL Sample Number:	042410618-0007	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7073.6
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	9		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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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: 042410618-0007 **Customer Sample:** MFL-AM02-052124-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	C7	None Detected									
E1	F4	None Detected									
E1	J6	None Detected									
E2	H8	None Detected									
E2	D6	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:	05/28/2024 09:10 AM
Analysis Date:	05/31/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-052124-AB**		**Sample Description:**	**DK797402**
EMSL Sample Number:	042410618-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7199.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410618
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: 042410618-0008 **Customer Sample:** MFL-AM03-052124-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	A9	None Detected									
E5	F3	None Detected									
E5	I6	None Detected									
E6	J8	None Detected									
E6	E2	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:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	06/01/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-052124-AB** **Sample Description: DK797411**

EMSL Sample Number:	042410618-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7157.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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Approved Signatory

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EMSL Order ID: 042410618
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: 042410618-0009 **Customer Sample:** MFL-AM04-052124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I5	None Detected									
F1	F3	None Detected									
F1	A7	None Detected									
F2	G6	None Detected									
F2	D4	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**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/28/2024 09:10 AM
Analysis Date:	06/01/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-052124-AB**		**Sample Description:**	**DK797381**
EMSL Sample Number:	042410618-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID:	**042410618**
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: 042410618-0010 **Customer Sample:** MFL-FB01-052124-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	A7	None Detected									
F5	D9	None Detected									
F5	F6	None Detected									
F5	J4	None Detected									
F7	A6	None Detected									
F7	D5	None Detected									
F7	J6	None Detected									
F8	B8	None Detected									
F8	F4	None Detected									
F8	I2	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**

Phone:	(703) 489-2674
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Received Date:	05/28/2024 09:10 AM
Analysis Date:	06/01/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-052224-AB**		**Sample Description:**	**DK797389**
EMSL Sample Number:	042410618-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7376.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410618
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: 042410618-0011 **Customer Sample:** MFL-AM01-052224-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	D7	None Detected									
G1	G6	None Detected									
G1	J4	None Detected									
G2	H5	None Detected									
G2	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:	05/28/2024 09:10 AM
Analysis Date:	06/01/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-052224-AB**		**Sample Description:**	**DK797396**
EMSL Sample Number:	042410618-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7383.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID:	**042410618**
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: 042410618-0012 **Customer Sample:** MFL-AM02-052224-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	B4	None Detected									
G5	E7	None Detected									
G5	H6	None Detected									
G6	A7	None Detected									
G6	G6	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:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	06/01/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-052224-AB**		**Sample Description:**	**DK797391**
EMSL Sample Number:	042410618-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7186.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi² Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410618
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: 042410618-0013 **Customer Sample:** MFL-AM03-052224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	I6	None Detected									
H1	F9	None Detected									
H1	C6	None Detected									
H2	G4	None Detected									
H2	B6	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:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	06/01/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-052224-AB**		**Sample Description:**	**DK797388**
EMSL Sample Number:	042410618-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7264.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410618
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: 042410618-0014 **Customer Sample:** MFL-AM04-052224-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					
H6	J7	None Detected									
H6	G3	None Detected									
H6	D6	None Detected									
H7	A3	None Detected									
H7	F8	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:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	06/01/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-052224-AB**		**Sample Description:**	**DK797395**
EMSL Sample Number:	042410618-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410618
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: 042410618-0015 **Customer Sample:** MFL-FB01-052224-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	J4	None Detected									
I1	G2	None Detected									
I1	C4	None Detected									
I2	A5	None Detected									
I2	D8	None Detected									
I2	F3	None Detected									
I2	I5	None Detected									
I3	C2	None Detected									
I3	C7	None Detected									
I3	G5	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:	042410618
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:	05/28/2024 09:10 AM
Analysis Date:	05/30/2024
Report Date:	06/04/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042410618-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410618
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: 042410618-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	J4	None Detected									
A1	F7	None Detected									
A1	E3	None Detected									
A1	A5	None Detected									
A3	I8	None Detected									
A3	G4	None Detected									
A3	C3	None Detected									
A4	B8	None Detected									
A4	D4	None Detected									
A4	I5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042410618

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042410618

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 24 MAY 28 AM 9:58

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: TETRA TECH
Contact Name: CHELSEA SABER
Street Address: 1560 BROADWAY STE 1400
City, State, Zip: DENVER, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Information

Project Name/No: MAUI FIRES - LAHAINA
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: E. KARYSA SALDAÑA
Sampled By Signature:
No. of Samples in Shipment 15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
☐ NIOSH 7400
☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
☐ POINT COUNT
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
POINT COUNT w/ GRAVIMETRIC
☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
☐ NIOSH 9002 (<1%)
☐ NYS 198.1 (Friable - NY)
☐ NYS 198.6 NOB (Non-Friable - NY)
☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☒ ISO 10312*

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (Non-Friable-NY)
☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
☐ Microvac - ASTM D5755
☐ Wipe - ASTM D6480
☐ Qualitative via Filtration Prep
☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

☐ Positive Stop - Clearly Identified Homogeneous Areas (HA) | Filter Pore Size (Air Samples) ☐ 0.8um ☒ 0.45um

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-052024-AB3	DK797088	7,257.336	05/20/24 1050
MFL-AM02-052024-AB3	DK797144	7,364.912	05/20/24 1118
MFL-AM03-052024-AB3	DK797390	7,193.909	05/20/24 1307
MFL-AM04-052024-AB3	DK797377	7,256.880	05/20/24 1331
MFL-FB01-052024-AB	DK797405	418.0	05/20/24 1200
MFL-AM01-052124-AB3	DK797379	7,~~448~~.477	05/21/24 1057
MFL-AM02-052124-AB3	DK797432	7,073.638 (EKS)	05/21/24 1119
MFL-AM03-052124-AB3	DK797402	7,199.016	05/21/24 1306

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

(15) SB

Method of Shipment: FED EX
Relinquished by: Date/Time: 05/23/24 1100
Relinquished by: Date/Time:
Sample Condition Upon Receipt:
Received by: FedEx Date/Time 5/28/24 9:10 A
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042410618

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410618

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-AM04-052124-AB	DK797411	7,157.309	05/21/24 1323
MFL-FB01-052124-AB	DK797381	0	05/21/24 1200
MFL-AM01-052224-AB	DK797389	7,376.170	05/22/24 1059
MFL-AM02-052224-AB	DK797396	7,383.162	05/22/24 1120
MFL-AM03-052224-AB	DK797391	7,185.974	05/22/24 1306
MFL-AM04-052224-AB	DK797388	7,264.800	05/22/24 1326
MFL-FB01-052224-AB	DK797395	0	05/22/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAY 28 AM 9:58

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/23/24 1100	Received by:	Date/Time
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 06/05/2024 and Shanna Vasser 06/06/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/20/2024 – 05/22/2024
Report No: 42410618

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

June 04, 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 05/28/24 13:27.

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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-051624-HM	4052830-01	Air	05/16/24 23:59	05/28/24 13:27
MFL-AM02-051624-HM	4052830-02	Air	05/16/24 23:59	05/28/24 13:27
MFL-AM03-051624-HM	4052830-03	Air	05/16/24 23:59	05/28/24 13:27
MFL-AM04-051624-HM	4052830-04	Air	05/16/24 23:59	05/28/24 13:27
MFL-AM01-051724-HM	4052830-05	Air	05/17/24 23:59	05/28/24 13:27
MFL-AM02-051724-HM	4052830-06	Air	05/17/24 23:59	05/28/24 13:27
MFL-AM03-051724-HM	4052830-07	Air	05/17/24 23:59	05/28/24 13:27
MFL-AM04-051724-HM	4052830-08	Air	05/17/24 23:59	05/28/24 13:27
MFL-FB01-051724-HM	4052830-09	Air	05/17/24 00:00	05/28/24 13:27
MFL-AM01-051824-HM	4052830-10	Air	05/18/24 23:59	05/28/24 13:27
MFL-AM02-051824-HM	4052830-11	Air	05/18/24 23:59	05/28/24 13:27
MFL-AM03-051824-HM	4052830-12	Air	05/18/24 23:59	05/28/24 13:27
MFL-AM04-051824-HM	4052830-13	Air	05/18/24 23:59	05/28/24 13:27
MFL-AM01-051924-HM	4052830-14	Air	05/19/24 23:59	05/28/24 13:27
MFL-AM02-051924-HM	4052830-15	Air	05/19/24 23:59	05/28/24 13:27
MFL-AM03-051924-HM	4052830-16	Air	05/19/24 23:59	05/28/24 13:27
MFL-AM04-051924-HM	4052830-17	Air	05/19/24 23:59	05/28/24 13:27
MFL-FB01-051924-HM	4052830-18	Air	05/19/24 00:00	05/28/24 13:27
MFL-AM01-052024-HM	4052830-19	Air	05/20/24 23:59	05/28/24 13:27
MFL-AM02-052024-HM	4052830-20	Air	05/20/24 23:59	05/28/24 13:27
MFL-AM03-052024-HM	4052830-21	Air	05/20/24 23:59	05/28/24 13:27

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-052024-HM	4052830-22	Air	05/20/24 23:59	05/28/24 13:27
MFL-AM01-052124-HM	4052830-23	Air	05/21/24 23:59	05/28/24 13:27
MFL-AM02-052124-HM	4052830-24	Air	05/21/24 23:59	05/28/24 13:27
MFL-AM03-052124-HM	4052830-25	Air	05/21/24 23:59	05/28/24 13:27
MFL-AM04-052124-HM	4052830-26	Air	05/21/24 23:59	05/28/24 13:27
MFL-FB01-052124-HM	4052830-27	Air	05/21/24 00:00	05/28/24 13:27
MFL-AM01-052224-HM	4052830-28	Air	05/22/24 23:59	05/28/24 13:27
MFL-AM02-052224-HM	4052830-29	Air	05/22/24 23:59	05/28/24 13:27
MFL-AM03-052224-HM	4052830-30	Air	05/22/24 23:59	05/28/24 13:27
MFL-AM04-052224-HM	4052830-31	Air	05/22/24 23:59	05/28/24 13:27

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-051624-HM
Matrix: Air
Lab ID: 4052830-01
Sample Volume: 1732.089 m³
Filter ID:
Sampled: 05/16/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 01:01

Comments: Q9543326 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.108**	SL	**0.0363**
Barium	**7440-39-3**	**5.66**		**1.01**
Beryllium	**7440-41-7**	**0.0198**		**0.00301**
Cadmium	7440-43-9	0.0274	U	0.0696
Chromium	**7440-47-3**	**4.80**		**2.08**
Cobalt	**7440-48-4**	**0.951**		**0.0410**
Copper	**7440-50-8**	**45.8**		**2.47**
Lead	**7439-92-1**	**1.23**		**0.201**
Manganese	**7439-96-5**	**22.7**		**1.78**
Molybdenum	**7439-98-7**	**1.88**		**0.337**
Nickel	**7440-02-0**	**3.08**		**0.612**
Selenium	**7782-49-2**	**0.252**		**0.00842**
Thallium	**7440-28-0**	**0.00207**		**5.53E-4**
Vanadium	**7440-62-2**	**2.38**		**0.0497**
Zinc	7440-66-6	51.7	U	72.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-051624-HM
Matrix: Air
Lab ID: 4052830-01RE1
Sample Volume: 1732.089 m³
Filter ID:
Sampled: 05/16/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 14:04

Comments: Q9543326 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	1.36		0.00880

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051624-HM
Matrix: Air
Lab ID: 4052830-02
Sample Volume: 2068.175 m³
Filter ID:
Sampled: 05/16/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 01:19

Comments: Q9543324 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0571**	SL	**0.0304**
Barium	**7440-39-3**	**0.961**		**0.842**
Beryllium	**7440-41-7**	**0.00284**		**0.00252**
Cadmium	7440-43-9	0.0102	U	0.0583
Chromium	7440-47-3	1.48	U	1.74
Cobalt	**7440-48-4**	**0.0750**		**0.0343**
Copper	**7440-50-8**	**37.4**		**2.07**
Lead	**7439-92-1**	**0.360**		**0.168**
Manganese	**7439-96-5**	**2.06**		**1.49**
Molybdenum	**7439-98-7**	**1.35**		**0.282**
Nickel	7440-02-0	0.473	U	0.513
Selenium	**7782-49-2**	**0.200**		**0.00705**
Thallium	**7440-28-0**	**0.00113**		**4.63E-4**
Vanadium	**7440-62-2**	**0.198**		**0.0416**
Zinc	7440-66-6	32.2	U	60.4

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051624-HM
Matrix: Air
Lab ID: 4052830-02RE1
Sample Volume: 2068.175 m³
Filter ID:
Sampled: 05/16/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 14:14

Comments: Q9543324 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.555		0.00737

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051624-HM
Matrix: Air
Lab ID: 4052830-03
Sample Volume: 1995.485 m³
Filter ID:
Sampled: 05/16/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 01:52

Comments: Q9543321 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0567**	SL	**0.0315**
Barium	**7440-39-3**	**1.60**		**0.872**
Beryllium	**7440-41-7**	**0.00440**		**0.00261**
Cadmium	7440-43-9	0.0117	U	0.0604
Chromium	7440-47-3	1.50	U	1.80
Cobalt	**7440-48-4**	**0.0982**		**0.0355**
Copper	**7440-50-8**	**15.6**		**2.14**
Lead	**7439-92-1**	**0.269**		**0.174**
Manganese	**7439-96-5**	**2.05**		**1.54**
Molybdenum	**7439-98-7**	**0.850**		**0.293**
Nickel	**7440-02-0**	**0.538**		**0.532**
Selenium	**7782-49-2**	**0.202**		**0.00731**
Thallium	**7440-28-0**	**0.00106**		**4.80E-4**
Vanadium	**7440-62-2**	**0.195**		**0.0431**
Zinc	7440-66-6	30.6	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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051624-HM
Matrix: Air
Lab ID: 4052830-03RE1
Sample Volume: 1995.485 m³
Filter ID:
Sampled: 05/16/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 14:46
Comments: Q9543321 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.107		0.00764

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051624-HM
Matrix: Air
Lab ID: 4052830-04
Sample Volume: 1800.333 m³
Filter ID:
Sampled: 05/16/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 02:07

Comments: Q9543320 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0836**	SL	**0.0349**
Barium	**7440-39-3**	**1.76**		**0.967**
Beryllium	**7440-41-7**	**0.00480**		**0.00289**
Cadmium	7440-43-9	0.0213	U	0.0670
Chromium	7440-47-3	1.91	U	2.00
Cobalt	**7440-48-4**	**0.165**		**0.0394**
Copper	**7440-50-8**	**45.1**		**2.38**
Lead	**7439-92-1**	**0.644**		**0.193**
Manganese	**7439-96-5**	**4.53**		**1.71**
Molybdenum	**7439-98-7**	**2.00**		**0.324**
Nickel	**7440-02-0**	**0.670**		**0.589**
Selenium	**7782-49-2**	**0.210**		**0.00810**
Thallium	**7440-28-0**	**0.00114**		**5.32E-4**
Vanadium	**7440-62-2**	**0.367**		**0.0478**
Zinc	7440-66-6	38.5	U	69.4

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051624-HM
Matrix: Air
Lab ID: 4052830-04RE1
Sample Volume: 1800.333 m³
Filter ID:
Sampled: 05/16/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 14:56

Comments: Q9543320 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.538		0.00847

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-051724-HM
Matrix: Air
Lab ID: 4052830-05
Sample Volume: 1934.531 m³
Filter ID:
Sampled: 05/17/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 02:22

Comments: Q9543319 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.189**	SL	**0.0325**
Barium	**7440-39-3**	**6.35**		**0.900**
Beryllium	**7440-41-7**	**0.0224**		**0.00269**
Cadmium	7440-43-9	0.0318	U	0.0623
Chromium	**7440-47-3**	**5.87**		**1.86**
Cobalt	**7440-48-4**	**1.17**		**0.0367**
Copper	**7440-50-8**	**57.3**		**2.21**
Lead	**7439-92-1**	**1.23**		**0.180**
Manganese	**7439-96-5**	**27.4**		**1.59**
Molybdenum	**7439-98-7**	**2.39**		**0.302**
Nickel	**7440-02-0**	**3.28**		**0.548**
Selenium	**7782-49-2**	**0.367**		**0.00754**
Thallium	**7440-28-0**	**0.00199**		**4.95E-4**
Vanadium	**7440-62-2**	**3.02**		**0.0445**
Zinc	7440-66-6	45.8	U	64.6

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-051724-HM
Matrix: Air
Lab ID: 4052830-05RE1
Sample Volume: 1934.531 m³
Filter ID:
Sampled: 05/17/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 15:06

Comments: Q9543319 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**2.13**	LJ, QX	**0.00788**

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051724-HM
Matrix: Air
Lab ID: 4052830-06
Sample Volume: 2139.635 m³
Filter ID:
Sampled: 05/17/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 02:38

Comments: Q9543318 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0841**	SL	**0.0294**
Barium	**7440-39-3**	**1.69**		**0.814**
Beryllium	**7440-41-7**	**0.00535**		**0.00243**
Cadmium	7440-43-9	0.0364	U	0.0563
Chromium	**7440-47-3**	**2.08**		**1.68**
Cobalt	**7440-48-4**	**0.138**		**0.0332**
Copper	**7440-50-8**	**67.0**		**2.00**
Lead	**7439-92-1**	**1.06**		**0.163**
Manganese	**7439-96-5**	**4.35**		**1.44**
Molybdenum	**7439-98-7**	**1.97**		**0.273**
Nickel	**7440-02-0**	**0.734**		**0.496**
Selenium	**7782-49-2**	**0.303**		**0.00681**
Thallium	**7440-28-0**	**0.00141**		**4.48E-4**
Vanadium	**7440-62-2**	**0.405**		**0.0402**
Zinc	7440-66-6	28.2	U	58.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051724-HM
Matrix: Air
Lab ID: 4052830-06RE1
Sample Volume: 2139.635 m³
Filter ID:
Sampled: 05/17/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 15:17
Comments: Q9543318 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	1.28		0.00713

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051724-HM
Matrix: Air
Lab ID: 4052830-07
Sample Volume: 1950.459 m³
Filter ID:
Sampled: 05/17/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 02:55

Comments: Q9543317 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0793**	SL	**0.0322**
Barium	**7440-39-3**	**2.65**		**0.893**
Beryllium	**7440-41-7**	**0.00856**		**0.00267**
Cadmium	7440-43-9	0.0376	U	0.0618
Chromium	**7440-47-3**	**2.32**		**1.84**
Cobalt	**7440-48-4**	**0.332**		**0.0364**
Copper	**7440-50-8**	**25.3**		**2.19**
Lead	**7439-92-1**	**0.408**		**0.179**
Manganese	**7439-96-5**	**6.65**		**1.58**
Molybdenum	**7439-98-7**	**1.27**		**0.299**
Nickel	**7440-02-0**	**1.27**		**0.544**
Selenium	**7782-49-2**	**0.306**		**0.00747**
Thallium	**7440-28-0**	**0.00139**		**4.91E-4**
Vanadium	**7440-62-2**	**0.790**		**0.0441**
Zinc	7440-66-6	32.6	U	64.1

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051724-HM
Matrix: Air
Lab ID: 4052830-07RE1
Sample Volume: 1950.459 m³
Filter ID:
Sampled: 05/17/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 15:27

Comments: Q9543317 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.321		0.00782

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051724-HM
Matrix: Air
Lab ID: 4052830-08
Sample Volume: 1846.553 m³
Filter ID:
Sampled: 05/17/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 03:09

Comments: Q9543316 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0944**	SL	**0.0340**
Barium	**7440-39-3**	**2.05**		**0.943**
Beryllium	**7440-41-7**	**0.00557**		**0.00282**
Cadmium	**7440-43-9**	**0.0702**		**0.0653**
Chromium	**7440-47-3**	**1.95**		**1.95**
Cobalt	**7440-48-4**	**0.190**		**0.0384**
Copper	**7440-50-8**	**40.3**		**2.32**
Lead	**7439-92-1**	**0.835**		**0.189**
Manganese	**7439-96-5**	**4.82**		**1.67**
Molybdenum	**7439-98-7**	**1.73**		**0.316**
Nickel	**7440-02-0**	**0.765**		**0.574**
Selenium	**7782-49-2**	**0.317**		**0.00789**
Thallium	**7440-28-0**	**0.00137**		**5.19E-4**
Vanadium	**7440-62-2**	**0.462**		**0.0466**
Zinc	7440-66-6	30.5	U	67.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051724-HM
Matrix: Air
Lab ID: 4052830-08RE1
Sample Volume: 1846.553 m³
Filter ID:
Sampled: 05/17/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 15:38
Comments: Q9543316 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.472		0.00826

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051724-HM
Matrix: Air
Lab ID: 4052830-09
Sample Volume: 1934.531 m³
Filter ID:
Sampled: 05/17/24 00:00
Received: 05/28/24 13:27
Analysis Date: 05/31/24 03:25

Comments: Q9543312 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0120	SL, U	0.0325
Barium	7440-39-3	0.430	U	0.900
Beryllium	7440-41-7	8.88E-4	U	0.00269
Cadmium	7440-43-9	0.00657	U	0.0623
Chromium	7440-47-3	1.19	U	1.86
Cobalt	7440-48-4	0.0244	U	0.0367
Copper	7440-50-8	1.24	U	2.21
Lead	7439-92-1	0.0333	U	0.180
Manganese	7439-96-5	0.146	U	1.59
Molybdenum	7439-98-7	0.217	U	0.302
Nickel	7440-02-0	0.257	U	0.548
Selenium	7782-49-2	ND	U	0.00754
Thallium	7440-28-0	1.21E-4	U	4.95E-4
Vanadium	7440-62-2	0.0194	U	0.0445
Zinc	7440-66-6	21.7	U	64.6

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051724-HM
Matrix: Air
Lab ID: 4052830-09RE1
Sample Volume: 1934.531 m³
Filter ID:
Sampled: 05/17/24 00:00
Received: 05/28/24 13:27
Analysis Date: 05/31/24 16:30

Comments: Q9543312 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.00279	U	0.00788

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-051824-HM
Matrix: Air
Lab ID: 4052830-10
Sample Volume: 1829.679 m³
Filter ID:
Sampled: 05/18/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 04:32

Comments: Q9543315 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0343**
Barium	**7440-39-3**	**3.43**		**0.951**
Beryllium	**7440-41-7**	**0.00863**		**0.00285**
Cadmium	7440-43-9	0.0272	U	0.0659
Chromium	**7440-47-3**	**2.78**		**1.97**
Cobalt	**7440-48-4**	**0.387**		**0.0388**
Copper	**7440-50-8**	**153**		**2.34**
Lead	**7439-92-1**	**0.513**		**0.190**
Manganese	**7439-96-5**	**9.39**		**1.68**
Molybdenum	**7439-98-7**	**5.32**		**0.319**
Nickel	**7440-02-0**	**1.58**		**0.580**
Selenium	**7782-49-2**	**0.326**		**0.00797**
Thallium	**7440-28-0**	**0.00134**	QB-04	**5.24E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0470**
Zinc	7440-66-6	27.6	U	68.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-051824-HM
Matrix: Air
Lab ID: 4052830-10RE1
Sample Volume: 1829.679 m³
Filter ID:
Sampled: 05/18/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 16:40

Comments: Q9543315 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.371		0.00833

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051824-HM
Matrix: Air
Lab ID: 4052830-11
Sample Volume: 1945.953 m³
Filter ID:
Sampled: 05/18/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 04:48

Comments: Q9543313 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0682**	SL	**0.0323**
Barium	**7440-39-3**	**1.93**		**0.895**
Beryllium	**7440-41-7**	**0.00574**		**0.00268**
Cadmium	7440-43-9	0.0172	U	0.0620
Chromium	**7440-47-3**	**1.98**		**1.85**
Cobalt	**7440-48-4**	**0.150**		**0.0365**
Copper	**7440-50-8**	**32.7**		**2.20**
Lead	**7439-92-1**	**0.556**		**0.179**
Manganese	**7439-96-5**	**4.51**		**1.58**
Molybdenum	**7439-98-7**	**1.41**		**0.300**
Nickel	**7440-02-0**	**0.990**		**0.545**
Selenium	**7782-49-2**	**0.324**		**0.00749**
Thallium	**7440-28-0**	**0.00117**	QB-04	**4.92E-4**
Vanadium	**7440-62-2**	**0.709**		**0.0442**
Zinc	7440-66-6	21.1	U	64.2

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051824-HM
Matrix: Air
Lab ID: 4052830-11RE1
Sample Volume: 1945.953 m³
Filter ID:
Sampled: 05/18/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 16:50

Comments: Q9543313 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.298		0.00783

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051824-HM
Matrix: Air
Lab ID: 4052830-12
Sample Volume: 1943.122 m³
Filter ID:
Sampled: 05/18/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 05:03

Comments: Q9543311 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0551**	SL	**0.0323**
Barium	**7440-39-3**	**2.88**		**0.896**
Beryllium	**7440-41-7**	**0.0153**		**0.00268**
Cadmium	7440-43-9	0.0215	U	0.0620
Chromium	**7440-47-3**	**2.69**		**1.85**
Cobalt	**7440-48-4**	**0.456**		**0.0365**
Copper	**7440-50-8**	**21.1**		**2.20**
Lead	**7439-92-1**	**0.306**		**0.179**
Manganese	**7439-96-5**	**9.73**		**1.58**
Molybdenum	**7439-98-7**	**0.927**		**0.301**
Nickel	**7440-02-0**	**1.58**		**0.546**
Selenium	**7782-49-2**	**0.327**		**0.00750**
Thallium	**7440-28-0**	**0.00128**	QB-04	**4.93E-4**
Vanadium	**7440-62-2**	**1.28**		**0.0443**
Zinc	7440-66-6	30.2	U	64.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051824-HM
Matrix: Air
Lab ID: 4052830-12RE1
Sample Volume: 1943.122 m³
Filter ID:
Sampled: 05/18/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 17:01

Comments: Q9543311 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.221		0.00785

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051824-HM
Matrix: Air
Lab ID: 4052830-13
Sample Volume: 1751.718 m³
Filter ID:
Sampled: 05/18/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 05:18

Comments: Q9543310 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.196**	SL	**0.0359**
Barium	**7440-39-3**	**4.63**		**0.994**
Beryllium	**7440-41-7**	**0.00921**		**0.00297**
Cadmium	7440-43-9	0.0397	U	0.0688
Chromium	**7440-47-3**	**2.61**		**2.05**
Cobalt	**7440-48-4**	**0.335**		**0.0405**
Copper	**7440-50-8**	**33.0**		**2.44**
Lead	**7439-92-1**	**1.51**		**0.199**
Manganese	**7439-96-5**	**8.84**		**1.76**
Molybdenum	**7439-98-7**	**0.998**		**0.333**
Nickel	**7440-02-0**	**1.25**		**0.606**
Selenium	**7782-49-2**	**0.311**		**0.00832**
Thallium	**7440-28-0**	**0.00126**	QB-04	**5.47E-4**
Vanadium	**7440-62-2**	**1.06**		**0.0491**
Zinc	7440-66-6	40.5	U	71.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051824-HM
Matrix: Air
Lab ID: 4052830-13RE1
Sample Volume: 1751.718 m³
Filter ID:
Sampled: 05/18/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 17:11

Comments: Q9543310 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.618		0.00870

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-051924-HM
Matrix: Air
Lab ID: 4052830-14
Sample Volume: 1914.695 m³
Filter ID:
Sampled: 05/19/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/30/24 18:12

Comments: Q8504028 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0328**
Arsenic	**7440-38-2**	**1.10**		**0.00796**
Barium	**7440-39-3**	**3.82**		**0.909**
Beryllium	**7440-41-7**	**0.00753**		**0.00272**
Cadmium	7440-43-9	0.0144	U	0.0630
Chromium	**7440-47-3**	**2.37**		**1.88**
Cobalt	**7440-48-4**	**0.310**		**0.0370**
Copper	**7440-50-8**	**150**	QM-4X	**2.23**
Lead	**7439-92-1**	**0.507**		**0.182**
Manganese	**7439-96-5**	**8.65**		**1.61**
Molybdenum	**7439-98-7**	**5.15**		**0.305**
Nickel	**7440-02-0**	**1.35**		**0.554**
Selenium	**7782-49-2**	**0.252**		**0.00761**
Thallium	**7440-28-0**	**0.00166**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**1.36**		**0.0450**
Zinc	7440-66-6	29.5	U	65.3

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051924-HM
Matrix: Air
Lab ID: 4052830-15
Sample Volume: 2090.067 m³
Filter ID:
Sampled: 05/19/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 05:35

Comments: Q8504026 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0709**	SL	**0.0300**
Barium	**7440-39-3**	**2.23**		**0.833**
Beryllium	**7440-41-7**	**0.00412**		**0.00249**
Cadmium	7440-43-9	0.0124	U	0.0577
Chromium	**7440-47-3**	**1.93**		**1.72**
Cobalt	**7440-48-4**	**0.115**		**0.0339**
Copper	**7440-50-8**	**32.5**		**2.05**
Lead	**7439-92-1**	**0.544**		**0.167**
Manganese	**7439-96-5**	**3.66**		**1.47**
Molybdenum	**7439-98-7**	**1.34**		**0.279**
Nickel	**7440-02-0**	**1.22**		**0.508**
Selenium	**7782-49-2**	**0.250**		**0.00697**
Thallium	**7440-28-0**	**0.00121**	QB-04	**4.59E-4**
Vanadium	**7440-62-2**	**0.790**		**0.0412**
Zinc	7440-66-6	25.7	U	59.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-051924-HM
Matrix: Air
Lab ID: 4052830-15RE1
Sample Volume: 2090.067 m³
Filter ID:
Sampled: 05/19/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 17:21

Comments: Q8504026 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.345		0.00729

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051924-HM
Matrix: Air
Lab ID: 4052830-16
Sample Volume: 2100.478 m³
Filter ID:
Sampled: 05/19/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 05:50

Comments: Q8504025 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0679**	SL	**0.0299**
Barium	**7440-39-3**	**2.83**		**0.829**
Beryllium	**7440-41-7**	**0.00684**		**0.00248**
Cadmium	7440-43-9	0.00856	U	0.0574
Chromium	**7440-47-3**	**1.89**		**1.71**
Cobalt	**7440-48-4**	**0.281**		**0.0338**
Copper	**7440-50-8**	**20.1**		**2.04**
Lead	**7439-92-1**	**0.318**		**0.166**
Manganese	**7439-96-5**	**6.35**		**1.46**
Molybdenum	**7439-98-7**	**0.844**		**0.278**
Nickel	**7440-02-0**	**1.21**		**0.505**
Selenium	**7782-49-2**	**0.208**		**0.00694**
Thallium	**7440-28-0**	**0.00124**	QB-04	**4.56E-4**
Vanadium	**7440-62-2**	**0.953**		**0.0410**
Zinc	7440-66-6	18.8	U	59.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-051924-HM
Matrix: Air
Lab ID: 4052830-16RE1
Sample Volume: 2100.478 m³
Filter ID:
Sampled: 05/19/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 17:32
Comments: Q8504025 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.166		0.00726

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051924-HM
Matrix: Air
Lab ID: 4052830-17
Sample Volume: 1857.392 m³
Filter ID:
Sampled: 05/19/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 06:06

Comments: Q8504024 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0338**
Barium	**7440-39-3**	**3.21**		**0.937**
Beryllium	**7440-41-7**	**0.00447**		**0.00280**
Cadmium	7440-43-9	0.0174	U	0.0649
Chromium	7440-47-3	1.75	U	1.94
Cobalt	**7440-48-4**	**0.144**		**0.0382**
Copper	**7440-50-8**	**33.4**		**2.30**
Lead	**7439-92-1**	**0.753**		**0.187**
Manganese	**7439-96-5**	**4.50**		**1.66**
Molybdenum	**7439-98-7**	**1.16**		**0.314**
Nickel	**7440-02-0**	**0.953**		**0.571**
Selenium	**7782-49-2**	**0.214**		**0.00785**
Thallium	**7440-28-0**	**0.00129**	QB-04	**5.16E-4**
Vanadium	**7440-62-2**	**0.718**		**0.0463**
Zinc	7440-66-6	28.2	U	67.3

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-051924-HM
Matrix: Air
Lab ID: 4052830-17RE1
Sample Volume: 1857.392 m³
Filter ID:
Sampled: 05/19/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 17:42

Comments: Q8504024 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.516		0.00821

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051924-HM
Matrix: Air
Lab ID: 4052830-18
Sample Volume: 1914.695 m³
Filter ID:
Sampled: 05/19/24 00:00
Received: 05/28/24 13:27
Analysis Date: 05/31/24 06:22

Comments: Q9543307 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0176	SL, U	0.0328
Barium	7440-39-3	0.453	U	0.909
Beryllium	7440-41-7	7.43E-4	U	0.00272
Cadmium	7440-43-9	0.00408	U	0.0630
Chromium	7440-47-3	1.31	U	1.88
Cobalt	7440-48-4	0.0256	U	0.0370
Copper	7440-50-8	1.61	U	2.23
Lead	7439-92-1	0.0836	U	0.182
Manganese	7439-96-5	0.206	U	1.61
Molybdenum	7439-98-7	0.197	U	0.305
Nickel	7440-02-0	0.328	U	0.554
Selenium	7782-49-2	ND	U	0.00761
Thallium	7440-28-0	1.65E-4	QB-04, U	5.00E-4
Vanadium	7440-62-2	0.0269	U	0.0450
Zinc	7440-66-6	27.8	U	65.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-051924-HM
Matrix: Air
Lab ID: 4052830-18RE1
Sample Volume: 1914.695 m³
Filter ID:
Sampled: 05/19/24 00:00
Received: 05/28/24 13:27
Analysis Date: 05/31/24 17:53

Comments: Q9543307 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.00753	U	0.00796

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052024-HM
Matrix: Air
Lab ID: 4052830-19
Sample Volume: 1950.586 m³
Filter ID:
Sampled: 05/20/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 06:36

Comments: Q8504023 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0983**	SL	**0.0322**
Barium	**7440-39-3**	**3.74**		**0.892**
Beryllium	**7440-41-7**	**0.00678**		**0.00267**
Cadmium	7440-43-9	0.0157	U	0.0618
Chromium	**7440-47-3**	**2.56**		**1.84**
Cobalt	**7440-48-4**	**0.312**		**0.0364**
Copper	**7440-50-8**	**198**		**2.19**
Lead	**7439-92-1**	**0.556**		**0.178**
Manganese	**7439-96-5**	**8.19**		**1.58**
Molybdenum	**7439-98-7**	**6.23**		**0.299**
Nickel	**7440-02-0**	**1.45**		**0.544**
Selenium	**7782-49-2**	**0.257**		**0.00747**
Thallium	**7440-28-0**	**0.00183**	QB-04	**4.91E-4**
Vanadium	**7440-62-2**	**1.34**		**0.0441**
Zinc	7440-66-6	28.0	U	64.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052024-HM
Matrix: Air
Lab ID: 4052830-19RE1
Sample Volume: 1950.586 m³
Filter ID:
Sampled: 05/20/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 18:03

Comments: Q8504023 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	2.27		0.00782

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052024-HM
Matrix: Air
Lab ID: 4052830-20
Sample Volume: 2104.136 m³
Filter ID:
Sampled: 05/20/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 06:51

Comments: Q8504022 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0298**
Barium	**7440-39-3**	**3.70**		**0.827**
Beryllium	**7440-41-7**	**0.00458**		**0.00247**
Cadmium	7440-43-9	0.0166	U	0.0573
Chromium	**7440-47-3**	**2.20**		**1.71**
Cobalt	**7440-48-4**	**0.130**		**0.0337**
Copper	**7440-50-8**	**35.3**		**2.03**
Lead	**7439-92-1**	**0.625**		**0.165**
Manganese	**7439-96-5**	**3.94**		**1.46**
Molybdenum	**7439-98-7**	**1.35**		**0.278**
Nickel	**7440-02-0**	**1.36**		**0.504**
Selenium	**7782-49-2**	**0.281**		**0.00693**
Thallium	**7440-28-0**	**0.00199**	QB-04	**4.55E-4**
Vanadium	**7440-62-2**	**0.974**		**0.0409**
Zinc	7440-66-6	25.1	U	59.4

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052024-HM
Matrix: Air
Lab ID: 4052830-20RE1
Sample Volume: 2104.136 m³
Filter ID:
Sampled: 05/20/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 18:55

Comments: Q8504022 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.631		0.00725

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052024-HM
Matrix: Air
Lab ID: 4052830-21
Sample Volume: 1837.386 m³
Filter ID:
Sampled: 05/20/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/30/24 22:14

Comments: Q8504021 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0835**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.245**		**0.00830**
Barium	**7440-39-3**	**3.27**		**0.947**
Beryllium	**7440-41-7**	**0.00743**		**0.00283**
Cadmium	7440-43-9	0.0119	U	0.0656
Chromium	**7440-47-3**	**2.04**		**1.96**
Cobalt	**7440-48-4**	**0.290**		**0.0386**
Copper	**7440-50-8**	**39.0**		**2.33**
Lead	**7439-92-1**	**0.438**		**0.189**
Manganese	**7439-96-5**	**6.87**		**1.67**
Molybdenum	**7439-98-7**	**1.80**		**0.318**
Nickel	**7440-02-0**	**1.28**		**0.577**
Selenium	**7782-49-2**	**0.276**		**0.00793**
Thallium	**7440-28-0**	**0.00190**		**5.22E-4**
Vanadium	**7440-62-2**	**1.23**		**0.0468**
Zinc	7440-66-6	25.2	U	68.0

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1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052024-HM
Matrix: Air
Lab ID: 4052830-22
Sample Volume: 1891.321 m³
Filter ID:
Sampled: 05/20/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 08:18

Comments: Q9543308 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0768**	SL	**0.0332**
Barium	**7440-39-3**	**2.45**		**0.920**
Beryllium	**7440-41-7**	**0.00610**		**0.00275**
Cadmium	7440-43-9	0.0147	U	0.0637
Chromium	7440-47-3	1.77	U	1.90
Cobalt	**7440-48-4**	**0.180**		**0.0375**
Copper	**7440-50-8**	**26.8**		**2.26**
Lead	**7439-92-1**	**0.593**		**0.184**
Manganese	**7439-96-5**	**5.30**		**1.63**
Molybdenum	**7439-98-7**	**1.05**		**0.309**
Nickel	**7440-02-0**	**0.890**		**0.561**
Selenium	**7782-49-2**	**0.249**		**0.00771**
Thallium	**7440-28-0**	**0.00178**	QB-04	**5.07E-4**
Vanadium	**7440-62-2**	**0.994**		**0.0455**
Zinc	7440-66-6	23.9	U	66.1

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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: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052024-HM
Matrix: Air
Lab ID: 4052830-22RE1
Sample Volume: 1891.321 m³
Filter ID:
Sampled: 05/20/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 19:05
Comments: Q9543308 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.364		0.00806

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052124-HM
Matrix: Air
Lab ID: 4052830-23
Sample Volume: 1880.131 m³
Filter ID:
Sampled: 05/21/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 08:33

Comments: Q9543306 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0804**	SL	**0.0334**
Barium	**7440-39-3**	**2.26**		**0.926**
Beryllium	**7440-41-7**	**0.00449**		**0.00277**
Cadmium	7440-43-9	0.0145	U	0.0641
Chromium	**7440-47-3**	**1.99**		**1.91**
Cobalt	**7440-48-4**	**0.163**		**0.0377**
Copper	**7440-50-8**	**164**		**2.28**
Lead	**7439-92-1**	**0.287**		**0.185**
Manganese	**7439-96-5**	**4.12**		**1.64**
Molybdenum	**7439-98-7**	**5.90**		**0.311**
Nickel	**7440-02-0**	**0.856**		**0.564**
Selenium	**7782-49-2**	**0.191**		**0.00775**
Thallium	**7440-28-0**	**0.00130**	QB-04	**5.10E-4**
Vanadium	**7440-62-2**	**0.840**		**0.0458**
Zinc	7440-66-6	27.7	U	66.5

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052124-HM
Matrix: Air
Lab ID: 4052830-23RE1
Sample Volume: 1880.131 m³
Filter ID:
Sampled: 05/21/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 19:16
Comments: Q9543306 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.189		0.00811

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052124-HM
Matrix: Air
Lab ID: 4052830-24
Sample Volume: 2300.935 m³
Filter ID:
Sampled: 05/21/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 08:48

Comments: Q8504018 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.108**	SL	**0.0273**
Barium	**7440-39-3**	**3.46**		**0.757**
Beryllium	**7440-41-7**	**0.00618**		**0.00226**
Cadmium	7440-43-9	0.0139	U	0.0524
Chromium	**7440-47-3**	**2.07**		**1.56**
Cobalt	**7440-48-4**	**0.240**		**0.0308**
Copper	**7440-50-8**	**27.7**		**1.86**
Lead	**7439-92-1**	**0.432**		**0.151**
Manganese	**7439-96-5**	**6.38**		**1.34**
Molybdenum	**7439-98-7**	**1.04**		**0.254**
Nickel	**7440-02-0**	**1.39**		**0.461**
Selenium	**7782-49-2**	**0.160**		**0.00634**
Thallium	**7440-28-0**	**0.00104**	QB-04	**4.16E-4**
Vanadium	**7440-62-2**	**0.942**		**0.0374**
Zinc	7440-66-6	19.0	U	54.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052124-HM
Matrix: Air
Lab ID: 4052830-24RE1
Sample Volume: 2300.935 m³
Filter ID:
Sampled: 05/21/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 19:26

Comments: Q8504018 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.383		0.00663

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052124-HM
Matrix: Air
Lab ID: 4052830-25
Sample Volume: 1778.319 m³
Filter ID:
Sampled: 05/21/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 09:02

Comments: Q8504017 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0808**	SL	**0.0353**
Barium	**7440-39-3**	**4.44**		**0.979**
Beryllium	**7440-41-7**	**0.0136**		**0.00293**
Cadmium	7440-43-9	0.0104	U	0.0678
Chromium	**7440-47-3**	**3.00**		**2.02**
Cobalt	**7440-48-4**	**0.530**		**0.0399**
Copper	**7440-50-8**	**38.3**		**2.41**
Lead	**7439-92-1**	**0.987**		**0.196**
Manganese	**7439-96-5**	**12.0**		**1.73**
Molybdenum	**7439-98-7**	**2.13**		**0.328**
Nickel	**7440-02-0**	**1.80**		**0.597**
Selenium	**7782-49-2**	**0.212**		**0.00820**
Thallium	**7440-28-0**	**0.00151**	QB-04	**5.39E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0484**
Zinc	7440-66-6	20.6	U	70.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052124-HM
Matrix: Air
Lab ID: 4052830-25RE1
Sample Volume: 1778.319 m³
Filter ID:
Sampled: 05/21/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 19:36

Comments: Q8504017 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.252		0.00857

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052124-HM
Matrix: Air
Lab ID: 4052830-26
Sample Volume: 1842.662 m³
Filter ID:
Sampled: 05/21/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 09:16

Comments: Q8504015 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.117**	SL	**0.0341**
Barium	**7440-39-3**	**4.92**		**0.945**
Beryllium	**7440-41-7**	**0.0122**		**0.00283**
Cadmium	7440-43-9	0.0189	U	0.0654
Chromium	**7440-47-3**	**2.54**		**1.95**
Cobalt	**7440-48-4**	**0.386**		**0.0385**
Copper	**7440-50-8**	**23.3**		**2.32**
Lead	**7439-92-1**	**1.16**		**0.189**
Manganese	**7439-96-5**	**11.6**		**1.67**
Molybdenum	**7439-98-7**	**0.975**		**0.317**
Nickel	**7440-02-0**	**1.48**		**0.576**
Selenium	**7782-49-2**	**0.225**		**0.00791**
Thallium	**7440-28-0**	**0.00141**	QB-04	**5.20E-4**
Vanadium	**7440-62-2**	**1.39**		**0.0467**
Zinc	7440-66-6	26.2	U	67.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052124-HM
Matrix: Air
Lab ID: 4052830-26RE1
Sample Volume: 1842.662 m³
Filter ID:
Sampled: 05/21/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 19:47

Comments: Q8504015 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.414		0.00827

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-052124-HM
Matrix: Air
Lab ID: 4052830-27
Sample Volume: 1880.131 m³
Filter ID:
Sampled: 05/21/24 00:00
Received: 05/28/24 13:27
Analysis Date: 05/31/24 09:33

Comments: Q8504012 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0164	SL, U	0.0334
Barium	**7440-39-3**	**1.22**	FB-01	**0.926**
Beryllium	7440-41-7	8.00E-4	U	0.00277
Cadmium	7440-43-9	0.00188	U	0.0641
Chromium	7440-47-3	1.05	U	1.91
Cobalt	7440-48-4	0.0110	U	0.0377
Copper	7440-50-8	0.460	U	2.28
Lead	7439-92-1	0.0309	U	0.185
Manganese	7439-96-5	0.179	U	1.64
Molybdenum	7439-98-7	0.163	U	0.311
Nickel	7440-02-0	0.465	U	0.564
Selenium	7782-49-2	0.00157	U	0.00775
Thallium	7440-28-0	1.23E-4	QB-04, U	5.10E-4
Vanadium	7440-62-2	0.0214	U	0.0458
Zinc	7440-66-6	14.4	U	66.5

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-052124-HM
Matrix: Air
Lab ID: 4052830-27RE1
Sample Volume: 1880.131 m³
Filter ID:
Sampled: 05/21/24 00:00
Received: 05/28/24 13:27
Analysis Date: 05/31/24 19:57

Comments: Q8504012 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.00383	U	0.00811

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052224-HM
Matrix: Air
Lab ID: 4052830-28
Sample Volume: 1914.695 m³
Filter ID:
Sampled: 05/22/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 09:46

Comments: Q8504014 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0816**	SL	**0.0328**
Barium	**7440-39-3**	**6.64**		**0.909**
Beryllium	**7440-41-7**	**0.0236**		**0.00272**
Cadmium	7440-43-9	0.0456	U	0.0630
Chromium	**7440-47-3**	**5.72**		**1.88**
Cobalt	**7440-48-4**	**1.29**		**0.0370**
Copper	**7440-50-8**	**176**		**2.23**
Lead	**7439-92-1**	**0.669**		**0.182**
Manganese	**7439-96-5**	**29.7**		**1.61**
Molybdenum	**7439-98-7**	**8.28**		**0.305**
Nickel	**7440-02-0**	**3.60**		**0.554**
Selenium	**7782-49-2**	**0.284**		**0.00761**
Thallium	**7440-28-0**	**0.00191**	QB-04	**5.00E-4**
Vanadium	**7440-62-2**	**3.58**		**0.0450**
Zinc	7440-66-6	22.9	U	65.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052224-HM
Matrix: Air
Lab ID: 4052830-28RE1
Sample Volume: 1914.695 m³
Filter ID:
Sampled: 05/22/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 20:07

Comments: Q8504014 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.842**	LJ, QX	**0.00796**

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FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052224-HM
Matrix: Air
Lab ID: 4052830-29
Sample Volume: 2081.718 m³
Filter ID:
Sampled: 05/22/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 10:04

Comments: Q8504011 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0960**	SL	**0.0302**
Barium	**7440-39-3**	**4.40**		**0.836**
Beryllium	**7440-41-7**	**0.00950**		**0.00250**
Cadmium	7440-43-9	0.0170	U	0.0579
Chromium	**7440-47-3**	**2.75**		**1.73**
Cobalt	**7440-48-4**	**0.304**		**0.0341**
Copper	**7440-50-8**	**30.5**		**2.06**
Lead	**7439-92-1**	**0.641**		**0.167**
Manganese	**7439-96-5**	**10.1**		**1.48**
Molybdenum	**7439-98-7**	**1.25**		**0.281**
Nickel	**7440-02-0**	**1.53**		**0.510**
Selenium	**7782-49-2**	**0.211**		**0.00700**
Thallium	**7440-28-0**	**0.00138**	QB-04	**4.60E-4**
Vanadium	**7440-62-2**	**1.11**		**0.0413**
Zinc	7440-66-6	21.2	U	60.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052224-HM
Matrix: Air
Lab ID: 4052830-29RE1
Sample Volume: 2081.718 m³
Filter ID:
Sampled: 05/22/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 20:18

Comments: Q8504011 - Received in good condition - nonhomogenous

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	7440-38-2	0.971		0.00732

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052224-HM
Matrix: Air
Lab ID: 4052830-30
Sample Volume: 1793.281 m³
Filter ID:
Sampled: 05/22/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 10:20

Comments: Q8504009 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0814**	SL	**0.0350**
Barium	**7440-39-3**	**5.12**		**0.971**
Beryllium	**7440-41-7**	**0.0531**		**0.00290**
Cadmium	7440-43-9	0.00971	U	0.0672
Chromium	**7440-47-3**	**3.23**		**2.01**
Cobalt	**7440-48-4**	**0.678**		**0.0396**
Copper	**7440-50-8**	**24.5**		**2.39**
Lead	**7439-92-1**	**0.554**		**0.194**
Manganese	**7439-96-5**	**15.1**		**1.71**
Molybdenum	**7439-98-7**	**1.74**		**0.326**
Nickel	**7440-02-0**	**2.00**		**0.592**
Selenium	**7782-49-2**	**0.261**		**0.00813**
Thallium	**7440-28-0**	**0.00162**	QB-04	**5.34E-4**
Vanadium	**7440-62-2**	**1.67**		**0.0480**
Zinc	7440-66-6	17.0	U	69.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052224-HM
Matrix: Air
Lab ID: 4052830-30RE1
Sample Volume: 1793.281 m³
Filter ID:
Sampled: 05/22/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 20:28
Comments: Q8504009 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.292**	LJ, QX	**0.00850**

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SUBMITTED: 05/28/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052224-HM
Matrix: Air
Lab ID: 4052830-31
Sample Volume: 1858.983 m³
Filter ID:
Sampled: 05/22/24 23:59
Received: 05/28/24 13:27
Analysis Date: 05/31/24 11:30

Comments: Q8504005 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0964**	SL	**0.0338**
Arsenic	**7440-38-2**	**0.497**		**0.00820**
Barium	**7440-39-3**	**4.57**		**0.936**
Beryllium	**7440-41-7**	**0.0122**		**0.00280**
Cadmium	7440-43-9	0.0150	U	0.0649
Chromium	**7440-47-3**	**2.60**		**1.93**
Cobalt	**7440-48-4**	**0.369**		**0.0382**
Copper	**7440-50-8**	**26.8**		**2.30**
Lead	**7439-92-1**	**0.834**		**0.187**
Manganese	**7439-96-5**	**11.4**		**1.65**
Molybdenum	**7439-98-7**	**1.36**		**0.314**
Nickel	**7440-02-0**	**1.29**		**0.571**
Selenium	**7782-49-2**	**0.211**		**0.00784**
Thallium	**7440-28-0**	**0.00142**		**5.15E-4**
Vanadium	**7440-62-2**	**1.32**		**0.0463**
Zinc	7440-66-6	20.3	U	67.2

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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 2405091 - B4E2906										
Calibration Blank (2405091-CCB1)				Prepared & Analyzed: 05/30/24						
Antimony	0.669		ng/l							
Arsenic	12.1		ng/l							
Barium	8.13		ng/l							
Beryllium	-0.174		ng/l							U
Cadmium	0.681		ng/l							
Chromium	7.55		ng/l							
Cobalt	1.88		ng/l							
Copper	394		ng/l							
Lead	13.4		ng/l							
Manganese	19.8		ng/l							
Molybdenum	22.4		ng/l							
Nickel	6.65		ng/l							
Selenium	-7.92		ng/l							U
Thallium	1.36		ng/l							QB-04
Vanadium	-28.8		ng/l							U
Zinc	-279		ng/l							U
Calibration Blank (2405091-CCB2)				Prepared & Analyzed: 05/30/24						
Antimony	0.149		ng/l							
Arsenic	13.3		ng/l							
Barium	2.40		ng/l							
Beryllium	0.217		ng/l							
Cadmium	0.0497		ng/l							
Chromium	1.39		ng/l							
Cobalt	0.523		ng/l							
Copper	191		ng/l							
Lead	3.57		ng/l							
Manganese	7.71		ng/l							
Molybdenum	6.15		ng/l							
Nickel	3.37		ng/l							
Selenium	-7.73		ng/l							U
Thallium	1.13		ng/l							
Vanadium	-24.9		ng/l							U
Zinc	-304		ng/l							U
Calibration Blank (2405091-CCB3)				Prepared: 05/30/24 Analyzed: 05/31/24						
Antimony	0.321		ng/l							
Arsenic	15.8		ng/l							
Barium	3.05		ng/l							
Beryllium	-0.125		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 2405091 - B4E2906										
Calibration Blank (2405091-CCB3) Contin				Prepared: 05/30/24 Analyzed: 05/31/24						
Cadmium	0.228		ng/l							
Chromium	2.76		ng/l							
Cobalt	0.544		ng/l							
Copper	150		ng/l							
Lead	3.13		ng/l							
Manganese	8.66		ng/l							
Molybdenum	6.73		ng/l							
Nickel	1.85		ng/l							
Selenium	0.185		ng/l							
Thallium	1.10		ng/l							
Vanadium	-33.6		ng/l							U
Zinc	-297		ng/l							U
Calibration Blank (2405091-CCB4)				Prepared: 05/30/24 Analyzed: 05/31/24						
Antimony	-0.0153		ng/l							U
Arsenic	21.4		ng/l							QB-04
Barium	2.04		ng/l							
Beryllium	-0.481		ng/l							U
Cadmium	0.172		ng/l							
Chromium	3.40		ng/l							
Cobalt	0.746		ng/l							
Copper	125		ng/l							
Lead	3.30		ng/l							
Manganese	9.21		ng/l							
Molybdenum	4.99		ng/l							
Nickel	4.25		ng/l							
Selenium	5.03		ng/l							
Thallium	0.917		ng/l							
Vanadium	-31.7		ng/l							U
Zinc	-296		ng/l							U
Calibration Blank (2405091-CCB5)				Prepared: 05/30/24 Analyzed: 05/31/24						
Antimony	0.321		ng/l							
Arsenic	17.9		ng/l							QB-04
Barium	2.43		ng/l							
Beryllium	-0.511		ng/l							U
Cadmium	0.137		ng/l							
Chromium	2.57		ng/l							
Cobalt	0.630		ng/l							
Copper	124		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405091 - B4E2906										
Calibration Blank (2405091-CCB5) Contin				Prepared: 05/30/24 Analyzed: 05/31/24						
Lead	3.38		ng/l							
Manganese	9.97		ng/l							
Molybdenum	7.40		ng/l							
Nickel	4.04		ng/l							
Selenium	3.33		ng/l							
Thallium	1.49		ng/l							QB-04
Vanadium	-37.9		ng/l							U
Zinc	-316		ng/l							U
Calibration Blank (2405091-CCB6)				Prepared: 05/30/24 Analyzed: 05/31/24						
Antimony	-0.173		ng/l							U
Arsenic	17.3		ng/l							
Barium	2.45		ng/l							
Beryllium	-1.10		ng/l							U
Cadmium	0.0916		ng/l							
Chromium	1.93		ng/l							
Cobalt	0.531		ng/l							
Copper	45.2		ng/l							
Lead	2.27		ng/l							
Manganese	7.52		ng/l							
Molybdenum	5.31		ng/l							
Nickel	3.62		ng/l							
Selenium	-2.45		ng/l							U
Thallium	0.933		ng/l							
Vanadium	-42.5		ng/l							U
Zinc	-312		ng/l							U
Calibration Blank (2405091-CCB7)				Prepared: 05/30/24 Analyzed: 05/31/24						
Antimony	0.944		ng/l							
Arsenic	16.6		ng/l							
Barium	4.75		ng/l							
Beryllium	-0.518		ng/l							U
Cadmium	0.202		ng/l							
Chromium	4.07		ng/l							
Cobalt	1.09		ng/l							
Copper	106		ng/l							
Lead	6.60		ng/l							
Manganese	12.6		ng/l							
Molybdenum	20.7		ng/l							
Nickel	3.51		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405091 - B4E2906										
Calibration Blank (2405091-CCB7) Contin				Prepared: 05/30/24 Analyzed: 05/31/24						
Selenium	-9.14		ng/l							U
Thallium	2.89		ng/l							QB-04
Vanadium	-51.5		ng/l							U
Zinc	-280		ng/l							U
Calibration Check (2405091-CCV1)				Prepared & Analyzed: 05/30/24						
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	234000		ng/l	240000		97.4	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.00E6		ng/l	2.0000E6		100	90-110			
Lead	197000		ng/l	200000		98.4	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Thallium	488		ng/l	500.00		97.6	90-110			
Vanadium	19500		ng/l	20000		97.3	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Calibration Check (2405091-CCV2)				Prepared & Analyzed: 05/30/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	4980		ng/l	5000.0		99.7	90-110			
Cadmium	20000		ng/l	20000		100	90-110			
Chromium	233000		ng/l	240000		97.0	90-110			
Cobalt	50500		ng/l	50000		101	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	491000		ng/l	500000		98.3	90-110			
Molybdenum	49500		ng/l	50000		99.1	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19800		ng/l	20000		99.2	90-110			
Thallium	477		ng/l	500.00		95.3	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	505000		ng/l	500000		101	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 2405091 - B4E2906										
Calibration Check (2405091-CCV3)				Prepared: 05/30/24 Analyzed: 05/31/24						
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	4920		ng/l	5000.0		98.4	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	236000		ng/l	240000		98.4	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			
Lead	197000		ng/l	200000		98.5	90-110			
Manganese	495000		ng/l	500000		99.0	90-110			
Molybdenum	49800		ng/l	50000		99.5	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Selenium	19800		ng/l	20000		99.2	90-110			
Thallium	469		ng/l	500.00		93.9	90-110			
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2405091-CCV4)				Prepared: 05/30/24 Analyzed: 05/31/24						
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	208000		ng/l	200000		104	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	238000		ng/l	240000		99.3	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Lead	202000		ng/l	200000		101	90-110			
Manganese	504000		ng/l	500000		101	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Thallium	473		ng/l	500.00		94.5	90-110			
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2405091-CCV5)				Prepared: 05/30/24 Analyzed: 05/31/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4950		ng/l	5000.0		99.0	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 2405091 - B4E2906										
Calibration Check (2405091-CCV5) Contin					Prepared: 05/30/24 Analyzed: 05/31/24					
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	237000		ng/l	240000		98.7	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	203000		ng/l	200000		102	90-110			
Manganese	503000		ng/l	500000		101	90-110			
Molybdenum	51400		ng/l	50000		103	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Thallium	481		ng/l	500.00		96.2	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	521000		ng/l	500000		104	90-110			
Calibration Check (2405091-CCV6)					Prepared: 05/30/24 Analyzed: 05/31/24					
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20600		ng/l	20000		103	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	5050		ng/l	5000.0		101	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.11E6		ng/l	2.0000E6		105	90-110			
Lead	204000		ng/l	200000		102	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	52600		ng/l	50000		105	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Thallium	472		ng/l	500.00		94.5	90-110			
Vanadium	19500		ng/l	20000		97.6	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2405091-CCV7)					Prepared: 05/30/24 Analyzed: 05/31/24					
Antimony	20700		ng/l	20000		103	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	214000		ng/l	200000		107	90-110			
Beryllium	4970		ng/l	5000.0		99.4	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.12E6		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 2405091 - B4E2906										
Calibration Check (2405091-CCV7) Contin					Prepared: 05/30/24 Analyzed: 05/31/24					
Lead	204000		ng/l	200000		102	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	52800		ng/l	50000		106	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	470		ng/l	500.00		94.0	90-110			
Vanadium	19600		ng/l	20000		98.0	90-110			
Zinc	532000		ng/l	500000		106	90-110			
High Cal Check (2405091-HCV1)					Prepared & Analyzed: 05/30/24					
Antimony	40900		ng/l	40000		102	95-105			
Arsenic	39900		ng/l	40000		99.9	95-105			
Barium	405000		ng/l	400000		101	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	40400		ng/l	40000		101	95-105			
Chromium	478000		ng/l	480000		99.5	95-105			
Cobalt	99000		ng/l	100000		99.0	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	999000		ng/l	1.0000E6		99.9	95-105			
Molybdenum	99800		ng/l	100000		99.8	95-105			
Nickel	238000		ng/l	240000		99.1	95-105			
Selenium	40100		ng/l	40000		100	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	39700		ng/l	40000		99.2	95-105			
Zinc	999000		ng/l	1.0000E6		99.9	95-105			
Initial Cal Blank (2405091-ICB1)					Prepared & Analyzed: 05/30/24					
Antimony	0.581		ng/l							
Arsenic	4.71		ng/l							
Barium	0.884		ng/l							
Beryllium	-0.250		ng/l							U
Cadmium	-0.0988		ng/l							U
Chromium	0.144		ng/l							
Cobalt	0.218		ng/l							
Copper	327		ng/l							
Lead	13.8		ng/l							
Manganese	4.19		ng/l							
Molybdenum	7.40		ng/l							
Nickel	-1.20		ng/l							U

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/04/24 14:44
SUBMITTED: 05/28/24
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 2405091 - B4E2906										
Initial Cal Blank (2405091-ICB1) Continu				Prepared & Analyzed: 05/30/24						
Selenium	-6.10		ng/l							U
Thallium	1.11		ng/l							
Vanadium	-31.7		ng/l							U
Zinc	-282		ng/l							U
Initial Cal Check (2405091-ICV1)				Prepared & Analyzed: 05/30/24						
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19400		ng/l	20000		97.1	90-110			
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Chromium	235000		ng/l	240000		97.9	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.00E6		ng/l	2.0000E6		100	90-110			
Lead	198000		ng/l	200000		99.0	90-110			
Manganese	489000		ng/l	500000		97.7	90-110			
Molybdenum	49400		ng/l	50000		98.7	90-110			
Nickel	120000		ng/l	120000		99.8	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Thallium	509		ng/l	500.00		102	90-110			
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Interference Check A (2405091-IFA1)				Prepared & Analyzed: 05/30/24						
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	296000		ng/l	300000		98.7	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 2405091 - B4E2906										
Interference Check B (2405091-IFB1)					Prepared & Analyzed: 05/30/24					
Antimony	21000		ng/l	20000		105	80-120			
Arsenic	20700		ng/l	20000		103	80-120			
Barium	205000		ng/l	200000		103	80-120			
Beryllium	4820		ng/l	5000.0		96.4	80-120			
Cadmium	20200		ng/l	20000		101	80-120			
Chromium	230000		ng/l	240000		95.8	80-120			
Cobalt	49900		ng/l	50000		99.7	80-120			
Copper	1.89E6		ng/l	2.0000E6		94.7	80-120			
Lead	208000		ng/l	200000		104	80-120			
Manganese	501000		ng/l	500000		100	80-120			
Molybdenum	350000		ng/l	350000		99.9	80-120			
Nickel	117000		ng/l	120000		97.6	80-120			
Selenium	19300		ng/l	20000		96.3	80-120			
Thallium	527		ng/l	500.00		105	80-120			
Vanadium	19500		ng/l	20000		97.5	80-120			
Zinc	483000		ng/l	500000		96.7	80-120			
Batch 2405094 - B4E2906										
Calibration Blank (2405094-CCB1)					Prepared & Analyzed: 05/31/24					
Arsenic	0.487		ng/l							
Calibration Blank (2405094-CCB2)					Prepared & Analyzed: 05/31/24					
Arsenic	0.514		ng/l							
Calibration Blank (2405094-CCB3)					Prepared & Analyzed: 05/31/24					
Arsenic	1.26		ng/l							
Calibration Blank (2405094-CCB4)					Prepared & Analyzed: 05/31/24					
Arsenic	1.39		ng/l							
Calibration Check (2405094-CCV1)					Prepared & Analyzed: 05/31/24					
Arsenic	19700		ng/l	20000		98.6	90-110			
Calibration Check (2405094-CCV2)					Prepared & Analyzed: 05/31/24					
Arsenic	19600		ng/l	20000		98.1	90-110			
Calibration Check (2405094-CCV3)					Prepared & Analyzed: 05/31/24					
Arsenic	19700		ng/l	20000		98.5	90-110			
Calibration Check (2405094-CCV4)					Prepared & Analyzed: 05/31/24					
Arsenic	20100		ng/l	20000		101	90-110			
High Cal Check (2405094-HCV1)					Prepared & Analyzed: 05/31/24					
Arsenic	40000		ng/l	40000		100	95-105			
Initial Cal Blank (2405094-ICB1)					Prepared & Analyzed: 05/31/24					

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2405094 - B4E2906										
Initial Cal Blank (2405094-ICB1) Continu					Prepared & Analyzed: 05/31/24					
Arsenic	0.592		ng/l							
Initial Cal Check (2405094-ICV1)					Prepared & Analyzed: 05/31/24					
Arsenic	19500		ng/l	20000		97.5	90-110			
Interference Check A (2405094-IFA1)					Prepared & Analyzed: 05/31/24					
Arsenic	0.00		ng/l				80-120			U
Interference Check B (2405094-IFB1)					Prepared & Analyzed: 05/31/24					
Arsenic	20400		ng/l	20000		102	80-120			
Batch B4E2906 - ICP-MS Extraction										
Blank (B4E2906-BLK1)					Prepared: 05/29/24 Analyzed: 05/30/24					
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							QB-04, U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4E2906-BS1)					Prepared: 05/29/24 Analyzed: 05/30/24					
Antimony	0.793	0.0386	ng/m³ Air	1.3829		57.3	80-120			SL
Arsenic	2.69	0.00937	ng/m³ Air	2.7658		97.3	80-120			
Barium	28.5	1.07	ng/m³ Air	27.658		103	80-120			
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		95.9	80-120			
Cadmium	1.31	0.0741	ng/m³ Air	1.3829		94.6	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.41	0.0436	ng/m³ Air	1.3829		102	80-120			
Copper	28.9	2.63	ng/m³ Air	27.658		104	80-120			
Lead	13.6	0.214	ng/m³ Air	13.829		98.2	80-120			
Manganese	8.36	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.49	0.359	ng/m³ Air	1.3829		107	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 B4E2906 - ICP-MS Extraction										
LCS (B4E2906-BS1) Continued				Prepared: 05/29/24 Analyzed: 05/30/24						
Nickel	3.19	0.652	ng/m³ Air	2.7658		115	80-120			
Selenium	2.71	0.00896	ng/m³ Air	2.7658		97.9	80-120			
Thallium	0.134	5.89E-4	ng/m³ Air	0.13829		97.1	80-120			QB-04
Vanadium	2.67	0.0529	ng/m³ Air	2.7658		96.5	80-120			
Zinc	137	76.8	ng/m³ Air	82.975		165	80-120			
LCS (B4E2906-BS2)				Prepared: 05/29/24 Analyzed: 05/30/24						
Antimony	0.771	0.0386	ng/m³ Air	1.3829		55.7	80-120			SL
Arsenic	2.72	0.00937	ng/m³ Air	2.7658		98.4	80-120			
Barium	28.6	1.07	ng/m³ Air	27.658		103	80-120			
Beryllium	1.32	0.00320	ng/m³ Air	1.3829		95.6	80-120			
Cadmium	1.34	0.0741	ng/m³ Air	1.3829		97.0	80-120			
Chromium	15.2	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.42	0.0436	ng/m³ Air	1.3829		103	80-120			
Copper	29.3	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.7	0.214	ng/m³ Air	13.829		99.0	80-120			
Manganese	8.42	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		116	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		99.0	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.5	80-120			
Vanadium	2.71	0.0529	ng/m³ Air	2.7658		98.0	80-120			
Zinc	130	76.8	ng/m³ Air	82.975		157	80-120			
Duplicate (B4E2906-DUP1)		**Source: 4052830-14**		Prepared: 05/29/24 Analyzed: 05/30/24						
Antimony	0.106	0.0328	ng/m³ Air		0.103			3.22	10	SL
Arsenic	1.13	0.00796	ng/m³ Air		1.10			2.78	10	
Barium	3.91	0.909	ng/m³ Air		3.82			2.50	10	
Beryllium	0.00773	0.00272	ng/m³ Air		0.00753			2.60	10	
Cadmium	ND	0.0630	ng/m³ Air		ND				10	U
Chromium	2.50	1.88	ng/m³ Air		2.37			5.36	10	
Cobalt	0.327	0.0370	ng/m³ Air		0.310			5.57	10	
Copper	158	2.23	ng/m³ Air		150			5.15	10	
Lead	0.443	0.182	ng/m³ Air		0.507			13.4	10	
Manganese	9.06	1.61	ng/m³ Air		8.65			4.68	10	
Molybdenum	5.40	0.305	ng/m³ Air		5.15			4.82	10	
Nickel	1.51	0.554	ng/m³ Air		1.35			11.0	10	
Selenium	0.270	0.00761	ng/m³ Air		0.252			6.82	10	
Thallium	0.00164	5.00E-4	ng/m³ Air		0.00166			1.22	10	QB-04
Vanadium	1.40	0.0450	ng/m³ Air		1.36			2.84	10	

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REPORTED: 06/04/24 14:44
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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 B4E2906 - ICP-MS Extraction										
Duplicate (B4E2906-DUP1) Continued			**Source: 4052830-14**		Prepared: 05/29/24		Analyzed: 05/30/24			
Zinc	ND	65.3	ng/m³ Air		ND				10	U
Duplicate (B4E2906-DUP2)			**Source: 4052830-21**		Prepared: 05/29/24		Analyzed: 05/30/24			
Antimony	0.0802	0.0342	ng/m³ Air		0.0835			4.10	10	SL
Arsenic	0.251	0.00830	ng/m³ Air		0.245			2.27	10	
Barium	3.28	0.947	ng/m³ Air		3.27			0.304	10	
Beryllium	0.00850	0.00283	ng/m³ Air		0.00743			13.4	10	
Cadmium	ND	0.0656	ng/m³ Air		ND				10	U
Chromium	2.11	1.96	ng/m³ Air		2.04			3.42	10	
Cobalt	0.305	0.0386	ng/m³ Air		0.290			4.80	10	
Copper	40.2	2.33	ng/m³ Air		39.0			3.19	10	
Lead	0.497	0.189	ng/m³ Air		0.438			12.8	10	
Manganese	7.10	1.67	ng/m³ Air		6.87			3.41	10	
Molybdenum	1.87	0.318	ng/m³ Air		1.80			3.87	10	
Nickel	1.32	0.577	ng/m³ Air		1.28			3.17	10	
Selenium	0.268	0.00793	ng/m³ Air		0.276			2.89	10	
Thallium	0.00195	5.22E-4	ng/m³ Air		0.00190			2.98	10	
Vanadium	1.27	0.0468	ng/m³ Air		1.23			3.64	10	
Zinc	ND	68.0	ng/m³ Air		ND				10	U
Duplicate (B4E2906-DUP3)			**Source: 4052830-02**		Prepared: 05/29/24		Analyzed: 05/31/24			
Antimony	0.0569	0.0304	ng/m³ Air		0.0571			0.412	10	SL
Arsenic	0.571	0.00737	ng/m³ Air		0.577			1.03	10	QB-04
Barium	0.968	0.842	ng/m³ Air		0.961			0.712	10	
Beryllium	ND	0.00252	ng/m³ Air		0.00284				10	U
Cadmium	ND	0.0583	ng/m³ Air		ND				10	U
Chromium	ND	1.74	ng/m³ Air		ND				10	U
Cobalt	0.0750	0.0343	ng/m³ Air		0.0750			0.0558	10	
Copper	37.5	2.07	ng/m³ Air		37.4			0.299	10	
Lead	0.357	0.168	ng/m³ Air		0.360			0.669	10	
Manganese	2.05	1.49	ng/m³ Air		2.06			0.196	10	
Molybdenum	1.35	0.282	ng/m³ Air		1.35			0.203	10	
Nickel	ND	0.513	ng/m³ Air		ND				10	U
Selenium	0.198	0.00705	ng/m³ Air		0.200			0.823	10	
Thallium	0.00107	4.63E-4	ng/m³ Air		0.00113			5.62	10	
Vanadium	0.200	0.0416	ng/m³ Air		0.198			1.05	10	
Zinc	ND	60.4	ng/m³ Air		ND				10	U
Duplicate (B4E2906-DUP4)			**Source: 4052830-31**		Prepared: 05/29/24		Analyzed: 05/31/24			
Antimony	0.0982	0.0338	ng/m³ Air		0.0964			1.89	10	SL
Arsenic	0.501	0.00820	ng/m³ Air		0.497			0.824	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 B4E2906 - ICP-MS Extraction										
Duplicate (B4E2906-DUP4) Continued		**Source: 4052830-31**		Prepared: 05/29/24	Analyzed: 05/31/24					
Barium	4.55	0.936	ng/m³ Air		4.57			0.414	10	
Beryllium	0.0119	0.00280	ng/m³ Air		0.0122			1.97	10	
Cadmium	ND	0.0649	ng/m³ Air		ND				10	U
Chromium	2.61	1.93	ng/m³ Air		2.60			0.617	10	
Cobalt	0.373	0.0382	ng/m³ Air		0.369			1.10	10	
Copper	27.0	2.30	ng/m³ Air		26.8			0.872	10	
Lead	0.833	0.187	ng/m³ Air		0.834			0.164	10	
Manganese	11.5	1.65	ng/m³ Air		11.4			0.898	10	
Molybdenum	1.35	0.314	ng/m³ Air		1.36			0.672	10	
Nickel	1.31	0.571	ng/m³ Air		1.29			1.51	10	
Selenium	0.226	0.00784	ng/m³ Air		0.211			6.92	10	
Thallium	0.00140	5.15E-4	ng/m³ Air		0.00142			1.36	10	
Vanadium	1.32	0.0463	ng/m³ Air		1.32			0.218	10	
Zinc	ND	67.2	ng/m³ Air		ND				10	U
Duplicate (B4E2906-DUP5)		**Source: 4052830-02R**		Prepared: 05/29/24	Analyzed: 05/31/24					
Arsenic	0.561	0.00737	ng/m³ Air		0.555			0.924	10	
Matrix Spike (B4E2906-MS1)		**Source: 4052830-14**		Prepared: 05/29/24	Analyzed: 05/30/24					
Antimony	0.757	0.0328	ng/m³ Air	1.1751	0.103	55.7	80-120			SL
Arsenic	3.29	0.00796	ng/m³ Air	2.3502	1.10	93.5	80-120			
Barium	26.8	0.909	ng/m³ Air	23.502	3.82	97.7	80-120			
Beryllium	1.20	0.00272	ng/m³ Air	1.1751	0.00753	101	80-120			
Cadmium	1.09	0.0630	ng/m³ Air	1.1751	ND	92.5	80-120			
Chromium	13.6	1.88	ng/m³ Air	11.751	2.37	95.9	80-120			
Cobalt	1.45	0.0370	ng/m³ Air	1.1751	0.310	97.0	80-120			
Copper	171	2.23	ng/m³ Air	23.502	150	89.3	80-120			
Lead	11.9	0.182	ng/m³ Air	11.751	0.507	96.7	80-120			
Manganese	15.2	1.61	ng/m³ Air	7.0507	8.65	92.5	80-120			
Molybdenum	6.16	0.305	ng/m³ Air	1.1751	5.15	86.2	80-120			
Nickel	3.55	0.554	ng/m³ Air	2.3502	1.35	93.8	80-120			
Selenium	2.50	0.00761	ng/m³ Air	2.3502	0.252	95.6	80-120			
Thallium	0.110	5.00E-4	ng/m³ Air	0.11751	0.00166	92.0	80-120			QB-04
Vanadium	3.51	0.0450	ng/m³ Air	2.3502	1.36	91.3	80-120			
Zinc	95.7	65.3	ng/m³ Air	70.507	ND	136	80-120			
Matrix Spike (B4E2906-MS2)		**Source: 4052830-21**		Prepared: 05/29/24	Analyzed: 05/30/24					
Antimony	0.799	0.0342	ng/m³ Air	1.2246	0.0835	58.5	80-120			SL
Arsenic	2.63	0.00830	ng/m³ Air	2.4491	0.245	97.4	80-120			
Barium	27.5	0.947	ng/m³ Air	24.491	3.27	99.0	80-120			
Beryllium	1.18	0.00283	ng/m³ Air	1.2246	0.00743	95.8	80-120			

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REPORTED: 06/04/24 14:44
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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 B4E2906 - ICP-MS Extraction										
Matrix Spike (B4E2906-MS2) Continued Source: 4052830-21 Prepared: 05/29/24 Analyzed: 05/30/24										
Cadmium	1.20	0.0656	ng/m³ Air	1.2246	ND	97.7	80-120			
Chromium	14.2	1.96	ng/m³ Air	12.246	2.04	99.5	80-120			
Cobalt	1.54	0.0386	ng/m³ Air	1.2246	0.290	102	80-120			
Copper	64.9	2.33	ng/m³ Air	24.491	39.0	106	80-120			
Lead	12.8	0.189	ng/m³ Air	12.246	0.438	101	80-120			
Manganese	14.3	1.67	ng/m³ Air	7.3474	6.87	101	80-120			
Molybdenum	3.10	0.318	ng/m³ Air	1.2246	1.80	106	80-120			
Nickel	3.75	0.577	ng/m³ Air	2.4491	1.28	101	80-120			
Selenium	2.65	0.00793	ng/m³ Air	2.4491	0.276	96.7	80-120			
Thallium	0.120	5.22E-4	ng/m³ Air	0.12246	0.00190	96.6	80-120			
Vanadium	3.59	0.0468	ng/m³ Air	2.4491	1.23	96.5	80-120			
Zinc	98.7	68.0	ng/m³ Air	73.474	ND	134	80-120			
Matrix Spike Dup (B4E2906-MSD1) Source: 4052830-14 Prepared: 05/29/24 Analyzed: 05/30/24										
Antimony	0.750	0.0328	ng/m³ Air	1.1751	0.103	55.1	80-120	0.942	20	SL
Arsenic	3.34	0.00796	ng/m³ Air	2.3502	1.10	95.6	80-120	1.50	20	
Barium	27.3	0.909	ng/m³ Air	23.502	3.82	99.8	80-120	1.84	20	
Beryllium	1.11	0.00272	ng/m³ Air	1.1751	0.00753	94.0	80-120	7.23	20	
Cadmium	1.11	0.0630	ng/m³ Air	1.1751	ND	94.3	80-120	1.85	20	
Chromium	13.9	1.88	ng/m³ Air	11.751	2.37	97.7	80-120	1.58	20	
Cobalt	1.48	0.0370	ng/m³ Air	1.1751	0.310	99.7	80-120	2.18	20	
Copper	169	2.23	ng/m³ Air	23.502	150	79.7	80-120	1.33	20	QM-4X
Lead	12.0	0.182	ng/m³ Air	11.751	0.507	97.4	80-120	0.729	20	
Manganese	15.3	1.61	ng/m³ Air	7.0507	8.65	94.9	80-120	1.10	20	
Molybdenum	6.28	0.305	ng/m³ Air	1.1751	5.15	96.2	80-120	1.89	20	
Nickel	3.62	0.554	ng/m³ Air	2.3502	1.35	96.7	80-120	1.89	20	
Selenium	2.48	0.00761	ng/m³ Air	2.3502	0.252	94.8	80-120	0.758	20	
Thallium	0.110	5.00E-4	ng/m³ Air	0.11751	0.00166	92.6	80-120	0.605	20	QB-04
Vanadium	3.56	0.0450	ng/m³ Air	2.3502	1.36	93.4	80-120	1.43	20	
Zinc	95.6	65.3	ng/m³ Air	70.507	ND	136	80-120	0.0785	20	
Matrix Spike Dup (B4E2906-MSD2) Source: 4052830-21 Prepared: 05/29/24 Analyzed: 05/30/24										
Antimony	0.739	0.0342	ng/m³ Air	1.2246	0.0835	53.5	80-120	7.89	20	SL
Arsenic	2.67	0.00830	ng/m³ Air	2.4491	0.245	99.1	80-120	1.57	20	
Barium	27.3	0.947	ng/m³ Air	24.491	3.27	98.0	80-120	0.815	20	
Beryllium	1.23	0.00283	ng/m³ Air	1.2246	0.00743	99.6	80-120	3.87	20	
Cadmium	1.18	0.0656	ng/m³ Air	1.2246	ND	96.7	80-120	1.04	20	
Chromium	14.4	1.96	ng/m³ Air	12.246	2.04	101	80-120	0.964	20	
Cobalt	1.56	0.0386	ng/m³ Air	1.2246	0.290	104	80-120	1.29	20	
Copper	67.0	2.33	ng/m³ Air	24.491	39.0	114	80-120	3.15	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4E2906 - ICP-MS Extraction										
Matrix Spike Dup (B4E2906-MSD2) Contir		**Source: 4052830-21**			Prepared: 05/29/24		Analyzed: 05/30/24			
Lead	12.7	0.189	ng/m³ Air	12.246	0.438	99.9	80-120	1.11	20	
Manganese	14.4	1.67	ng/m³ Air	7.3474	6.87	102	80-120	0.562	20	
Molybdenum	3.16	0.318	ng/m³ Air	1.2246	1.80	111	80-120	1.82	20	
Nickel	3.74	0.577	ng/m³ Air	2.4491	1.28	101	80-120	0.231	20	
Selenium	2.60	0.00793	ng/m³ Air	2.4491	0.276	94.9	80-120	1.71	20	
Thallium	0.120	5.22E-4	ng/m³ Air	0.12246	0.00190	96.5	80-120	0.166	20	
Vanadium	3.63	0.0468	ng/m³ Air	2.4491	1.23	98.3	80-120	1.22	20	
Zinc	94.9	68.0	ng/m³ Air	73.474	ND	129	80-120	3.98	20	
Post Spike (B4E2906-PS1)		**Source: 4052830-14**			Prepared: 05/29/24		Analyzed: 05/30/24			
Antimony	0.337	0.0328	ng/m³ Air	0.23502	0.103	99.6	75-125			SL
Arsenic	2.21	0.00796	ng/m³ Air	1.1751	1.10	94.5	75-125			
Barium	6.10	0.909	ng/m³ Air	2.3502	3.82	97.3	75-125			
Beryllium	0.230	0.00272	ng/m³ Air	0.23502	0.00753	94.7	75-125			
Cadmium	0.132	0.0630	ng/m³ Air	0.11751	ND	112	75-125			
Chromium	3.49	1.88	ng/m³ Air	1.1751	2.37	95.7	75-125			
Cobalt	0.541	0.0370	ng/m³ Air	0.23502	0.310	98.3	75-125			
Copper	162	2.23	ng/m³ Air	11.751	150	103	75-125			
Lead	23.5	0.182	ng/m³ Air	23.502	0.507	97.7	75-125			
Manganese	10.8	1.61	ng/m³ Air	2.3502	8.65	92.3	75-125			
Molybdenum	6.29	0.305	ng/m³ Air	1.1751	5.15	97.3	75-125			
Nickel	3.66	0.554	ng/m³ Air	2.3502	1.35	98.2	75-125			
Selenium	1.39	0.00761	ng/m³ Air	1.1751	0.252	97.2	75-125			
Thallium	0.0581	5.00E-4	ng/m³ Air	5.8756E-2	0.00166	96.1	75-125			QB-04
Vanadium	2.46	0.0450	ng/m³ Air	1.1751	1.36	93.4	75-125			
Zinc	ND	65.3	ng/m³ Air	23.502	ND		75-125			U
Post Spike (B4E2906-PS2)		**Source: 4052830-21**			Prepared: 05/29/24		Analyzed: 05/30/24			
Antimony	0.335	0.0342	ng/m³ Air	0.24491	0.0835	103	75-125			SL
Arsenic	1.43	0.00830	ng/m³ Air	1.2246	0.245	96.7	75-125			
Barium	5.63	0.947	ng/m³ Air	2.4491	3.27	96.3	75-125			
Beryllium	0.246	0.00283	ng/m³ Air	0.24491	0.00743	97.4	75-125			
Cadmium	0.136	0.0656	ng/m³ Air	0.12246	ND	111	75-125			
Chromium	3.21	1.96	ng/m³ Air	1.2246	2.04	96.1	75-125			
Cobalt	0.535	0.0386	ng/m³ Air	0.24491	0.290	99.7	75-125			
Copper	51.7	2.33	ng/m³ Air	12.246	39.0	104	75-125			
Lead	25.0	0.189	ng/m³ Air	24.491	0.438	100	75-125			
Manganese	9.25	1.67	ng/m³ Air	2.4491	6.87	97.4	75-125			
Molybdenum	2.98	0.318	ng/m³ Air	1.2246	1.80	96.3	75-125			
Nickel	3.71	0.577	ng/m³ Air	2.4491	1.28	99.3	75-125			

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REPORTED: 06/04/24 14:44
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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 B4E2906 - ICP-MS Extraction										
Post Spike (B4E2906-PS2) Continued		**Source: 4052830-21**		Prepared: 05/29/24		Analyzed: 05/30/24				
Selenium	1.44	0.00793	ng/m³ Air	1.2246	0.276	94.9	75-125			
Thallium	0.0629	5.22E-4	ng/m³ Air	6.1228E-2	0.00190	99.6	75-125			
Vanadium	2.39	0.0468	ng/m³ Air	1.2246	1.23	95.3	75-125			
Zinc	ND	68.0	ng/m³ Air	24.491	ND		75-125			U
Dilution Check (B4E2906-SRL1)		**Source: 4052830-14**		Prepared: 05/29/24		Analyzed: 05/30/24				
Antimony	ND	0.164	ng/m³ Air		ND				10	SL, U
Arsenic	1.09	0.0398	ng/m³ Air		1.10			0.625	10	
Barium	ND	4.55	ng/m³ Air		ND				10	U
Beryllium	ND	0.0136	ng/m³ Air		ND				10	U
Cadmium	ND	0.315	ng/m³ Air		ND				10	U
Chromium	ND	9.39	ng/m³ Air		ND				10	U
Cobalt	0.315	0.185	ng/m³ Air		0.310			1.61	10	
Copper	151	11.2	ng/m³ Air		150			1.00	10	
Lead	ND	0.909	ng/m³ Air		ND				10	U
Manganese	8.77	8.03	ng/m³ Air		8.65			1.46	10	
Molybdenum	5.12	1.53	ng/m³ Air		5.15			0.492	10	
Nickel	ND	2.77	ng/m³ Air		ND				10	U
Selenium	0.277	0.0381	ng/m³ Air		0.252			9.30	10	
Thallium	0.00447	0.00250	ng/m³ Air		ND			91.5	10	QB-04
Vanadium	1.35	0.225	ng/m³ Air		1.36			0.856	10	
Zinc	ND	326	ng/m³ Air		ND				10	U
Dilution Check (B4E2906-SRL2)		**Source: 4052830-21**		Prepared: 05/29/24		Analyzed: 05/30/24				
Antimony	ND	0.171	ng/m³ Air		ND				10	SL, U
Arsenic	0.254	0.0415	ng/m³ Air		0.245			3.46	10	
Barium	ND	4.74	ng/m³ Air		ND				10	U
Beryllium	ND	0.0142	ng/m³ Air		ND				10	U
Cadmium	ND	0.328	ng/m³ Air		ND				10	U
Chromium	ND	9.78	ng/m³ Air		ND				10	U
Cobalt	0.293	0.193	ng/m³ Air		0.290			0.860	10	
Copper	40.1	11.6	ng/m³ Air		39.0			2.92	10	
Lead	ND	0.947	ng/m³ Air		ND				10	U
Manganese	ND	8.37	ng/m³ Air		ND				10	U
Molybdenum	1.79	1.59	ng/m³ Air		1.80			0.731	10	
Nickel	ND	2.89	ng/m³ Air		ND				10	U
Selenium	0.256	0.0397	ng/m³ Air		0.276			7.61	10	
Thallium	0.00326	0.00261	ng/m³ Air		ND			52.9	10	
Vanadium	1.21	0.234	ng/m³ Air		1.23			1.43	10	
Zinc	ND	340	ng/m³ Air		ND				10	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 B4E2906 - ICP-MS Extraction										
Dilution Check (B4E2906-SRL3)				**Source: 4052830-02R**		Prepared: 05/29/24		Analyzed: 05/31/24		
Arsenic	0.553	0.0369	ng/m³ Air		0.555			0.370	10	

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QB-04	Analyte exceeds continuing calibration blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
FB-01	Analyte exceeds Field Blank criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard.

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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 06/05/2024 and Shanna Vasser 06/06/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 05/16/2024 – 05/22/2024
Report No: 4052830

√	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 barium in MFL-FB01-052124-HM.

Notes:

2. The laboratory stated that all samples were received in good condition. Samples MFL-AM02-051624-HM, MFL-AM04-051624-HM, MFL-AM01-051724-HM, MFL-AM02-051724-HM, MFL-AM01-051824-HM, MFL-AM02-051824-HM, MFL-AM03-051824-HM, MFL-AM04-051824-HM, MFL-AM02-052024-HM, MFL-AM01-052224-HM, and MFL-AM02-052224-HM were nonhomogeneous samples. There were no additional details; therefore, it is assumed the other samples met method criteria for analysis.

Ambient Community Air Monitoring Weekly Report
For the Hawaii Department of Health – Clean Air Branch

Lahaina, Maui

5/23/2024 – 5/29/2024

Due to ongoing debris removal operations in response to the Maui Wildfires, a Community Air Monitoring and Sampling Plan (CAMSP) has been drafted and sampling is being performed at 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)

This approach includes ambient community air monitoring and sampling to monitor 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 HDOH via online shared site and this weekly report. This approach to air monitoring and sampling will continue until debris removal activities are complete or until HDOH CAB advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the draft CAMSP. Additionally, daily air samples were collected at all community locations, as depicted in **Figure 1**. Summary analytical data is presented in **Tables 1 and 2**. **Appendix 1** provides detailed analytical results for all community locations where air sampling was performed. Analytical results were compared to site-specific screening levels for particulate matter, asbestos, and heavy metals as described in the draft CAMSP. A summary of meteorological data is presented in **Table 3.** Overall wind conditions show approximately 1.1 mph in a generally SSE direction.

Results for Community Locations:
Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), as this is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from May 23- May 29 at each of the following locations: Leialii Hawaiian Homelands, WW Pump Station #4, Lahaina Intermediate School, and Lahaina Boys & Girls Club.

The PM_{10} monitoring results were not found to have exceeded the screening level during this reporting period, as shown in **Table 2**.

Please note that ambient air monitoring for fine particulate matter, with a particle size diameter of 2.5 micrometers or less ($PM_{2.5}$) is not included in this report. This monitoring is being performed by the Department of Health/EPA at six locations in Lahaina and can be viewed at: https://fire.airnow.gov/.

There were 28 samples collected for asbestos fibers at community monitoring locations throughout this reporting period. All asbestos results were below the Site Screening Action Level (SSAL) of 0.003 fibers per cubic centimeter (fibers/cc) and less than the laboratory's analytical sensitivity (see Table 1). Notably, the laboratory commented "Numerous gypsum fibers present" on samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on May 23, 24, and 29
- WW Pump Station #4 on May 23-26, and 29
- Lahaina Intermediate School on May 24, 28, and 29

- Lahaina Boys & Girls Club on May 23-25, and 27-29

Gypsum is a common ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers found in the samples were not sufficient to obscure asbestos analysis; nor are they indicative of a health and safety concern. Occupational health exposure thresholds (National Institute for Occupational Safety and Health [NIOSH] and OSHA) 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. While total dust sampling has not been conducted, the size-discriminated particulate sampling (PM_{10}) at these locations indicates these thresholds are not being approached and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of heavy metals were detected in ambient air samples at all of the other community sampling locations. Although heavy metals were detected, all concentrations were below the SSALs (see Table 1). The laboratory data sheets for the metals and asbestos samples collected from the community locations are found in **Appendix 1.**

Quality Control:

This section briefly discusses the quality control efforts made by Tetra Tech throughout the air monitoring and sampling process. All references and SOPs can be found provided with the CAMSP.

Tetra Tech is utilizing Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the National Ambient Air Quality Standards (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 prior to monitoring according to the manufacturer's procedures.

For asbestos sampling, Tetra Tech uses 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 using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

Tetra Tech is using Tisch Environmental High Volume Air Samplers, or equivalent, collocated with the real-time particulate monitors and asbestos samplers described above. Air samples for elemental metals at community locations are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a 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 the off-site analytical laboratories, analytical data is maintained in an electronic database and compared to the SSALs. Level 1 data verification is completed on all analytical data and results are reviewed by an industrial hygienist.

Attachments

Basemap: ESRI ArcGIS World Street Map

Table 1
HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results by Date
Maui Wildfire, Lahaina
5/23/2024-5/29/2024

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening 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
5/23/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000581	0.000295	0.00294	0.00000717	ND	0.00220	0.000258	0.188	0.000303	0.00760	0.00870	0.00120	0.000153	0.00000173	0.00119	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000841	0.000508	0.00404	0.0000112	ND	0.00227	0.000382	0.0290	0.000606	0.0118	0.00150	0.00156	0.000231	0.00000205	0.00182	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000774	0.000266	0.00448	0.0000499	ND	0.00322	0.000658	0.0229	0.000508	0.0145	0.00128	0.00187	0.000216	0.00000181	0.00172	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000136	0.000951	0.00441	0.0000116	ND	0.00235	0.000370	0.0193	0.00106	0.0117	0.000834	0.00138	0.000212	0.00000191	0.00161	ND
5/24/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000779	0.000340	0.00384	0.00000898	ND	0.00247	0.000360	0.186	0.000370	0.0100	0.00909	0.00142	0.000196	0.00000280	0.00137	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000674	0.000226	0.00266	0.00000749	ND	ND	0.000197	0.0351	0.000533	0.00672	0.00181	0.000989	0.000212	0.00000260	0.00100	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000893	0.000548	0.00735	0.0000963	ND	0.00523	0.00129	0.0353	0.000935	0.0270	0.00188	0.00298	0.000355	0.00000361	0.00301	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000149	0.000896	0.00472	0.0000132	ND	0.00278	0.000449	0.0243	0.00112	0.0151	0.00108	0.00155	0.000204	0.00000269	0.00152	ND
5/25/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000768	0.00117	0.00432	0.0000127	ND	0.00341	0.000555	0.203	0.000580	0.0145	0.0101	0.00178	0.000173	0.00000162	0.00174	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000113	0.000262	0.00403	0.00000818	ND	0.00183	0.000247	0.0419	0.000543	0.00773	0.00237	0.00110	0.000163	0.00000124	0.00100	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000743	0.000336	0.00538	0.0000696	ND	0.00422	0.000957	0.0436	0.000573	0.0202	0.00175	0.00239	0.000259	0.00000190	0.00216	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000164	0.000879	0.00477	0.0000149	ND	0.00298	0.000496	0.0325	0.00157	0.0163	0.00124	0.00165	0.000184	0.00000148	0.00157	ND
5/26/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000627	0.000313	0.00282	0.00000615	ND	0.00205	0.000233	0.150	0.000440	0.00690	0.00803	0.00431	0.000150	0.000000973	0.00104	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000952	0.000238	0.00301	0.00000568	ND	ND	0.000169	0.0399	0.000535	0.00532	0.00201	0.000910	0.000147	0.000000782	0.000827	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000592	0.000216	0.00278	0.0000130	ND	0.00190	0.000242	0.0534	0.000563	0.00698	0.00219	0.00107	0.000150	0.000000895	0.000968	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000110	0.000421	0.00350	0.00000894	ND	0.00216	0.000285	0.0404	0.00120	0.00965	0.00159	0.00120	0.000152	0.000000902	0.00104	ND
5/27/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000683	0.000406	0.00298	0.00000734	ND	0.00246	0.000352	0.170	0.000349	0.00934	0.00883	0.00145	0.000157	0.00000112	0.00130	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000106	0.000233	0.00350	0.00000743	ND	0.00207	0.000201	0.0436	0.000558	0.00670	0.00195	0.00102	0.000151	0.000000919	0.000933	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000141	0.000198	0.00340	0.0000240	ND	0.00274	0.000510	0.0426	0.000392	0.0121	0.00172	0.00166	0.000173	0.00000115	0.00148	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.0000867	0.000215	0.00296	0.00000807	ND	0.00203	0.000250	0.0316	0.000382	0.00822	0.00149	0.00123	0.000142	0.000000843	0.000895	ND
5/28/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000533	0.000609	0.00477	0.0000178	ND	0.00379	0.000944	0.178	0.000389	0.0214	0.00852	0.00370	0.000225	0.00000177	0.00246	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000999	0.000352	0.00494	0.0000162	ND	0.00298	0.000692	0.0550	0.000510	0.0161	0.00211	0.00278	0.000215	0.00000157	0.00217	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000559	0.000259	0.00375	0.0000482	ND	0.00295	0.000653	0.0418	0.000445	0.0153	0.00187	0.00186	0.000242	0.00000173	0.00180	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000106	0.000418	0.00430	0.0000112	ND	0.00248	0.000368	0.0355	0.00152	0.0116	0.00136	0.00145	0.000179	0.00000138	0.00135	ND
5/29/2024	Leialii Hawaiian Homelands (AM-01)	<0.0027	0.0000885	0.00189	0.00364	0.00000909	ND	0.00291	0.000394	0.191	0.000639	0.0115	0.0104	0.00160	0.000170	0.00000127	0.00141	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.0000904	0.000330	0.00371	0.00000991	ND	0.00188	0.000322	0.0625	0.000847	0.00955	0.00247	0.00117	0.000222	0.00000133	0.00151	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.000103	0.000512	0.00603	0.0000847	ND	0.00497	0.00127	0.0355	0.00100	0.0291	0.00190	0.00301	0.000358	0.00000204	0.00322	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	ND	0.00163	0.0102	0.0000426	ND	0.00724	0.00161	0.0300	0.00161	0.0598	ND	0.00434	0.000438	0.00000258	0.00435	ND
95% Upper Confidence Limit[2]		NA	0.000100	0.000670	0.00471	0.0000310	NA	0.00337	0.000660	0.0980	0.000850	0.0172	0.00498	0.00219	0.000230	0.00000190	0.00191	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

ug/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 shown in Table 1 has been converted to micrograms per cubic meter so data was comparable to SSALs

Table 2
HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results for PM_{10}
Maui Wildfire, Lahaina
5/23/2024 - 5/29/2024

Screening Level		**150 µg/m^3**
5/23/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	8.9
5/24/2024	Leialii Hawaiian Homelands (AM-01)	10
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	8.1
5/25/2024	Leialii Hawaiian Homelands (AM-01)	8.7
	WW Pump Station #4 (AM-02)	6.4
	Lahaina Intermediate School (AM-03)	8.4
	Lahaina Boys & Girls Club (AM-04)	6.5
5/26/2024	Leialii Hawaiian Homelands (AM-01)	8.8
	WW Pump Station #4 (AM-02)	8.5
	Lahaina Intermediate School (AM-03)	8.2
	Lahaina Boys & Girls Club (AM-04)	7.2
5/27/2024	Leialii Hawaiian Homelands (AM-01)	9.7
	WW Pump Station #4 (AM-02)	6.7
	Lahaina Intermediate School (AM-03)	8.1
	Lahaina Boys & Girls Club (AM-04)	5.6
5/28/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	11
	Lahaina Boys & Girls Club (AM-04)	8.5
5/29/2024	Leialii Hawaiian Homelands (AM-01)	11
	WW Pump Station #4 (AM-02)	13
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	11

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures

Table 3
Maui Wildfire - Lahaina
Meteorological Data
5/23/2024-5/29/2024

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
5/23/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	83	60	761.9
5/23/2024	AM-02	WW Pump Station #4	0.9	S	82	66	764.1
5/23/2024	AM-03	Lahaina Intermediate School	1.3	SE	80	64	754.5
5/23/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	79	66	763.7
5/24/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	83	57	762.0
5/24/2024	AM-02	WW Pump Station #4	1.1	S	81	64	764.2
5/24/2024	AM-03	Lahaina Intermediate School	1.2	SSE	79	61	754.6
5/24/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	78	65	763.8
5/25/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	81	61	761.5
5/25/2024	AM-02	WW Pump Station #4	1.2	SSE	80	67	763.6
5/25/2024	AM-03	Lahaina Intermediate School	1.1	SE	77	66	754.1
5/25/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	76	69	763.3
5/26/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	81	62	760.6
5/26/2024	AM-02	WW Pump Station #4	1.0	SSE	81	67	762.8
5/26/2024	AM-03	Lahaina Intermediate School	1.1	SE	78	65	753.2
5/26/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	76	69	762.4
5/27/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	81	62	760.7
5/27/2024	AM-02	WW Pump Station #4	1.2	SSE	80	69	762.9
5/27/2024	AM-03	Lahaina Intermediate School	1.2	ESE	78	67	753.3
5/27/2024	AM-04	Lahaina Boys & Girls Club	1.0	S	77	70	762.5
5/28/2024	AM-01	Leialii Hawaiian Homelands	0.9	SSE	81	63	760.8
5/28/2024	AM-02	WW Pump Station #4	0.9	S	81	68	763.0
5/28/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	65	753.4
5/28/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	78	68	762.6
5/29/2024	AM-01	Leialii Hawaiian Homelands	0.9	SE	82	61	761.5
5/29/2024	AM-02	WW Pump Station #4	1.2	SSE	81	68	763.7
5/29/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	65	754.1
5/29/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	67	763.3

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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:	042410791
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:	05/30/2024 10:12 AM
Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-052324-AB**		**Sample Description:**	**DK797384**
EMSL Sample Number:	042410791-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7144.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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:	**042410791**
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: 042410791-0001 **Customer Sample:** MFL-AM01-052324-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	C7	None Detected									
B1	F6	None Detected									
B1	I9	None Detected									
B2	A2	None Detected									
B2	D5	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:	042410791
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:	05/30/2024 10:12 AM
Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-052324-AB** **Sample Description: DK797409**

EMSL Sample Number:	042410791-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7143.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0002 **Customer Sample:** MFL-AM02-052324-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	J6	None Detected									
B5	F3	None Detected									
B5	B4	None Detected									
B6	C5	None Detected									
B6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042410791
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:	05/30/2024 10:12 AM
Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-052324-AB** **Sample Description: DK797404**

EMSL Sample Number:	042410791-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7084.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042410791-0003 **Customer Sample:** MFL-AM03-052324-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	J5	None Detected									
C1	E4	None Detected									
C1	B7	None Detected									
C2	D2	None Detected									
C2	G6	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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Project: **Maui Fires - Lahaina**

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Fax:	N/A
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Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-052324-AB** **Sample Description: DK797387**

EMSL Sample Number:	042410791-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7125.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042410791-0004 **Customer Sample:** MFL-AM04-052324-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					
C6	I8	None Detected									
C6	F4	None Detected									
C6	A3	None Detected									
C7	B7	None Detected									
C7	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-052324-AB** **Sample Description: DK797403**

EMSL Sample Number:	042410791-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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: 042410791-0005 **Customer Sample:** MFL-FB01-052324-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	H2	None Detected									
D1	H5	None Detected									
D1	C8	None Detected									
D1	A6	None Detected									
D2	A8	None Detected									
D2	D9	None Detected									
D2	I5	None Detected									
D3	J7	None Detected									
D3	F6	None Detected									
D3	B4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-052424-AB** **Sample Description: DK797417**

EMSL Sample Number:	042410791-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7206.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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Project ID:	**Maui Fires - Lahaina**

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042410791-0006 **Customer Sample:** MFL-AM01-052424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D6	I4	None Detected									
D6	E3	None Detected									
D6	B6	None Detected									
D7	H7	None Detected									
D7	C3	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

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:	05/30/2024 10:12 AM
Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-052424-AB**		**Sample Description:**	**DK797416**
EMSL Sample Number:	042410791-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7087.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410791
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: 042410791-0007 **Customer Sample:** MFL-AM02-052424-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	I5	None Detected									
E1	E4	None Detected									
E1	A9	None Detected									
E2	H6	None Detected									
E2	D3	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:	042410791
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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Received Date:	05/30/2024 10:12 AM
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-052424-AB**		**Sample Description:**	**DK797392**
EMSL Sample Number:	042410791-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7084.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0008 **Customer Sample:** MFL-AM03-052424-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	I8	None Detected									
E5	E3	None Detected									
E5	A7	None Detected									
E6	C6	None Detected									
E6	G8	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:	05/30/2024 10:12 AM
Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-052424-AB**		**Sample Description:**	**DK797385**
EMSL Sample Number:	042410791-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7227.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0009 **Customer Sample:** MFL-AM04-052424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	J9	None Detected									
F1	G3	None Detected									
F1	B6	None Detected									
F2	G7	None Detected									
F2	A4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-052424-AB** **Sample Description:** **DK797429**

EMSL Sample Number:	042410791-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0010 **Customer Sample:** MFL-FB01-052424-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	B4	None Detected									
F5	D7	None Detected									
F6	H9	None Detected									
F5	I5	None Detected									
F6	A8	None Detected									
F6	E7	None Detected									
F6	J7	None Detected									
F7	J5	None Detected									
F7	G2	None Detected									
F7	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042410791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/30/2024 10:12 AM
Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-052524-AB** **Sample Description: DK797426**

EMSL Sample Number:	042410791-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7234.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410791
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: 042410791-0011 **Customer Sample:** MFL-AM01-052524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G2	B5	None Detected									
G2	E2	None Detected									
G2	I5	None Detected									
G3	C4	None Detected									
G3	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042410791
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:	05/30/2024 10:12 AM
Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-052524-AB**		**Sample Description:**	**DK797422**
EMSL Sample Number:	042410791-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7297.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0012 **Customer Sample:** MFL-AM02-052524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G3	A5	None Detected									
G3	C6	None Detected									
G4	J5	None Detected									
G4	G6	None Detected									
G4	A5	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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Fax:	N/A
Received Date:	05/30/2024 10:12 AM
Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-052524-AB** **Sample Description:** **DK797393**

EMSL Sample Number:	042410791-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7254.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0013 **Customer Sample:** MFL-AM03-052524-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	B5	None Detected									
H1	E3	None Detected									
H1	H5	None Detected									
H3	B4	None Detected									
H3	F4	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:	05/30/2024 10:12 AM
Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-052524-AB**		**Sample Description:**	**DK797394**
EMSL Sample Number:	042410791-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7291.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0014 **Customer Sample:** MFL-AM04-052524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H7	I8	None Detected									
H7	E7	None Detected									
H7	B9	None Detected									
H8	A5	None Detected									
H8	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
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Project ID:	N/A

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Received Date:	05/30/2024 10:12 AM
Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-052524-AB**		**Sample Description:**	**DK797400**
EMSL Sample Number:	042410791-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID:	**042410791**
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: 042410791-0015 **Customer Sample:** MFL-FB01-052524-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	B3	None Detected									
I1	C5	None Detected									
I1	E7	None Detected									
I1	G5	None Detected									
I1	I3	None Detected									
I2	B3	None Detected									
I2	D4	None Detected									
I2	F7	None Detected									
I2	G8	None Detected									
I2	J5	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:	042410791
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/30/2024 10:12 AM
Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-052624-AB** **Sample Description:** **DK797406**

EMSL Sample Number:	042410791-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7257.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	4			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0016 **Customer Sample:** MFL-AM01-052624-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	D6	None Detected									
I5	G3	None Detected									
I6	C5	None Detected									
I6	E1	None Detected									
I6	J4	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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Tetra Tech
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	05/30/2024 10:12 AM
Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-052624-AB**		**Sample Description:**	**DK797408**
EMSL Sample Number:	042410791-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0017 **Customer Sample:** MFL-AM02-052624-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J2	J7	None Detected									
J2	H6	None Detected									
J2	C8	None Detected									
J3	A4	None Detected									
J3	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-052624-AB** **Sample Description:** **DK797431**

EMSL Sample Number:	042410791-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7079.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	3			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042410791-0018 **Customer Sample:** MFL-AM03-052624-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	J4	None Detected									
I5	G6	None Detected									
I7	I4	None Detected									
I7	E4	None Detected									
I7	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-052624-AB** **Sample Description: DK797407**

EMSL Sample Number:	042410791-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7054.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042410791
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: 042410791-0019 **Customer Sample:** MFL-AM04-052624-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	A4	None Detected									
K1	D2	None Detected									
K4	C5	None Detected									
K4	G8	None Detected									
K4	J6	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:	05/30/2024 10:12 AM
Analysis Date:	06/05/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-052624-AB**		**Sample Description:**	**DK797382**
EMSL Sample Number:	042410791-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	A. Burke
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042410791
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: 042410791-0020 **Customer Sample:** MFL-FB01-052624-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					
K7	A4	None Detected									
K7	C3	None Detected									
K7	F4	None Detected									
K7	H5	None Detected									
K7	J6	None Detected									
K8	I5	None Detected									
K8	H7	None Detected									
K8	F8	None Detected									
K8	D4	None Detected									
K8	A7	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:	042410791
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:	05/30/2024 10:12 AM
Analysis Date:	06/04/2024
Report Date:	06/06/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042410791-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042410791
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: 042410791-0021 **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					
A2	A4	None Detected									
A2	D7	None Detected									
A2	F9	None Detected									
A2	J6	None Detected									
A3	A6	None Detected									
A3	F6	None Detected									
A3	I3	None Detected									
A4	J8	None Detected									
A4	I5	None Detected									
A4	B5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042410791

RECEIVED
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CINNAMINSON, NJ
24 MAY 30 PM 1:12

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410791

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
(800) 220-3675
EMAIL: CinnaLab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	TETRA TECH	Company Name:	
Contact Name:	CHELSEA SABER	Billing Contact:	
Street Address:	1560 BROADWAY STE 1400	Street Address:	
City, State, Zip:	DENVER, CO 80202	Country: USA	City, State, Zip: / Country:
Phone:	703-489-2674		Phone:
Email(s) for Report:	chelsea.saber@tetratech.com		Email(s) for Invoice:

Project Information

Project Name/No:	MAUI FIRES - LAHAINA	Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	E. KARYSA SALDAÑA	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-AM01-052324-AB	DK797384	7,144.489	05/23/24 1055
MFL-AM02-052324-AB	DK797409	7,142.999	05/23/24 1116
MFL-AM03-052324-AB	DK797404	7,083.960	05/23/24 1257
MFL-AM04-052324-AB	DK797387	7,125.793	05/23/24 1321
MFL-FB01-052324-AB	DK797403	0	05/23/24 1200
MFL-AM01-052424-AB	DK797417	7,206.048	05/24/24 1100
MFL-AM02-052424-AB	DK797416	7,086.960	05/24/24 1120
MFL-AM03-052424-AB	DK797392	7,084.368	05/24/24 1301

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

Method of Shipment:	FED EX	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 05/27/24 400	Received by: FedEx
Date/Time: 5/30/24 10:12A			
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

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042410791

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.)

MFL-AM01-052624-AB volume is 7,257.569
MFL-AM02-052624-AB volume is 7,176.329
MFL-AM04-052624-AB volume is 7,054.659

Sample Number	Sample Location / Description		Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM04-052424-AB	DK797385		7,227.100	05/24/24 1325
MFL-FB01-052424-AB	DK797429		0	05/24/24 1200
MFL-AM01-052524-AB	DK797426		7,234.248	05/25/24 1057
MFL-AM02-052524-AB	DK797422		7,297.550	05/25/24 1115
MFL-AM03-052524-AB	DK797393		7,254.512	05/25/24 1300
MFL-AM04-052524-AB	DK797394		7,291.625	05/25/24 1326
MFL-FB01-052524-AB	DK797400		0	05/25/24 1200
MFL-AM01-052624-AB	DK797406		~~7,252.446~~ (EMSL)	05/26/24 1058
MFL-AM02-052624-AB	DK797408		~~7,175.620~~ (EMSL)	05/26/24 1115
MFL-AM03-052624-AB	DK797431		7,079.573	05/26/24 1258
MFL-AM04-052624-AB	DK797407		~~7,054.587~~ (EMSL)	05/26/24 1322
MFL-FB01-052624-AB	DK797382		0	05/26/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 MAY 30 PM 1:12

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/27/24 1100	Received by: FedEx	Date/Time 5/30/24 10:12A
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 06/12/2024 and Shanna Vasser 06/13/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/23/2024 – 05/26/2024
Report No: 42410791

√	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:	042411082
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:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-052724-AB**		**Sample Description:**	**DK797413**
EMSL Sample Number:	042411082-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7184.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411082
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: 042411082-0001 **Customer Sample:** MFL-AM01-052724-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	G7	None Detected									
A5	D3	None Detected									
A7	H5	None Detected									
A7	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411082
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:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-052724-AB**		**Sample Description:**	**DK797386**
EMSL Sample Number:	042411082-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7193.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	5			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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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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: 042411082
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: 042411082-0002 **Customer Sample:** MFL-AM02-052724-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	A7	None Detected									
B2	H7	None Detected									
B3	J4	None Detected									
B3	F6	None Detected									
B3	B3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411082
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:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-052724-AB**		**Sample Description:**	**DK797371**
EMSL Sample Number:	042411082-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7174.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411082
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: 042411082-0003 **Customer Sample:** MFL-AM03-052724-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	A6	None Detected									
B5	F3	None Detected									
B5	I7	None Detected									
B6	B4	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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Customer PO:	1207085
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-AM04-052724-AB**		**Sample Description:**	**DK797370**
EMSL Sample Number:	042411082-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7069.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

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: 042411082-0004 **Customer Sample:** MFL-AM04-052724-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	J6	None Detected									
C1	F3	None Detected									
C1	B5	None Detected									
C2	H9	None Detected									
C2	E5	None Detected									

Abbreviations used:
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-052724-AB** **Sample Description: DK797427**

EMSL Sample Number:	042411082-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

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: 042411082-0005 **Customer Sample:** MFL-FB01-052724-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	A8	None Detected									
C5	A4	None Detected									
C5	E5	None Detected									
C5	I3	None Detected									
C6	B6	None Detected									
C6	F8	None Detected									
C6	H5	None Detected									
C7	J4	None Detected									
C7	G6	None Detected									
C7	B7	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-AM01-052824-AB**		**Sample Description:**	**DK797414**
EMSL Sample Number:	042411082-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7418.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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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: 042411082-0006 **Customer Sample:** MFL-AM01-052824-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	F4	None Detected									
D1	I5	None Detected									
D2	H4	None Detected									
D2	D5	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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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-052824-AB** **Sample Description: DK797401**

EMSL Sample Number:	042411082-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7148.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411082
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: 042411082-0007 **Customer Sample:** MFL-AM02-052824-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	A6	None Detected									
D5	E3	None Detected									
D6	B2	None Detected									
D6	F7	None Detected									
D6	J3	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:	042411082
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:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-052824-AB** **Sample Description: DK797367**

EMSL Sample Number:	042411082-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7052.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411082
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: 042411082-0008 **Customer Sample:** MFL-AM03-052824-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	J9	None Detected									
E1	G4	None Detected									
E1	B5	None Detected									
E2	C3	None Detected									
E2	F6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-052824-AB**		**Sample Description:**	**DK797380**
EMSL Sample Number:	042411082-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7230.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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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: 042411082-0009 **Customer Sample:** MFL-AM04-052824-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	I3	None Detected									
E5	E7	None Detected									
E5	A4	None Detected									
E7	C8	None Detected									
E7	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	06/03/2024 09:00 AM
Analysis Date:	06/10/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-052824-AB** **Sample Description: DK797430**

EMSL Sample Number:	042411082-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	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): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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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: 042411082-0010 **Customer Sample:** MFL-FB01-052824-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	B5	None Detected									
F1	D7	None Detected									
F1	F8	None Detected									
F1	H7	None Detected									
F1	J5	None Detected									
F3	A7	None Detected									
F3	C4	None Detected									
F3	E2	None Detected									
F3	G4	None Detected									
F3	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-052924-AB** **Sample Description: DK797433**

EMSL Sample Number:	042411082-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7047.2
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

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: 042411082-0011 **Customer Sample:** MFL-AM01-052924-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					
F6	B7	None Detected									
F6	E9	None Detected									
F6	H5	None Detected									
F8	I4	None Detected									
F8	D7	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

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:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-052924-AB**		**Sample Description:**	**DK797412**
EMSL Sample Number:	042411082-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7242.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411082
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: 042411082-0012 **Customer Sample:** MFL-AM02-052924-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	J5	None Detected									
G1	E3	None Detected									
G1	A5	None Detected									
G2	C6	None Detected									
G2	G7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411082
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-052924-AB**		**Sample Description:**	**DK797362**
EMSL Sample Number:	042411082-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7234.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411082
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: 042411082-0013 **Customer Sample:** MFL-AM03-052924-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	A7	None Detected									
G5	E4	None Detected									
G5	I5	None Detected									
G6	D5	None Detected									
G6	H7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/03/2024 09:00 AM
Analysis Date:	06/08/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-052924-AB**		**Sample Description:**	**DK797383**
EMSL Sample Number:	042411082-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7114.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411082
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: 042411082-0014 **Customer Sample:** MFL-AM04-052924-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	I4	None Detected									
H1	E7	None Detected									
H1	A4	None Detected									
H2	B2	None Detected									
H2	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411082
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Customer PO:	1207085
Project ID:	N/A

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Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/03/2024 09:00 AM
Analysis Date:	06/08/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-052924-AB** **Sample Description: DK797399**

EMSL Sample Number:	042411082-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042411082
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: 042411082-0015 **Customer Sample:** MFL-FB01-052924-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	D8	None Detected									
H5	E5	None Detected									
H5	H7	None Detected									
H5	J3	None Detected									
H6	I9	None Detected									
H6	G7	None Detected									
H6	B7	None Detected									
H7	J6	None Detected									
H7	G4	None Detected									
H7	A3	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411082
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:	06/03/2024 09:00 AM
Analysis Date:	06/07/2024
Report Date:	06/10/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **Lab Blank** **Sample Description:** **Lab Blank**

EMSL Sample Number:	042411082-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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: 042411082
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: 042411082-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	C3	None Detected									
A1	E7	None Detected									
A1	G8	None Detected									
A1	J5	None Detected									
A2	B7	None Detected									
A2	E5	None Detected									
A2	I4	None Detected									
A4	J8	None Detected									
A4	G6	None Detected									
A4	C4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042411082

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only: 042411082

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	CHELSEA SABER
Street Address:	1560 BROADWAY STE 1400
City, State, Zip:	DENVER, CO 80202
Country:	USA
Phone:	703-489-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	MAUI FIRES - LAHAINA
Purchase Order:	
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. KARYSA SALDAÑA
Sampled By Signature:	
No. of Samples in Shipment	15

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 4-4.5 Hour AHERA ONLY ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

TEM Air 3-6 Hour, please call ahead to schedule. 32 Hour TAT available for select tests only; samples must be submitted by 11:30 am.

Test Selection

PCM Air
- ☐ NIOSH 7400
- ☐ NIOSH 7400 w/ 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☒ ISO 10312*

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable-NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Test (please specify)

TEM - Settled Dust
- ☐ Microvac - ASTM D5755
- ☐ Wipe - ASTM D6480
- ☐ Qualitative via Filtration Prep
- ☐ Qualitative via Drop Mount Prep

Soil - Rock - Vermiculite (reporting limit)*
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep

*Please call with your project-specific requirements.

RECEIVED 2024 JUN -3 AM 8:55 CINNAMINSON, NJ

☐ 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-AM01-052724-AB		DK797413	7,184.495	05/27/24 1102
MFL-AM02-052724-AB		DK797386	7,193.088	05/27/24 1119
MFL-AM03-052724-AB		DK797371	7,174.654	05/27/24 1259
MFL-AM04-052724-AB		DK797370	7,069.815	05/27/24 1323
MFL-FB01-052724-AB		DK797427	0	05/27/24 1200
MFL-AM01-052824-AB		DK797414	7,418.211	05/28/24 1104
MFL-AM02-052824-AB		DK797401	7,148.304	05/28/24 1122
MFL-AM03-052824-AB		DK797367	7,052.544	05/28/24 1303

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15 ES

Method of Shipment:	FEDEX	Sample Condition Upon Receipt:	
Relinquished by:		Date/Time: 05/30/24 1100	Received by: FX Date/Time 6/3/24
Relinquished by:		Date/Time:	Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042411082

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

042411082

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-AM04-052824-AB	DK797380	7,230.116	05/28/24 1323
MFL-FB01-052824-AB	DK797430	0	05/28/24 1200
MFL-AM01-052924-AB	DK797433	7,047.246	05/29/24 1101
MFL-AM02-052924-AB	DK797412	7,242.767	05/29/24 1127
MFL-AM03-052924-AB	DK797362	7,234.840	05/29/24 1304
MFL-AM04-052924-AB	DK797383	7,114.518	05/29/24 1324
MFL-FB01-052924-AB	DK797399	0	05/29/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
24 JUN -3 AM 10:55

Method of Shipment: FED EX		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 05/30/24 1100	Received by:	Date/Time
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 06/11/2024 and Shanna Vasser 6/11/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/27/2024 – 05/29/2024
Report No: 42411082

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None.

Notes: None.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

June 11, 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 06/03/24 14:11.

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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-052324-HM	4060348-01	Air	05/23/24 23:59	06/03/24 14:11
MFL-AM02-052324-HM	4060348-02	Air	05/23/24 23:59	06/03/24 14:11
MFL-AM03-052324-HM	4060348-03	Air	05/23/24 23:59	06/03/24 14:11
MFL-AM04-052324-HM	4060348-04	Air	05/23/24 23:59	06/03/24 14:11
MFL-FB01-052324-HM	4060348-05	Air	05/23/24 00:00	06/03/24 14:11
MFL-AM01-052424-HM	4060348-06	Air	05/24/24 23:59	06/03/24 14:11
MFL-AM02-052424-HM	4060348-07	Air	05/24/24 23:59	06/03/24 14:11
MFL-AM03-052424-HM	4060348-08	Air	05/24/24 23:59	06/03/24 14:11
MFL-AM04-052424-HM	4060348-09	Air	05/24/24 23:59	06/03/24 14:11
MFL-AM01-052524-HM	4060348-10	Air	05/25/24 23:59	06/03/24 14:11
MFL-AM02-052524-HM	4060348-11	Air	05/25/24 23:59	06/03/24 14:11
MFL-AM03-052524-HM	4060348-12	Air	05/25/24 23:59	06/03/24 14:11
MFL-AM04-052524-HM	4060348-13	Air	05/25/24 23:59	06/03/24 14:11
MFL-FB01-052524-HM	4060348-14	Air	05/25/24 00:00	06/03/24 14:11
MFL-AM01-052624-HM	4060348-15	Air	05/26/24 23:59	06/03/24 14:11
MFL-AM02-052624-HM	4060348-16	Air	05/26/24 23:59	06/03/24 14:11
MFL-AM03-052624-HM	4060348-17	Air	05/26/24 23:59	06/03/24 14:11
MFL-AM04-052624-HM	4060348-18	Air	05/26/24 23:59	06/03/24 14:11
MFL-AM01-052724-HM	4060348-19	Air	05/27/24 23:59	06/03/24 14:11
MFL-AM02-052724-HM	4060348-20	Air	05/27/24 23:59	06/03/24 14:11
MFL-AM03-052724-HM	4060348-21	Air	05/27/24 23:59	06/03/24 14:11

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-052724-HM	4060348-22	Air	05/27/24 23:59	06/03/24 14:11
MFL-FB01-052724-HM	4060348-23	Air	05/27/24 00:00	06/03/24 14:11
MFL-AM01-052824-HM	4060348-24	Air	05/28/24 23:59	06/03/24 14:11
MFL-AM02-052824-HM	4060348-25	Air	05/28/24 23:59	06/03/24 14:11
MFL-AM03-052824-HM	4060348-26	Air	05/28/24 23:59	06/03/24 14:11
MFL-AM04-052824-HM	4060348-27	Air	05/28/24 23:59	06/03/24 14:11
MFL-AM01-052924-HM	4060348-28	Air	05/29/24 23:59	06/03/24 14:11
MFL-AM02-052924-HM	4060348-29	Air	05/29/24 23:59	06/03/24 14:11
MFL-AM03-052924-HM	4060348-30	Air	05/29/24 23:59	06/03/24 14:11
MFL-AM04-052924-HM	4060348-31	Air	05/29/24 23:59	06/03/24 14:11
MFL-FB01-052924-HM	4060348-32	Air	05/29/24 00:00	06/03/24 14:11
MFL-LB01-052924-HM	4060348-33	Air	05/29/24 00:00	06/03/24 14:11

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052324-HM
Matrix: Air
Lab ID: 4060348-01
Sample Volume: 1874.629 m³
Filter ID:
Sampled: 05/23/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 21:26

Comments: Q8504004 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0581**	SL	**0.0335**
Arsenic	**7440-38-2**	**0.295**		**0.00813**
Barium	**7440-39-3**	**2.94**		**0.929**
Beryllium	**7440-41-7**	**0.00717**		**0.00278**
Cadmium	7440-43-9	0.0110	U	0.0643
Chromium	**7440-47-3**	**2.20**		**1.92**
Cobalt	**7440-48-4**	**0.258**		**0.0378**
Copper	**7440-50-8**	**188**		**2.28**
Lead	**7439-92-1**	**0.303**		**0.186**
Manganese	**7439-96-5**	**7.60**		**1.64**
Molybdenum	**7439-98-7**	**8.70**		**0.312**
Nickel	**7440-02-0**	**1.20**		**0.566**
Selenium	**7782-49-2**	**0.153**		**0.00778**
Thallium	**7440-28-0**	**0.00173**		**5.11E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0459**
Zinc	7440-66-6	32.4	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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052324-HM
Matrix: Air
Lab ID: 4060348-02
Sample Volume: 2062.87 m³
Filter ID:
Sampled: 05/23/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 21:37

Comments: Q8504002 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0841**	SL	**0.0304**
Arsenic	**7440-38-2**	**0.508**		**0.00739**
Barium	**7440-39-3**	**4.04**		**0.844**
Beryllium	**7440-41-7**	**0.0112**		**0.00252**
Cadmium	7440-43-9	0.0138	U	0.0584
Chromium	**7440-47-3**	**2.27**		**1.74**
Cobalt	**7440-48-4**	**0.382**		**0.0344**
Copper	**7440-50-8**	**29.0**		**2.07**
Lead	**7439-92-1**	**0.606**		**0.169**
Manganese	**7439-96-5**	**11.8**		**1.49**
Molybdenum	**7439-98-7**	**1.50**		**0.283**
Nickel	**7440-02-0**	**1.56**		**0.514**
Selenium	**7782-49-2**	**0.231**		**0.00707**
Thallium	**7440-28-0**	**0.00205**		**4.65E-4**
Vanadium	**7440-62-2**	**1.82**		**0.0417**
Zinc	7440-66-6	31.1	U	60.6

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052324-HM
Matrix: Air
Lab ID: 4060348-03
Sample Volume: 1680.502 m³
Filter ID:
Sampled: 05/23/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 17:59

Comments: Q8504001 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0774**	SL	**0.0374**
Barium	**7440-39-3**	**4.48**		**1.04**
Beryllium	**7440-41-7**	**0.0499**		**0.00310**
Chromium	**7440-47-3**	**3.22**		**2.14**
Cobalt	**7440-48-4**	**0.658**		**0.0422**
Copper	**7440-50-8**	**22.9**		**2.55**
Lead	**7439-92-1**	**0.508**		**0.207**
Manganese	**7439-96-5**	**14.5**		**1.83**
Nickel	**7440-02-0**	**1.87**		**0.631**
Thallium	**7440-28-0**	**0.00181**		**5.70E-4**
Vanadium	**7440-62-2**	**1.72**		**0.0512**
Zinc	7440-66-6	31.5	U	74.4

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052324-HM
Matrix: Air
Lab ID: 4060348-03RE1
Sample Volume: 1680.502 m³
Filter ID:
Sampled: 05/23/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 13:27

Comments: Q8504001 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.266**	D	**0.0181**
Cadmium	7440-43-9	0.0106	D, U	0.143
Molybdenum	**7439-98-7**	**1.28**	D	**0.695**
Selenium	**7782-49-2**	**0.216**	D	**0.0173**

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052324-HM
Matrix: Air
Lab ID: 4060348-04
Sample Volume: 1877.907 m³
Filter ID:
Sampled: 05/23/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 21:47

Comments: Q8504000 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.136**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.951**		**0.00812**
Barium	**7440-39-3**	**4.41**		**0.927**
Beryllium	**7440-41-7**	**0.0116**		**0.00277**
Cadmium	7440-43-9	0.0201	U	0.0642
Chromium	**7440-47-3**	**2.35**		**1.91**
Cobalt	**7440-48-4**	**0.370**		**0.0378**
Copper	**7440-50-8**	**19.3**		**2.28**
Lead	**7439-92-1**	**1.06**		**0.185**
Manganese	**7439-96-5**	**11.7**		**1.64**
Molybdenum	**7439-98-7**	**0.834**		**0.311**
Nickel	**7440-02-0**	**1.38**		**0.565**
Selenium	**7782-49-2**	**0.212**		**0.00776**
Thallium	**7440-28-0**	**0.00191**		**5.10E-4**
Vanadium	**7440-62-2**	**1.61**		**0.0458**
Zinc	7440-66-6	33.8	U	66.5

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-052324-HM
Matrix: Air
Lab ID: 4060348-05
Sample Volume: 1874.629 m³
Filter ID:
Sampled: 05/23/24 00:00
Received: 06/03/24 14:11
Analysis Date: 06/06/24 21:57

Comments: Q8503996 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0168	U, SL	0.0335
Arsenic	7440-38-2	0.00482	U	0.00813
Barium	**7440-39-3**	**1.08**	FB-01	**0.929**
Beryllium	7440-41-7	6.60E-4	U	0.00278
Cadmium	7440-43-9	8.08E-4	U	0.0643
Chromium	7440-47-3	1.07	U	1.92
Cobalt	7440-48-4	0.0115	U	0.0378
Copper	7440-50-8	0.588	U	2.28
Lead	7439-92-1	0.0339	U	0.186
Manganese	7439-96-5	0.187	U	1.64
Molybdenum	7439-98-7	0.169	U	0.312
Nickel	7440-02-0	0.427	U	0.566
Selenium	7782-49-2	0.00183	U	0.00778
Thallium	7440-28-0	1.54E-4	U	5.11E-4
Vanadium	7440-62-2	0.0127	U	0.0459
Zinc	7440-66-6	21.8	U	66.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052424-HM
Matrix: Air
Lab ID: 4060348-06
Sample Volume: 1927.551 m³
Filter ID:
Sampled: 05/24/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 22:08

Comments: Q8503998 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0779**	SL	**0.0326**
Arsenic	**7440-38-2**	**0.340**		**0.00791**
Barium	**7440-39-3**	**3.84**		**0.903**
Beryllium	**7440-41-7**	**0.00898**		**0.00270**
Cadmium	7440-43-9	0.0171	U	0.0625
Chromium	**7440-47-3**	**2.47**		**1.87**
Cobalt	**7440-48-4**	**0.360**		**0.0368**
Copper	**7440-50-8**	**186**		**2.22**
Lead	**7439-92-1**	**0.370**		**0.181**
Manganese	**7439-96-5**	**10.0**		**1.60**
Molybdenum	**7439-98-7**	**9.09**		**0.303**
Nickel	**7440-02-0**	**1.42**		**0.550**
Selenium	**7782-49-2**	**0.196**		**0.00756**
Thallium	**7440-28-0**	**0.00280**		**4.97E-4**
Vanadium	**7440-62-2**	**1.37**		**0.0447**
Zinc	7440-66-6	28.3	U	64.8

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052424-HM
Matrix: Air
Lab ID: 4060348-07
Sample Volume: 2089.728 m³
Filter ID:
Sampled: 05/24/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 22:18

Comments: Q8503994 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0674**	SL	**0.0301**
Arsenic	**7440-38-2**	**0.226**		**0.00730**
Barium	**7440-39-3**	**2.66**		**0.833**
Beryllium	**7440-41-7**	**0.00749**		**0.00249**
Cadmium	7440-43-9	0.0142	U	0.0577
Chromium	7440-47-3	1.63	U	1.72
Cobalt	**7440-48-4**	**0.197**		**0.0339**
Copper	**7440-50-8**	**35.1**		**2.05**
Lead	**7439-92-1**	**0.533**		**0.167**
Manganese	**7439-96-5**	**6.72**		**1.47**
Molybdenum	**7439-98-7**	**1.81**		**0.280**
Nickel	**7440-02-0**	**0.989**		**0.508**
Selenium	**7782-49-2**	**0.212**		**0.00698**
Thallium	**7440-28-0**	**0.00260**		**4.59E-4**
Vanadium	**7440-62-2**	**1.00**		**0.0412**
Zinc	7440-66-6	23.6	U	59.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052424-HM
Matrix: Air
Lab ID: 4060348-08
Sample Volume: 1886.058 m³
Filter ID:
Sampled: 05/24/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 22:28

Comments: Q8503992 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0893**	SL	**0.0333**
Barium	**7440-39-3**	**7.35**		**0.923**
Beryllium	**7440-41-7**	**0.0963**		**0.00276**
Chromium	**7440-47-3**	**5.23**		**1.91**
Cobalt	**7440-48-4**	**1.29**		**0.0376**
Copper	**7440-50-8**	**35.3**		**2.27**
Lead	**7439-92-1**	**0.935**		**0.185**
Manganese	**7439-96-5**	**27.0**		**1.63**
Nickel	**7440-02-0**	**2.98**		**0.562**
Thallium	**7440-28-0**	**0.00361**		**5.08E-4**
Vanadium	**7440-62-2**	**3.01**		**0.0456**
Zinc	7440-66-6	30.1	U	66.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052424-HM
Matrix: Air
Lab ID: 4060348-08RE1
Sample Volume: 1886.058 m³
Filter ID:
Sampled: 05/24/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 15:42

Comments: Q8503992 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.548**	D	**0.0404**
Cadmium	7440-43-9	0.0209	D, U	0.320
Molybdenum	**7439-98-7**	**1.88**	D	**1.55**
Selenium	**7782-49-2**	**0.355**	D	**0.0386**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052424-HM
Matrix: Air
Lab ID: 4060348-09
Sample Volume: 1890.532 m³
Filter ID:
Sampled: 05/24/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 22:39

Comments: Q8503991 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.149**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.896**		**0.00806**
Barium	**7440-39-3**	**4.72**		**0.921**
Beryllium	**7440-41-7**	**0.0132**		**0.00275**
Cadmium	7440-43-9	0.0226	U	0.0638
Chromium	**7440-47-3**	**2.78**		**1.90**
Cobalt	**7440-48-4**	**0.449**		**0.0375**
Copper	**7440-50-8**	**24.3**		**2.26**
Lead	**7439-92-1**	**1.12**		**0.184**
Manganese	**7439-96-5**	**15.1**		**1.63**
Molybdenum	**7439-98-7**	**1.08**		**0.309**
Nickel	**7440-02-0**	**1.55**		**0.561**
Selenium	**7782-49-2**	**0.204**		**0.00771**
Thallium	**7440-28-0**	**0.00269**		**5.07E-4**
Vanadium	**7440-62-2**	**1.52**		**0.0455**
Zinc	7440-66-6	29.2	U	66.1

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052524-HM
Matrix: Air
Lab ID: 4060348-10
Sample Volume: 1858.123 m³
Filter ID:
Sampled: 05/25/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 22:49

Comments: Q8503990 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0768**	SL	**0.0338**
Arsenic	**7440-38-2**	**1.17**		**0.00820**
Barium	**7440-39-3**	**4.32**		**0.937**
Beryllium	**7440-41-7**	**0.0127**		**0.00280**
Cadmium	7440-43-9	0.0167	U	0.0649
Chromium	**7440-47-3**	**3.41**		**1.94**
Cobalt	**7440-48-4**	**0.555**		**0.0382**
Copper	**7440-50-8**	**203**		**2.30**
Lead	**7439-92-1**	**0.580**		**0.187**
Manganese	**7439-96-5**	**14.5**		**1.65**
Molybdenum	**7439-98-7**	**10.1**		**0.314**
Nickel	**7440-02-0**	**1.78**		**0.571**
Selenium	**7782-49-2**	**0.173**		**0.00785**
Thallium	**7440-28-0**	**0.00162**		**5.16E-4**
Vanadium	**7440-62-2**	**1.74**		**0.0463**
Zinc	7440-66-6	22.3	U	67.2

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052524-HM
Matrix: Air
Lab ID: 4060348-11
Sample Volume: 2040.344 m³
Filter ID:
Sampled: 05/25/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 23:00

Comments: Q8503988 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.113**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.262**		**0.00747**
Barium	**7440-39-3**	**4.03**		**0.853**
Beryllium	**7440-41-7**	**0.00818**		**0.00255**
Cadmium	7440-43-9	0.00876	U	0.0591
Chromium	**7440-47-3**	**1.83**		**1.76**
Cobalt	**7440-48-4**	**0.247**		**0.0348**
Copper	**7440-50-8**	**41.9**		**2.10**
Lead	**7439-92-1**	**0.543**		**0.171**
Manganese	**7439-96-5**	**7.73**		**1.51**
Molybdenum	**7439-98-7**	**2.37**		**0.286**
Nickel	**7440-02-0**	**1.10**		**0.520**
Selenium	**7782-49-2**	**0.163**		**0.00714**
Thallium	**7440-28-0**	**0.00124**		**4.70E-4**
Vanadium	**7440-62-2**	**1.00**		**0.0422**
Zinc	7440-66-6	27.0	U	61.2

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052524-HM
Matrix: Air
Lab ID: 4060348-12
Sample Volume: 1828.94 m³
Filter ID:
Sampled: 05/25/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 23:31

Comments: Q8503989 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0743**	SL	**0.0343**
Barium	**7440-39-3**	**5.38**		**0.952**
Beryllium	**7440-41-7**	**0.0696**		**0.00285**
Chromium	**7440-47-3**	**4.22**		**1.97**
Cobalt	**7440-48-4**	**0.957**		**0.0388**
Copper	**7440-50-8**	**43.6**		**2.34**
Lead	**7439-92-1**	**0.573**		**0.190**
Manganese	**7439-96-5**	**20.2**		**1.68**
Nickel	**7440-02-0**	**2.39**		**0.580**
Thallium	**7440-28-0**	**0.00190**		**5.24E-4**
Vanadium	**7440-62-2**	**2.16**		**0.0471**
Zinc	7440-66-6	36.2	U	68.3

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052524-HM
Matrix: Air
Lab ID: 4060348-12RE1
Sample Volume: 1828.94 m³
Filter ID:
Sampled: 05/25/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 15:52

Comments: Q8503989 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.336**	D	**0.0167**
Cadmium	7440-43-9	0.0129	U, D	0.132
Molybdenum	**7439-98-7**	**1.75**	D	**0.639**
Selenium	**7782-49-2**	**0.259**	D	**0.0159**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052524-HM
Matrix: Air
Lab ID: 4060348-13
Sample Volume: 1884.219 m³
Filter ID:
Sampled: 05/25/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 23:41

Comments: Q8503987 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.164**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.879**		**0.00809**
Barium	**7440-39-3**	**4.77**		**0.924**
Beryllium	**7440-41-7**	**0.0149**		**0.00276**
Cadmium	7440-43-9	0.0252	U	0.0640
Chromium	**7440-47-3**	**2.98**		**1.91**
Cobalt	**7440-48-4**	**0.496**		**0.0376**
Copper	**7440-50-8**	**32.5**		**2.27**
Lead	**7439-92-1**	**1.57**		**0.185**
Manganese	**7439-96-5**	**16.3**		**1.63**
Molybdenum	**7439-98-7**	**1.24**		**0.310**
Nickel	**7440-02-0**	**1.65**		**0.563**
Selenium	**7782-49-2**	**0.184**		**0.00774**
Thallium	**7440-28-0**	**0.00148**		**5.09E-4**
Vanadium	**7440-62-2**	**1.57**		**0.0457**
Zinc	7440-66-6	39.4	U	66.3

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-052524-HM
Matrix: Air
Lab ID: 4060348-14
Sample Volume: 1858.123 m³
Filter ID:
Sampled: 05/25/24 00:00
Received: 06/03/24 14:11
Analysis Date: 06/06/24 23:52

Comments: Q8503980 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0170	U, SL	0.0338
Arsenic	7440-38-2	0.00591	U	0.00820
Barium	**7440-39-3**	**1.24**	FB-01	**0.937**
Beryllium	7440-41-7	9.42E-4	U	0.00280
Cadmium	7440-43-9	0.00112	U	0.0649
Chromium	7440-47-3	1.14	U	1.94
Cobalt	7440-48-4	0.0186	U	0.0382
Copper	7440-50-8	0.643	U	2.30
Lead	7439-92-1	0.0414	U	0.187
Manganese	7439-96-5	0.277	U	1.65
Molybdenum	7439-98-7	0.161	U	0.314
Nickel	7440-02-0	0.469	U	0.571
Selenium	7782-49-2	0.00202	U	0.00785
Thallium	7440-28-0	1.48E-4	U	5.16E-4
Vanadium	7440-62-2	0.0152	U	0.0463
Zinc	7440-66-6	19.3	U	67.2

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052624-HM
Matrix: Air
Lab ID: 4060348-15
Sample Volume: 1897.055 m³
Filter ID:
Sampled: 05/26/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 00:02

Comments: Q8503986 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0627**	SL	**0.0331**
Arsenic	**7440-38-2**	**0.313**		**0.00804**
Barium	**7440-39-3**	**2.82**		**0.918**
Beryllium	**7440-41-7**	**0.00615**		**0.00274**
Cadmium	7440-43-9	0.0235	U	0.0636
Chromium	**7440-47-3**	**2.05**		**1.90**
Cobalt	**7440-48-4**	**0.233**		**0.0374**
Copper	**7440-50-8**	**150**		**2.26**
Lead	**7439-92-1**	**0.440**		**0.184**
Manganese	**7439-96-5**	**6.90**		**1.62**
Molybdenum	**7439-98-7**	**8.03**		**0.308**
Nickel	**7440-02-0**	**4.31**		**0.559**
Selenium	**7782-49-2**	**0.150**		**0.00768**
Thallium	**7440-28-0**	**9.73E-4**		**5.05E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0454**
Zinc	7440-66-6	26.9	U	65.9

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052624-HM
Matrix: Air
Lab ID: 4060348-16
Sample Volume: 2103.257 m³
Filter ID:
Sampled: 05/26/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 00:12

Comments: Q8503983 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0952**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.238**		**0.00725**
Barium	**7440-39-3**	**3.01**		**0.828**
Beryllium	**7440-41-7**	**0.00568**		**0.00248**
Cadmium	7440-43-9	0.00917	U	0.0573
Chromium	7440-47-3	1.60	U	1.71
Cobalt	**7440-48-4**	**0.169**		**0.0337**
Copper	**7440-50-8**	**39.9**		**2.03**
Lead	**7439-92-1**	**0.535**		**0.166**
Manganese	**7439-96-5**	**5.32**		**1.46**
Molybdenum	**7439-98-7**	**2.01**		**0.278**
Nickel	**7440-02-0**	**0.910**		**0.504**
Selenium	**7782-49-2**	**0.147**		**0.00693**
Thallium	**7440-28-0**	**7.82E-4**		**4.56E-4**
Vanadium	**7440-62-2**	**0.827**		**0.0409**
Zinc	7440-66-6	27.7	U	59.4

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052624-HM
Matrix: Air
Lab ID: 4060348-17
Sample Volume: 1917.858 m³
Filter ID:
Sampled: 05/26/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 00:33

Comments: Q8503981 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0592**	SL	**0.0327**
Arsenic	**7440-38-2**	**0.216**		**0.00795**
Barium	**7440-39-3**	**2.78**		**0.908**
Beryllium	**7440-41-7**	**0.0130**		**0.00271**
Cadmium	7440-43-9	0.0124	U	0.0629
Chromium	**7440-47-3**	**1.90**		**1.87**
Cobalt	**7440-48-4**	**0.242**		**0.0370**
Copper	**7440-50-8**	**53.4**		**2.23**
Lead	**7439-92-1**	**0.563**		**0.182**
Manganese	**7439-96-5**	**6.98**		**1.60**
Molybdenum	**7439-98-7**	**2.19**		**0.305**
Nickel	**7440-02-0**	**1.07**		**0.553**
Selenium	**7782-49-2**	**0.150**		**0.00760**
Thallium	**7440-28-0**	**8.95E-4**		**5.00E-4**
Vanadium	**7440-62-2**	**0.968**		**0.0449**
Zinc	7440-66-6	26.6	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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052624-HM
Matrix: Air
Lab ID: 4060348-18
Sample Volume: 1767.131 m³
Filter ID:
Sampled: 05/26/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 00:43

Comments: Q8505787 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.110**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.421**		**0.00863**
Barium	**7440-39-3**	**3.50**		**0.985**
Beryllium	**7440-41-7**	**0.00894**		**0.00295**
Cadmium	7440-43-9	0.0115	U	0.0682
Chromium	**7440-47-3**	**2.16**		**2.03**
Cobalt	**7440-48-4**	**0.285**		**0.0401**
Copper	**7440-50-8**	**40.4**		**2.42**
Lead	**7439-92-1**	**1.20**		**0.197**
Manganese	**7439-96-5**	**9.65**		**1.74**
Molybdenum	**7439-98-7**	**1.59**		**0.331**
Nickel	**7440-02-0**	**1.20**		**0.600**
Selenium	**7782-49-2**	**0.152**		**0.00825**
Thallium	**7440-28-0**	**9.02E-4**		**5.42E-4**
Vanadium	**7440-62-2**	**1.04**		**0.0487**
Zinc	7440-66-6	34.1	U	70.7

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ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052724-HM
Matrix: Air
Lab ID: 4060348-19
Sample Volume: 1836.799 m³
Filter ID:
Sampled: 05/27/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 00:54

Comments: Q8505789 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0683**	SL	**0.0342**
Arsenic	**7440-38-2**	**0.406**		**0.00830**
Barium	**7440-39-3**	**2.98**		**0.948**
Beryllium	**7440-41-7**	**0.00734**		**0.00283**
Cadmium	7440-43-9	0.00973	U	0.0656
Chromium	**7440-47-3**	**2.46**		**1.96**
Cobalt	**7440-48-4**	**0.352**		**0.0386**
Copper	**7440-50-8**	**170**		**2.33**
Lead	**7439-92-1**	**0.349**		**0.190**
Manganese	**7439-96-5**	**9.34**		**1.67**
Molybdenum	**7439-98-7**	**8.83**		**0.318**
Nickel	**7440-02-0**	**1.45**		**0.578**
Selenium	**7782-49-2**	**0.157**		**0.00794**
Thallium	**7440-28-0**	**0.00112**		**5.22E-4**
Vanadium	**7440-62-2**	**1.30**		**0.0469**
Zinc	7440-66-6	27.9	U	68.0

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Tetra Tech, Inc.
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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052724-HM
Matrix: Air
Lab ID: 4060348-20
Sample Volume: 2011.671 m³
Filter ID:
Sampled: 05/27/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 01:04

Comments: Q8505790 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0312**
Arsenic	**7440-38-2**	**0.233**		**0.00758**
Barium	**7440-39-3**	**3.50**		**0.865**
Beryllium	**7440-41-7**	**0.00743**		**0.00259**
Cadmium	7440-43-9	0.00880	U	0.0599
Chromium	**7440-47-3**	**2.07**		**1.79**
Cobalt	**7440-48-4**	**0.201**		**0.0353**
Copper	**7440-50-8**	**43.6**		**2.13**
Lead	**7439-92-1**	**0.558**		**0.173**
Manganese	**7439-96-5**	**6.70**		**1.53**
Molybdenum	**7439-98-7**	**1.95**		**0.290**
Nickel	**7440-02-0**	**1.02**		**0.527**
Selenium	**7782-49-2**	**0.151**		**0.00725**
Thallium	**7440-28-0**	**9.19E-4**		**4.76E-4**
Vanadium	**7440-62-2**	**0.933**		**0.0428**
Zinc	7440-66-6	24.1	U	62.1

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052724-HM
Matrix: Air
Lab ID: 4060348-21
Sample Volume: 2020.695 m³
Filter ID:
Sampled: 05/27/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 01:35

Comments: Q8505792 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.141**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.198**		**0.00754**
Barium	**7440-39-3**	**3.40**		**0.862**
Beryllium	**7440-41-7**	**0.0240**		**0.00258**
Cadmium	7440-43-9	0.00737	U	0.0597
Chromium	**7440-47-3**	**2.74**		**1.78**
Cobalt	**7440-48-4**	**0.510**		**0.0351**
Copper	**7440-50-8**	**42.6**		**2.12**
Lead	**7439-92-1**	**0.392**		**0.172**
Manganese	**7439-96-5**	**12.1**		**1.52**
Molybdenum	**7439-98-7**	**1.72**		**0.289**
Nickel	**7440-02-0**	**1.66**		**0.525**
Selenium	**7782-49-2**	**0.173**		**0.00721**
Thallium	**7440-28-0**	**0.00115**		**4.74E-4**
Vanadium	**7440-62-2**	**1.48**		**0.0426**
Zinc	7440-66-6	25.8	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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052724-HM
Matrix: Air
Lab ID: 4060348-22
Sample Volume: 1769.355 m³
Filter ID:
Sampled: 05/27/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 01:46

Comments: Q8505795 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0867**	SL	**0.0355**
Arsenic	**7440-38-2**	**0.215**		**0.00862**
Barium	**7440-39-3**	**2.96**		**0.984**
Beryllium	**7440-41-7**	**0.00807**		**0.00294**
Cadmium	7440-43-9	0.00876	U	0.0681
Chromium	**7440-47-3**	**2.03**		**2.03**
Cobalt	**7440-48-4**	**0.250**		**0.0401**
Copper	**7440-50-8**	**31.6**		**2.42**
Lead	**7439-92-1**	**0.382**		**0.197**
Manganese	**7439-96-5**	**8.22**		**1.74**
Molybdenum	**7439-98-7**	**1.49**		**0.330**
Nickel	**7440-02-0**	**1.23**		**0.600**
Selenium	**7782-49-2**	**0.142**		**0.00824**
Thallium	**7440-28-0**	**8.43E-4**		**5.42E-4**
Vanadium	**7440-62-2**	**0.895**		**0.0486**
Zinc	7440-66-6	25.7	U	70.6

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-052724-HM
Matrix: Air
Lab ID: 4060348-23
Sample Volume: 1836.799 m³
Filter ID:
Sampled: 05/27/24 00:00
Received: 06/03/24 14:11
Analysis Date: 06/07/24 01:56

Comments: Q8505802 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0211	U, SL	0.0342
Arsenic	7440-38-2	0.00510	U	0.00830
Barium	**7440-39-3**	**1.00**	FB-01	**0.948**
Beryllium	7440-41-7	7.72E-4	U	0.00283
Cadmium	7440-43-9	0.0172	U	0.0656
Chromium	7440-47-3	0.970	U	1.96
Cobalt	7440-48-4	0.0138	U	0.0386
Copper	**7440-50-8**	**2.60**	FB-01	**2.33**
Lead	7439-92-1	0.127	U	0.190
Manganese	7439-96-5	0.232	U	1.67
Molybdenum	7439-98-7	0.163	U	0.318
Nickel	7440-02-0	0.439	U	0.578
Selenium	7782-49-2	5.90E-4	U	0.00794
Thallium	7440-28-0	1.01E-4	U	5.22E-4
Vanadium	7440-62-2	0.0153	U	0.0469
Zinc	7440-66-6	22.8	U	68.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052824-HM
Matrix: Air
Lab ID: 4060348-24
Sample Volume: 1840.643 m³
Filter ID:
Sampled: 05/28/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/06/24 20:03

Comments: Q8505796 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0533**	SL	**0.0341**
Barium	**7440-39-3**	**4.77**		**0.946**
Beryllium	**7440-41-7**	**0.0178**		**0.00283**
Chromium	**7440-47-3**	**3.79**		**1.95**
Cobalt	**7440-48-4**	**0.944**		**0.0385**
Copper	**7440-50-8**	**178**	A-01, QM-4X	**2.32**
Lead	**7439-92-1**	**0.389**		**0.189**
Manganese	**7439-96-5**	**21.4**		**1.67**
Nickel	**7440-02-0**	**3.70**		**0.576**
Thallium	**7440-28-0**	**0.00177**		**5.21E-4**
Vanadium	**7440-62-2**	**2.46**		**0.0468**
Zinc	7440-66-6	22.4	U	67.9

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052824-HM
Matrix: Air
Lab ID: 4060348-24RE1
Sample Volume: 1840.643 m³
Filter ID:
Sampled: 05/28/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 14:29

Comments: Q8505796 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.609**	D	**0.0166**
Cadmium	7440-43-9	0.0245	D, U	0.131
Molybdenum	**7439-98-7**	**8.52**	D	**0.635**
Selenium	**7782-49-2**	**0.225**	D	**0.0158**

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052824-HM
Matrix: Air
Lab ID: 4060348-25
Sample Volume: 2047.518 m³
Filter ID:
Sampled: 05/28/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 02:06

Comments: Q8505798 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0999**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.352**		**0.00745**
Barium	**7440-39-3**	**4.94**		**0.850**
Beryllium	**7440-41-7**	**0.0162**		**0.00254**
Cadmium	7440-43-9	0.0115	U	0.0589
Chromium	**7440-47-3**	**2.98**		**1.76**
Cobalt	**7440-48-4**	**0.692**		**0.0346**
Copper	**7440-50-8**	**55.0**		**2.09**
Lead	**7439-92-1**	**0.510**		**0.170**
Manganese	**7439-96-5**	**16.1**		**1.50**
Molybdenum	**7439-98-7**	**2.11**		**0.285**
Nickel	**7440-02-0**	**2.78**		**0.518**
Selenium	**7782-49-2**	**0.215**		**0.00712**
Thallium	**7440-28-0**	**0.00157**		**4.68E-4**
Vanadium	**7440-62-2**	**2.17**		**0.0420**
Zinc	7440-66-6	23.2	U	61.0

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052824-HM
Matrix: Air
Lab ID: 4060348-26
Sample Volume: 2005.572 m³
Filter ID:
Sampled: 05/28/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 02:17

Comments: Q8505799 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0559**	SL	**0.0313**
Barium	**7440-39-3**	**3.75**		**0.868**
Beryllium	**7440-41-7**	**0.0482**		**0.00260**
Chromium	**7440-47-3**	**2.95**		**1.79**
Cobalt	**7440-48-4**	**0.653**		**0.0354**
Copper	**7440-50-8**	**41.8**		**2.13**
Lead	**7439-92-1**	**0.445**		**0.174**
Manganese	**7439-96-5**	**15.3**		**1.53**
Nickel	**7440-02-0**	**1.86**		**0.529**
Thallium	**7440-28-0**	**0.00173**		**4.78E-4**
Vanadium	**7440-62-2**	**1.80**		**0.0429**
Zinc	7440-66-6	19.1	U	62.3

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052824-HM
Matrix: Air
Lab ID: 4060348-26RE1
Sample Volume: 2005.572 m³
Filter ID:
Sampled: 05/28/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 16:02

Comments: Q8505799 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.259**	D	**0.0152**
Cadmium	7440-43-9	0.0104	U, D	0.120
Molybdenum	**7439-98-7**	**1.87**	D	**0.582**
Selenium	**7782-49-2**	**0.242**	D	**0.0145**

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052824-HM
Matrix: Air
Lab ID: 4060348-27
Sample Volume: 1799.937 m³
Filter ID:
Sampled: 05/28/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 02:27

Comments: Q8505800 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.106**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.418**		**0.00847**
Barium	**7440-39-3**	**4.30**		**0.967**
Beryllium	**7440-41-7**	**0.0112**		**0.00289**
Cadmium	7440-43-9	0.0167	U	0.0670
Chromium	**7440-47-3**	**2.48**		**2.00**
Cobalt	**7440-48-4**	**0.368**		**0.0394**
Copper	**7440-50-8**	**35.5**		**2.38**
Lead	**7439-92-1**	**1.52**		**0.193**
Manganese	**7439-96-5**	**11.6**		**1.71**
Molybdenum	**7439-98-7**	**1.36**		**0.325**
Nickel	**7440-02-0**	**1.45**		**0.589**
Selenium	**7782-49-2**	**0.179**		**0.00810**
Thallium	**7440-28-0**	**0.00138**		**5.32E-4**
Vanadium	**7440-62-2**	**1.35**		**0.0478**
Zinc	7440-66-6	32.9	U	69.4

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-052924-HM
Matrix: Air
Lab ID: 4060348-28
Sample Volume: 1913.088 m³
Filter ID:
Sampled: 05/29/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 02:38

Comments: Q8505804 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0885**	SL	**0.0328**
Arsenic	**7440-38-2**	**1.89**		**0.00797**
Barium	**7440-39-3**	**3.64**		**0.910**
Beryllium	**7440-41-7**	**0.00909**		**0.00272**
Cadmium	7440-43-9	0.0155	U	0.0630
Chromium	**7440-47-3**	**2.91**		**1.88**
Cobalt	**7440-48-4**	**0.394**		**0.0371**
Copper	**7440-50-8**	**191**		**2.24**
Lead	**7439-92-1**	**0.639**		**0.182**
Manganese	**7439-96-5**	**11.5**		**1.61**
Molybdenum	**7439-98-7**	**10.4**		**0.305**
Nickel	**7440-02-0**	**1.60**		**0.554**
Selenium	**7782-49-2**	**0.170**		**0.00762**
Thallium	**7440-28-0**	**0.00127**		**5.01E-4**
Vanadium	**7440-62-2**	**1.41**		**0.0450**
Zinc	7440-66-6	22.2	U	65.3

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-052924-HM **Lab ID:** 4060348-29 **Sampled:** 05/29/24 23:59
Matrix: Air **Sample Volume:** 2030.448 m³ **Received:** 06/03/24 14:11
Filter ID: **Analysis Date:** 06/07/24 02:48

Comments: Q8505805 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0904**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.330**		**0.00751**
Barium	**7440-39-3**	**3.71**		**0.857**
Beryllium	**7440-41-7**	**0.00991**		**0.00256**
Cadmium	7440-43-9	0.0138	U	0.0594
Chromium	**7440-47-3**	**1.88**		**1.77**
Cobalt	**7440-48-4**	**0.322**		**0.0349**
Copper	**7440-50-8**	**62.5**		**2.11**
Lead	**7439-92-1**	**0.847**		**0.171**
Manganese	**7439-96-5**	**9.55**		**1.51**
Molybdenum	**7439-98-7**	**2.47**		**0.288**
Nickel	**7440-02-0**	**1.17**		**0.522**
Selenium	**7782-49-2**	**0.222**		**0.00718**
Thallium	**7440-28-0**	**0.00133**		**4.72E-4**
Vanadium	**7440-62-2**	**1.51**		**0.0424**
Zinc	7440-66-6	23.4	U	61.5

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052924-HM
Matrix: Air
Lab ID: 4060348-30
Sample Volume: 2024.081 m³
Filter ID:
Sampled: 05/29/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 02:58

Comments: Q8505807 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.103**	SL	**0.0310**
Barium	**7440-39-3**	**6.03**		**0.860**
Beryllium	**7440-41-7**	**0.0847**		**0.00257**
Chromium	**7440-47-3**	**4.97**		**1.78**
Cobalt	**7440-48-4**	**1.27**		**0.0350**
Copper	**7440-50-8**	**35.5**		**2.11**
Lead	**7439-92-1**	**1.00**		**0.172**
Manganese	**7439-96-5**	**29.1**		**1.52**
Nickel	**7440-02-0**	**3.01**		**0.524**
Thallium	**7440-28-0**	**0.00204**		**4.73E-4**
Vanadium	**7440-62-2**	**3.22**		**0.0425**
Zinc	7440-66-6	22.6	U	61.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-052924-HM
Matrix: Air
Lab ID: 4060348-30RE1
Sample Volume: 2024.081 m³
Filter ID:
Sampled: 05/29/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 16:13

Comments: Q8505807 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.512**	D	**0.0377**
Cadmium	7440-43-9	0.0166	U, D	0.298
Molybdenum	**7439-98-7**	**1.90**	D	**1.44**
Selenium	**7782-49-2**	**0.358**	D	**0.0360**

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052924-HM
Matrix: Air
Lab ID: 4060348-31
Sample Volume: 1858.206 m³
Filter ID:
Sampled: 05/29/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 03:30

Comments: Q8505809 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	**7440-41-7**	**0.0426**		**0.00280**
Chromium	**7440-47-3**	**7.24**		**1.94**
Cobalt	**7440-48-4**	**1.61**		**0.0382**
Copper	**7440-50-8**	**30.0**		**2.30**
Lead	**7439-92-1**	**1.61**		**0.187**
Manganese	**7439-96-5**	**59.8**		**1.65**
Nickel	**7440-02-0**	**4.34**		**0.571**
Thallium	**7440-28-0**	**0.00258**		**5.16E-4**
Vanadium	**7440-62-2**	**4.35**		**0.0463**
Zinc	7440-66-6	36.9	U	67.2

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-052924-HM
Matrix: Air
Lab ID: 4060348-31RE1
Sample Volume: 1858.206 m³
Filter ID:
Sampled: 05/29/24 23:59
Received: 06/03/24 14:11
Analysis Date: 06/07/24 16:23

Comments: Q8505809 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.131	U, D	0.169
Arsenic	**7440-38-2**	**1.63**	D	**0.0410**
Barium	**7440-39-3**	**10.2**	D	**4.68**
Cadmium	7440-43-9	0.107	U, D	0.324
Molybdenum	7439-98-7	1.16	U, D	1.57
Selenium	**7782-49-2**	**0.438**	D	**0.0392**

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-052924-HM
Matrix: Air
Lab ID: 4060348-32
Sample Volume: 1913.088 m³
Filter ID:
Sampled: 05/29/24 00:00
Received: 06/03/24 14:11
Analysis Date: 06/07/24 03:50

Comments: Q8505812 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0169	U, SL	0.0328
Arsenic	**7440-38-2**	**0.00845**	FB-01	**0.00797**
Barium	**7440-39-3**	**0.929**	FB-01	**0.910**
Beryllium	7440-41-7	8.92E-4	U	0.00272
Cadmium	7440-43-9	6.16E-4	U	0.0630
Chromium	7440-47-3	0.961	U	1.88
Cobalt	7440-48-4	0.0178	U	0.0371
Copper	7440-50-8	0.321	U	2.24
Lead	7439-92-1	0.0314	U	0.182
Manganese	7439-96-5	0.409	U	1.61
Molybdenum	7439-98-7	0.134	U	0.305
Nickel	7440-02-0	0.427	U	0.554
Selenium	7782-49-2	0.00228	U	0.00762
Thallium	7440-28-0	9.93E-5	U	5.01E-4
Vanadium	7440-62-2	0.0319	U	0.0450
Zinc	7440-66-6	12.0	U	65.3

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-LB01-052924-HM **Lab ID:** 4060348-33 **Sampled:** 05/29/24 00:00
Matrix: Air **Sample Volume:** 1913.088 m³ **Received:** 06/03/24 14:11
Filter ID: **Analysis Date:** 06/07/24 04:01
Comments: Q8505849 - Received in good condition - Box #90, Box range Q8505786-Q85058

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0195	U, SL	0.0328
Arsenic	**7440-38-2**	**0.00854**	FB-01	**0.00797**
Barium	**7440-39-3**	**0.934**	FB-01	**0.910**
Beryllium	7440-41-7	6.71E-4	U	0.00272
Cadmium	7440-43-9	0.00107	U	0.0630
Chromium	7440-47-3	1.03	U	1.88
Cobalt	**7440-48-4**	**0.0373**	FB-01	**0.0371**
Copper	7440-50-8	0.358	U	2.24
Lead	7439-92-1	0.0362	U	0.182
Manganese	7439-96-5	0.368	U	1.61
Molybdenum	7439-98-7	0.132	U	0.305
Nickel	7440-02-0	0.478	U	0.554
Selenium	7782-49-2	0.00342	U	0.00762
Thallium	7440-28-0	1.16E-4	U	5.01E-4
Vanadium	7440-62-2	0.0272	U	0.0450
Zinc	7440-66-6	12.8	U	65.3

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
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 2406012 - B4F0406										
Calibration Blank (2406012-CCB1)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	0.416		ng/l							
Arsenic	1.01		ng/l							
Barium	0.922		ng/l							
Beryllium	0.204		ng/l							
Cadmium	0.233		ng/l							
Chromium	1.91		ng/l							
Cobalt	0.266		ng/l							
Copper	17.9		ng/l							
Lead	6.88		ng/l							
Manganese	4.07		ng/l							
Molybdenum	6.49		ng/l							
Nickel	2.10		ng/l							
Selenium	-5.72		ng/l							U
Thallium	0.885		ng/l							
Vanadium	-36.6		ng/l							U
Zinc	38.9		ng/l							
Calibration Blank (2406012-CCB2)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	0.194		ng/l							
Arsenic	0.995		ng/l							
Barium	0.366		ng/l							
Beryllium	0.128		ng/l							
Cadmium	0.0903		ng/l							
Chromium	0.905		ng/l							
Cobalt	0.215		ng/l							
Copper	12.9		ng/l							
Lead	8.18		ng/l							
Manganese	2.52		ng/l							
Molybdenum	1.50		ng/l							
Nickel	1.41		ng/l							
Selenium	-8.08		ng/l							U
Thallium	0.880		ng/l							
Vanadium	-31.8		ng/l							U
Zinc	54.8		ng/l							
Calibration Blank (2406012-CCB3)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	0.301		ng/l							
Arsenic	0.809		ng/l							
Barium	0.337		ng/l							
Beryllium	0.0626		ng/l							

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
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 2406012 - B4F0406										
Calibration Blank (2406012-CCB3) Contin				Prepared: 06/04/24 Analyzed: 06/06/24						
Cadmium	0.0103		ng/l							
Chromium	0.676		ng/l							
Cobalt	0.00963		ng/l							
Copper	8.95		ng/l							
Lead	6.79		ng/l							
Manganese	1.54		ng/l							
Molybdenum	1.39		ng/l							
Nickel	1.65		ng/l							
Selenium	5.79		ng/l							
Thallium	1.10		ng/l							
Vanadium	-34.6		ng/l							U
Zinc	57.2		ng/l							
Calibration Blank (2406012-CCB4)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	0.149		ng/l							
Arsenic	0.720		ng/l							
Barium	0.245		ng/l							
Beryllium	-0.171		ng/l							U
Cadmium	0.0547		ng/l							
Chromium	1.18		ng/l							
Cobalt	0.101		ng/l							
Copper	10.0		ng/l							
Lead	4.42		ng/l							
Manganese	1.26		ng/l							
Molybdenum	0.853		ng/l							
Nickel	0.313		ng/l							
Selenium	0.0201		ng/l							
Thallium	0.970		ng/l							
Vanadium	-36.3		ng/l							U
Zinc	50.6		ng/l							
Calibration Blank (2406012-CCB5)				Prepared: 06/04/24 Analyzed: 06/07/24						
Antimony	0.480		ng/l							
Arsenic	1.28		ng/l							
Barium	1.21		ng/l							
Beryllium	-0.148		ng/l							U
Cadmium	0.291		ng/l							
Chromium	4.26		ng/l							
Cobalt	0.514		ng/l							
Copper	27.2		ng/l							

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406012 - B4F0406										
Calibration Blank (2406012-CCB5) Contin				Prepared: 06/04/24 Analyzed: 06/07/24						
Lead	6.18		ng/l							
Manganese	5.76		ng/l							
Molybdenum	1.96		ng/l							
Nickel	0.806		ng/l							
Selenium	3.61		ng/l							
Thallium	0.964		ng/l							
Vanadium	-38.6		ng/l							U
Zinc	57.4		ng/l							
Calibration Blank (2406012-CCB6)				Prepared: 06/04/24 Analyzed: 06/07/24						
Antimony	0.484		ng/l							
Arsenic	0.713		ng/l							
Barium	0.335		ng/l							
Beryllium	-0.0871		ng/l							U
Cadmium	0.0191		ng/l							
Chromium	2.74		ng/l							
Cobalt	0.258		ng/l							
Copper	17.4		ng/l							
Lead	4.09		ng/l							
Manganese	3.91		ng/l							
Molybdenum	1.41		ng/l							
Nickel	0.341		ng/l							
Selenium	-0.412		ng/l							U
Thallium	0.777		ng/l							
Vanadium	-39.5		ng/l							U
Zinc	57.2		ng/l							
Calibration Blank (2406012-CCB7)				Prepared: 06/04/24 Analyzed: 06/07/24						
Antimony	0.374		ng/l							
Arsenic	0.903		ng/l							
Barium	0.641		ng/l							
Beryllium	-0.0604		ng/l							U
Cadmium	0.0967		ng/l							
Chromium	2.48		ng/l							
Cobalt	0.223		ng/l							
Copper	12.8		ng/l							
Lead	5.28		ng/l							
Manganese	2.90		ng/l							
Molybdenum	1.19		ng/l							
Nickel	1.37		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406012 - B4F0406										
Calibration Blank (2406012-CCB7) Contin				Prepared: 06/04/24 Analyzed: 06/07/24						
Selenium	3.17		ng/l							
Thallium	0.765		ng/l							
Vanadium	-37.7		ng/l							U
Zinc	65.9		ng/l							
Calibration Check (2406012-CCV1)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	19600		ng/l	20000		98.1	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	19800		ng/l	20000		99.0	90-110			
Chromium	252000		ng/l	240000		105	90-110			
Cobalt	52000		ng/l	50000		104	90-110			
Copper	2.07E6		ng/l	2.0000E6		104	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20000		ng/l	20000		99.8	90-110			
Thallium	495		ng/l	500.00		98.9	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	502000		ng/l	500000		100	90-110			
Calibration Check (2406012-CCV2)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	19700		ng/l	20000		98.7	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	4850		ng/l	5000.0		97.0	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	49800		ng/l	50000		99.7	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	506000		ng/l	500000		101	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 2406012 - B4F0406										
Calibration Check (2406012-CCV3)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	19700		ng/l	20000		98.5	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	4740		ng/l	5000.0		94.8	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	195000		ng/l	200000		97.6	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	49300		ng/l	50000		98.5	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19500		ng/l	20000		97.5	90-110			
Thallium	488		ng/l	500.00		97.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	503000		ng/l	500000		101	90-110			
Calibration Check (2406012-CCV4)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	19800		ng/l	20000		98.8	90-110			
Barium	196000		ng/l	200000		97.9	90-110			
Beryllium	4680		ng/l	5000.0		93.6	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	195000		ng/l	200000		97.4	90-110			
Manganese	499000		ng/l	500000		99.9	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	19300		ng/l	20000		96.3	90-110			
Thallium	480		ng/l	500.00		95.9	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	505000		ng/l	500000		101	90-110			
Calibration Check (2406012-CCV5)				Prepared: 06/04/24 Analyzed: 06/07/24						
Antimony	19600		ng/l	20000		98.0	90-110			
Arsenic	19700		ng/l	20000		98.6	90-110			
Barium	195000		ng/l	200000		97.6	90-110			
Beryllium	4650		ng/l	5000.0		92.9	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 2406012 - B4F0406										
Calibration Check (2406012-CCV5) Contin				Prepared: 06/04/24 Analyzed: 06/07/24						
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.08E6		ng/l	2.0000E6		104	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	49900		ng/l	50000		99.8	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Selenium	19500		ng/l	20000		97.4	90-110			
Thallium	482		ng/l	500.00		96.4	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Calibration Check (2406012-CCV6)				Prepared: 06/04/24 Analyzed: 06/07/24						
Antimony	20000		ng/l	20000		99.9	90-110			
Arsenic	19900		ng/l	20000		99.3	90-110			
Barium	200000		ng/l	200000		99.8	90-110			
Beryllium	4690		ng/l	5000.0		93.8	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	251000		ng/l	240000		105	90-110			
Cobalt	52200		ng/l	50000		104	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Lead	199000		ng/l	200000		99.4	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	50700		ng/l	50000		101	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Selenium	19400		ng/l	20000		96.9	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	513000		ng/l	500000		103	90-110			
Calibration Check (2406012-CCV7)				Prepared: 06/04/24 Analyzed: 06/07/24						
Antimony	19700		ng/l	20000		98.4	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	198000		ng/l	200000		99.2	90-110			
Beryllium	4690		ng/l	5000.0		93.8	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.14E6		ng/l	2.0000E6		107	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 2406012 - B4F0406										
Calibration Check (2406012-CCV7) Contin				Prepared: 06/04/24 Analyzed: 06/07/24						
Lead	198000		ng/l	200000		99.2	90-110			
Manganese	518000		ng/l	500000		104	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Selenium	19400		ng/l	20000		96.8	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	20700		ng/l	20000		103	90-110			
Zinc	516000		ng/l	500000		103	90-110			
High Cal Check (2406012-HCV1)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	39800		ng/l	40000		99.6	95-105			
Arsenic	40400		ng/l	40000		101	95-105			
Barium	400000		ng/l	400000		100	95-105			
Beryllium	9970		ng/l	10000		99.7	95-105			
Cadmium	39800		ng/l	40000		99.4	95-105			
Chromium	480000		ng/l	480000		100	95-105			
Cobalt	100000		ng/l	100000		100	95-105			
Copper	3.96E6		ng/l	4.0000E6		99.0	95-105			
Lead	401000		ng/l	400000		100	95-105			
Manganese	992000		ng/l	1.0000E6		99.2	95-105			
Molybdenum	100000		ng/l	100000		100	95-105			
Nickel	241000		ng/l	240000		101	95-105			
Selenium	39800		ng/l	40000		99.5	95-105			
Thallium	1000		ng/l	1000.0		100	95-105			
Vanadium	40300		ng/l	40000		101	95-105			
Zinc	985000		ng/l	1.0000E6		98.5	95-105			
Initial Cal Blank (2406012-ICB1)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	0.105		ng/l							
Arsenic	0.0149		ng/l							
Barium	0.307		ng/l							
Beryllium	-0.0737		ng/l							U
Cadmium	0.154		ng/l							
Chromium	1.47		ng/l							
Cobalt	0.0332		ng/l							
Copper	15.8		ng/l							
Lead	11.8		ng/l							
Manganese	2.98		ng/l							
Molybdenum	1.16		ng/l							
Nickel	-0.411		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 2406012 - B4F0406										
Initial Cal Blank (2406012-ICB1) Continu					Prepared: 06/04/24 Analyzed: 06/06/24					
Selenium	-2.12		ng/l							U
Thallium	0.713		ng/l							
Vanadium	-35.1		ng/l							U
Zinc	38.9		ng/l							
Initial Cal Check (2406012-ICV1)					Prepared: 06/04/24 Analyzed: 06/06/24					
Antimony	19700		ng/l	20000		98.3	90-110			
Arsenic	19300		ng/l	20000		96.6	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Chromium	237000		ng/l	240000		98.8	90-110			
Cobalt	49800		ng/l	50000		99.6	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	493000		ng/l	500000		98.6	90-110			
Molybdenum	48800		ng/l	50000		97.6	90-110			
Nickel	118000		ng/l	120000		98.2	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	498		ng/l	500.00		99.6	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	508000		ng/l	500000		102	90-110			
Interference Check A (2406012-IFA1)					Prepared: 06/04/24 Analyzed: 06/06/24					
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	304000		ng/l	300000		101	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 2406012 - B4F0406										
Interference Check B (2406012-IFB1)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	19800		ng/l	20000		99.0	80-120			
Arsenic	20500		ng/l	20000		103	80-120			
Barium	208000		ng/l	200000		104	80-120			
Beryllium	4640		ng/l	5000.0		92.8	80-120			
Cadmium	19100		ng/l	20000		95.4	80-120			
Chromium	258000		ng/l	240000		107	80-120			
Cobalt	50400		ng/l	50000		101	80-120			
Copper	1.89E6		ng/l	2.0000E6		94.7	80-120			
Lead	205000		ng/l	200000		103	80-120			
Manganese	526000		ng/l	500000		105	80-120			
Molybdenum	352000		ng/l	350000		100	80-120			
Nickel	116000		ng/l	120000		96.3	80-120			
Selenium	18800		ng/l	20000		93.8	80-120			
Thallium	533		ng/l	500.00		107	80-120			
Vanadium	22300		ng/l	20000		111	80-120			
Zinc	441000		ng/l	500000		88.2	80-120			
Batch 2406020 - B4F0406										
Calibration Blank (2406020-CCB1)				Prepared & Analyzed: 06/07/24						
Antimony	0.768		ng/l							
Arsenic	-0.988		ng/l							U
Barium	2.57		ng/l							
Beryllium	0.257		ng/l							
Cadmium	0.584		ng/l							
Chromium	3.63		ng/l							
Cobalt	0.433		ng/l							
Copper	37.2		ng/l							
Lead	14.2		ng/l							
Manganese	6.51		ng/l							
Molybdenum	6.37		ng/l							
Nickel	0.215		ng/l							
Selenium	0.469		ng/l							
Thallium	1.17		ng/l							
Vanadium	-23.1		ng/l							U
Zinc	33.5		ng/l							
Calibration Blank (2406020-CCB2)				Prepared & Analyzed: 06/07/24						
Antimony	0.464		ng/l							
Arsenic	0.223		ng/l							
Barium	0.943		ng/l							

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SUBMITTED: 06/03/24
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 2406020 - B4F0406										
Calibration Blank (2406020-CCB2) Contin				Prepared & Analyzed: 06/07/24						
Beryllium	-0.274		ng/l							U
Cadmium	0.0802		ng/l							
Chromium	1.16		ng/l							
Cobalt	-0.00123		ng/l							U
Copper	9.99		ng/l							
Lead	5.95		ng/l							
Manganese	1.12		ng/l							
Molybdenum	1.65		ng/l							
Nickel	-0.621		ng/l							U
Selenium	1.29		ng/l							
Thallium	0.970		ng/l							
Vanadium	-23.7		ng/l							U
Zinc	62.5		ng/l							
Calibration Blank (2406020-CCB3)				Prepared & Analyzed: 06/07/24						
Antimony	0.646		ng/l							
Arsenic	-1.14		ng/l							U
Barium	1.80		ng/l							
Beryllium	-0.535		ng/l							U
Cadmium	0.232		ng/l							
Chromium	1.89		ng/l							
Cobalt	0.324		ng/l							
Copper	19.0		ng/l							
Lead	6.23		ng/l							
Manganese	3.30		ng/l							
Molybdenum	2.47		ng/l							
Nickel	0.432		ng/l							
Selenium	1.77		ng/l							
Thallium	0.979		ng/l							
Vanadium	-24.6		ng/l							U
Zinc	67.5		ng/l							
Calibration Check (2406020-CCV1)				Prepared & Analyzed: 06/07/24						
Antimony	18800		ng/l	20000		94.1	90-110			
Arsenic	18700		ng/l	20000		93.7	90-110			
Barium	187000		ng/l	200000		93.3	90-110			
Beryllium	4810		ng/l	5000.0		96.2	90-110			
Cadmium	19300		ng/l	20000		96.4	90-110			
Chromium	230000		ng/l	240000		96.0	90-110			
Cobalt	48200		ng/l	50000		96.4	90-110			

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

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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 2406020 - B4F0406										
Calibration Check (2406020-CCV1) Contin					Prepared & Analyzed: 06/07/24					
Copper	1.96E6		ng/l	2.0000E6		97.8	90-110			
Lead	187000		ng/l	200000		93.4	90-110			
Manganese	475000		ng/l	500000		95.0	90-110			
Molybdenum	47000		ng/l	50000		93.9	90-110			
Nickel	117000		ng/l	120000		97.4	90-110			
Selenium	19200		ng/l	20000		96.0	90-110			
Thallium	470		ng/l	500.00		94.0	90-110			
Vanadium	18900		ng/l	20000		94.5	90-110			
Zinc	485000		ng/l	500000		97.0	90-110			
Calibration Check (2406020-CCV2)					Prepared & Analyzed: 06/07/24					
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19700		ng/l	20000		98.7	90-110			
Barium	198000		ng/l	200000		98.8	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Chromium	238000		ng/l	240000		99.3	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Manganese	498000		ng/l	500000		99.6	90-110			
Molybdenum	49700		ng/l	50000		99.4	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.5	90-110			
Thallium	495		ng/l	500.00		99.0	90-110			
Vanadium	19700		ng/l	20000		98.5	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2406020-CCV3)					Prepared & Analyzed: 06/07/24					
Antimony	19800		ng/l	20000		99.1	90-110			
Arsenic	19600		ng/l	20000		98.1	90-110			
Barium	195000		ng/l	200000		97.5	90-110			
Beryllium	4980		ng/l	5000.0		99.5	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	500000		ng/l	500000		100	90-110			
Molybdenum	49500		ng/l	50000		99.0	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 2406020 - B4F0406										
Calibration Check (2406020-CCV3) Contin				Prepared & Analyzed: 06/07/24						
Nickel	121000		ng/l	120000		101	90-110			
Selenium	19900		ng/l	20000		99.3	90-110			
Thallium	492		ng/l	500.00		98.4	90-110			
Vanadium	19500		ng/l	20000		97.7	90-110			
Zinc	512000		ng/l	500000		102	90-110			
High Cal Check (2406020-HCV1)				Prepared & Analyzed: 06/07/24						
Antimony	40800		ng/l	40000		102	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	406000		ng/l	400000		101	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	40500		ng/l	40000		101	95-105			
Chromium	479000		ng/l	480000		99.7	95-105			
Cobalt	99200		ng/l	100000		99.2	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.9	95-105			
Lead	404000		ng/l	400000		101	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	101000		ng/l	100000		101	95-105			
Nickel	235000		ng/l	240000		98.1	95-105			
Selenium	40700		ng/l	40000		102	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Vanadium	39900		ng/l	40000		99.8	95-105			
Zinc	994000		ng/l	1.0000E6		99.4	95-105			
Initial Cal Blank (2406020-ICB1)				Prepared & Analyzed: 06/07/24						
Antimony	0.595		ng/l							
Arsenic	-1.74		ng/l							U
Barium	2.27		ng/l							
Beryllium	0.0415		ng/l							
Cadmium	0.364		ng/l							
Chromium	2.28		ng/l							
Cobalt	0.359		ng/l							
Copper	36.3		ng/l							
Lead	14.9		ng/l							
Manganese	6.74		ng/l							
Molybdenum	2.89		ng/l							
Nickel	-0.380		ng/l							U
Selenium	-1.02		ng/l							U
Thallium	1.04		ng/l							
Vanadium	-21.5		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 2406020 - B4F0406										
Initial Cal Blank (2406020-ICB1) Continu					Prepared & Analyzed: 06/07/24					
Zinc	44.5		ng/l							
Initial Cal Check (2406020-ICV1)					Prepared & Analyzed: 06/07/24					
Antimony	19900		ng/l	20000		99.5	90-110			
Arsenic	19600		ng/l	20000		98.1	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	5140		ng/l	5000.0		103	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Chromium	238000		ng/l	240000		99.2	90-110			
Cobalt	49700		ng/l	50000		99.3	90-110			
Copper	2.06E6		ng/l	2.0000E6		103	90-110			
Lead	199000		ng/l	200000		99.6	90-110			
Manganese	500000		ng/l	500000		99.9	90-110			
Molybdenum	49300		ng/l	50000		98.7	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Selenium	20500		ng/l	20000		103	90-110			
Thallium	515		ng/l	500.00		103	90-110			
Vanadium	19800		ng/l	20000		98.8	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Interference Check A (2406020-IFA1)					Prepared & Analyzed: 06/07/24					
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	303000		ng/l	300000		101	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
Interference Check B (2406020-IFB1)					Prepared & Analyzed: 06/07/24					
Antimony	20300		ng/l	20000		101	80-120			
Arsenic	20500		ng/l	20000		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 2406020 - B4F0406										
Interference Check B (2406020-IFB1) Co					Prepared & Analyzed: 06/07/24					
Barium	205000		ng/l	200000		102	80-120			
Beryllium	4580		ng/l	5000.0		91.6	80-120			
Cadmium	19500		ng/l	20000		97.6	80-120			
Chromium	248000		ng/l	240000		103	80-120			
Cobalt	49100		ng/l	50000		98.1	80-120			
Copper	1.88E6		ng/l	2.0000E6		94.1	80-120			
Lead	207000		ng/l	200000		103	80-120			
Manganese	513000		ng/l	500000		103	80-120			
Molybdenum	359000		ng/l	350000		103	80-120			
Nickel	114000		ng/l	120000		95.0	80-120			
Selenium	19100		ng/l	20000		95.6	80-120			
Thallium	528		ng/l	500.00		106	80-120			
Vanadium	21400		ng/l	20000		107	80-120			
Zinc	448000		ng/l	500000		89.7	80-120			
Batch B4F0406 - ICP-MS Extraction										
Blank (B4F0406-BLK1)					Prepared: 06/04/24 Analyzed: 06/06/24					
Antimony	ND	0.0386	ng/m³ Air							U, SL
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 (B4F0406-BS1)					Prepared: 06/04/24 Analyzed: 06/06/24					
Antimony	0.737	0.0386	ng/m³ Air	1.3829		53.3	80-120			SL
Arsenic	2.73	0.00937	ng/m³ Air	2.7658		98.7	80-120			
Barium	28.2	1.07	ng/m³ Air	27.658		102	80-120			
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		95.9	80-120			
Cadmium	1.34	0.0741	ng/m³ Air	1.3829		97.0	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F0406 - ICP-MS Extraction										
LCS (B4F0406-BS1) Continued					Prepared: 06/04/24 Analyzed: 06/06/24					
Chromium	15.3	2.21	ng/m³ Air	13.829		110	80-120			
Cobalt	1.47	0.0436	ng/m³ Air	1.3829		106	80-120			
Copper	30.1	2.63	ng/m³ Air	27.658		109	80-120			
Lead	13.2	0.214	ng/m³ Air	13.829		95.5	80-120			
Manganese	8.58	1.89	ng/m³ Air	8.2975		103	80-120			
Molybdenum	1.43	0.359	ng/m³ Air	1.3829		103	80-120			
Nickel	3.29	0.652	ng/m³ Air	2.7658		119	80-120			
Selenium	2.74	0.00896	ng/m³ Air	2.7658		99.0	80-120			
Thallium	0.135	5.89E-4	ng/m³ Air	0.13829		97.6	80-120			
Vanadium	2.78	0.0529	ng/m³ Air	2.7658		101	80-120			
Zinc	135	76.8	ng/m³ Air	82.975		163	80-120			
LCS (B4F0406-BS2)					Prepared: 06/04/24 Analyzed: 06/06/24					
Antimony	0.744	0.0386	ng/m³ Air	1.3829		53.8	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.6	80-120			
Barium	27.7	1.07	ng/m³ Air	27.658		100	80-120			
Beryllium	1.29	0.00320	ng/m³ Air	1.3829		93.6	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.2	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.44	0.0436	ng/m³ Air	1.3829		104	80-120			
Copper	29.9	2.63	ng/m³ Air	27.658		108	80-120			
Lead	13.4	0.214	ng/m³ Air	13.829		97.0	80-120			
Manganese	8.41	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.42	0.359	ng/m³ Air	1.3829		103	80-120			
Nickel	3.28	0.652	ng/m³ Air	2.7658		119	80-120			
Selenium	2.71	0.00896	ng/m³ Air	2.7658		97.9	80-120			
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		96.4	80-120			
Vanadium	2.72	0.0529	ng/m³ Air	2.7658		98.5	80-120			
Zinc	124	76.8	ng/m³ Air	82.975		149	80-120			
LCS (B4F0406-BS3)					Prepared: 06/04/24 Analyzed: 06/06/24					
Antimony	1.33	0.0386	ng/m³ Air	1.3829		96.3	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.6	80-120			
Barium	26.8	1.07	ng/m³ Air	27.658		97.0	80-120			
Beryllium	1.30	0.00320	ng/m³ Air	1.3829		93.8	80-120			
Cadmium	1.32	0.0741	ng/m³ Air	1.3829		95.8	80-120			
Chromium	14.2	2.21	ng/m³ Air	13.829		103	80-120			
Cobalt	1.43	0.0436	ng/m³ Air	1.3829		104	80-120			
Copper	29.4	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.1	0.214	ng/m³ Air	13.829		94.8	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 B4F0406 - ICP-MS Extraction										
LCS (B4F0406-BS3) Continued				Prepared: 06/04/24 Analyzed: 06/06/24						
Manganese	8.39	1.89	ng/m³ Air	8.2975		101	80-120			
Molybdenum	1.27	0.359	ng/m³ Air	1.3829		91.6	80-120			
Nickel	2.86	0.652	ng/m³ Air	2.7658		103	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.3	80-120			
Thallium	0.133	5.89E-4	ng/m³ Air	0.13829		96.1	80-120			
Vanadium	2.71	0.0529	ng/m³ Air	2.7658		97.8	80-120			
Zinc	86.8	76.8	ng/m³ Air	82.975		105	80-120			
LCS (B4F0406-BS4)				Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	1.27	0.0386	ng/m³ Air	1.3829		91.7	80-120			SL
Arsenic	2.59	0.00937	ng/m³ Air	2.7658		93.7	80-120			
Barium	25.7	1.07	ng/m³ Air	27.658		93.0	80-120			
Beryllium	1.23	0.00320	ng/m³ Air	1.3829		89.1	80-120			
Cadmium	1.27	0.0741	ng/m³ Air	1.3829		91.5	80-120			
Chromium	13.5	2.21	ng/m³ Air	13.829		97.4	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.7	80-120			
Copper	28.1	2.63	ng/m³ Air	27.658		102	80-120			
Lead	12.8	0.214	ng/m³ Air	13.829		92.6	80-120			
Manganese	7.97	1.89	ng/m³ Air	8.2975		96.0	80-120			
Molybdenum	1.21	0.359	ng/m³ Air	1.3829		87.8	80-120			
Nickel	2.73	0.652	ng/m³ Air	2.7658		98.8	80-120			
Selenium	2.61	0.00896	ng/m³ Air	2.7658		94.5	80-120			
Thallium	0.127	5.89E-4	ng/m³ Air	0.13829		91.9	80-120			
Vanadium	2.60	0.0529	ng/m³ Air	2.7658		93.8	80-120			
Zinc	84.9	76.8	ng/m³ Air	82.975		102	80-120			
Duplicate (B4F0406-DUP1)		**Source: 4060348-03**		Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	0.0617	0.0374	ng/m³ Air		0.0774			22.6	10	SL
Arsenic	0.266	0.00907	ng/m³ Air		0.261			1.88	10	
Barium	4.48	1.04	ng/m³ Air		4.48			0.0272	10	
Beryllium	0.0508	0.00310	ng/m³ Air		0.0499			1.72	10	
Cadmium	ND	0.0717	ng/m³ Air		ND				10	U
Chromium	3.18	2.14	ng/m³ Air		3.22			1.36	10	
Cobalt	0.650	0.0422	ng/m³ Air		0.658			1.28	10	
Copper	22.6	2.55	ng/m³ Air		22.9			1.33	10	
Lead	0.584	0.207	ng/m³ Air		0.508			14.0	10	
Manganese	14.6	1.83	ng/m³ Air		14.5			0.497	10	
Molybdenum	1.15	0.348	ng/m³ Air		1.14			1.16	10	
Nickel	1.91	0.631	ng/m³ Air		1.87			2.00	10	
Selenium	0.197	0.00867	ng/m³ Air		0.185			5.90	10	

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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: 06/11/24 15:56
SUBMITTED: 06/03/24
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 B4F0406 - ICP-MS Extraction										
Duplicate (B4F0406-DUP1) Continued		**Source: 4060348-03**		Prepared: 06/04/24 Analyzed: 06/06/24						
Thallium	0.00175	5.70E-4	ng/m³ Air		0.00181			3.58	10	
Vanadium	1.75	0.0512	ng/m³ Air		1.72			1.81	10	
Zinc	ND	74.4	ng/m³ Air		ND				10	U
Duplicate (B4F0406-DUP2)		**Source: 4060348-24**		Prepared: 06/04/24 Analyzed: 06/06/24						
Antimony	0.0467	0.0341	ng/m³ Air		0.0533			13.2	10	SL
Arsenic	0.577	0.00828	ng/m³ Air		0.594			2.95	10	
Barium	4.86	0.946	ng/m³ Air		4.77			1.80	10	
Beryllium	0.0172	0.00283	ng/m³ Air		0.0178			3.75	10	
Cadmium	ND	0.0655	ng/m³ Air		ND				10	U
Chromium	3.67	1.95	ng/m³ Air		3.79			3.02	10	
Cobalt	0.925	0.0385	ng/m³ Air		0.944			2.03	10	
Copper	183	2.32	ng/m³ Air		178			2.55	10	
Lead	0.456	0.189	ng/m³ Air		0.389			15.7	10	
Manganese	21.0	1.67	ng/m³ Air		21.4			1.90	10	
Molybdenum	7.89	0.317	ng/m³ Air		7.83			0.756	10	
Nickel	3.70	0.576	ng/m³ Air		3.70			0.0745	10	
Selenium	0.214	0.00792	ng/m³ Air		0.215			0.441	10	
Thallium	0.00164	5.21E-4	ng/m³ Air		0.00177			7.32	10	
Vanadium	2.41	0.0468	ng/m³ Air		2.46			2.14	10	
Zinc	ND	67.9	ng/m³ Air		ND				10	U
Duplicate (B4F0406-DUP3)		**Source: 4060348-16**		Prepared: 06/04/24 Analyzed: 06/07/24						
Antimony	0.0938	0.0299	ng/m³ Air		0.0952			1.54	10	SL
Arsenic	0.238	0.00725	ng/m³ Air		0.238			0.389	10	
Barium	3.01	0.828	ng/m³ Air		3.01			0.236	10	
Beryllium	0.00573	0.00248	ng/m³ Air		0.00568			0.929	10	
Cadmium	ND	0.0573	ng/m³ Air		ND				10	U
Chromium	ND	1.71	ng/m³ Air		ND				10	U
Cobalt	0.169	0.0337	ng/m³ Air		0.169			0.487	10	
Copper	40.0	2.03	ng/m³ Air		39.9			0.363	10	
Lead	0.535	0.166	ng/m³ Air		0.535			0.0694	10	
Manganese	5.31	1.46	ng/m³ Air		5.32			0.142	10	
Molybdenum	2.01	0.278	ng/m³ Air		2.01			0.217	10	
Nickel	0.918	0.504	ng/m³ Air		0.910			0.956	10	
Selenium	0.155	0.00693	ng/m³ Air		0.147			5.45	10	
Thallium	7.64E-4	4.56E-4	ng/m³ Air		7.82E-4			2.35	10	
Vanadium	0.835	0.0409	ng/m³ Air		0.827			0.976	10	
Zinc	ND	59.4	ng/m³ Air		ND				10	U
Duplicate (B4F0406-DUP4)		**Source: 4060348-31**		Prepared: 06/04/24 Analyzed: 06/07/24						

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
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 B4F0406 - ICP-MS Extraction										
Duplicate (B4F0406-DUP4) Continued			**Source: 4060348-31**		Prepared: 06/04/24 Analyzed: 06/07/24					
Antimony	0.130	0.0338	ng/m³ Air		0.130			0.0630	10	SL
Arsenic	1.52	0.00820	ng/m³ Air		1.52			0.370	10	
Barium	9.33	0.937	ng/m³ Air		9.21			1.26	10	
Beryllium	0.0419	0.00280	ng/m³ Air		0.0426			1.62	10	
Cadmium	0.0944	0.0649	ng/m³ Air		0.0942			0.255	10	
Chromium	7.35	1.94	ng/m³ Air		7.24			1.52	10	
Cobalt	1.62	0.0382	ng/m³ Air		1.61			0.760	10	
Copper	30.5	2.30	ng/m³ Air		30.0			1.64	10	
Lead	1.61	0.187	ng/m³ Air		1.61			0.153	10	
Manganese	60.5	1.65	ng/m³ Air		59.8			1.13	10	
Molybdenum	0.840	0.314	ng/m³ Air		0.839			0.0535	10	
Nickel	4.42	0.571	ng/m³ Air		4.34			1.96	10	
Selenium	0.341	0.00785	ng/m³ Air		0.330			3.27	10	
Thallium	0.00264	5.16E-4	ng/m³ Air		0.00258			2.23	10	
Vanadium	4.41	0.0463	ng/m³ Air		4.35			1.45	10	
Zinc	ND	67.2	ng/m³ Air		ND				10	U
Duplicate (B4F0406-DUP5)			**Source: 4060348-03R**		Prepared: 06/04/24 Analyzed: 06/07/24					
Antimony	ND	0.0747	ng/m³ Air		0.0793				10	U, D
Arsenic	0.271	0.0181	ng/m³ Air		0.266			1.95	10	D
Barium	4.72	2.07	ng/m³ Air		4.69			0.636	10	D
Beryllium	0.0527	0.00620	ng/m³ Air		0.0538			2.21	10	D
Cadmium	ND	0.143	ng/m³ Air		ND				10	U, D
Chromium	ND	4.28	ng/m³ Air		ND				10	U, D
Cobalt	0.656	0.0844	ng/m³ Air		0.664			1.19	10	D
Copper	23.1	5.09	ng/m³ Air		23.6			1.92	10	D
Lead	0.611	0.414	ng/m³ Air		0.527			14.9	10	D
Manganese	14.7	3.66	ng/m³ Air		14.8			0.714	10	D
Molybdenum	1.28	0.695	ng/m³ Air		1.28			0.340	10	D
Nickel	1.92	1.26	ng/m³ Air		1.90			0.713	10	D
Selenium	0.215	0.0173	ng/m³ Air		0.216			0.614	10	D
Thallium	0.00202	0.00114	ng/m³ Air		0.00211			4.26	10	D
Vanadium	1.69	0.102	ng/m³ Air		1.65			2.01	10	D
Zinc	ND	149	ng/m³ Air		ND				10	U, D
Duplicate (B4F0406-DUP6)			**Source: 4060348-24R**		Prepared: 06/04/24 Analyzed: 06/07/24					
Antimony	ND	0.0682	ng/m³ Air		ND				10	U, D
Arsenic	0.598	0.0166	ng/m³ Air		0.609			1.78	10	D
Barium	5.07	1.89	ng/m³ Air		4.92			3.14	10	D
Beryllium	0.0180	0.00566	ng/m³ Air		0.0197			9.38	10	D

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F0406 - ICP-MS Extraction										
Duplicate (B4F0406-DUP6) Continued			**Source: 4060348-24R**		Prepared: 06/04/24		Analyzed: 06/07/24			
Cadmium	ND	0.131	ng/m³ Air		ND				10	U, D
Chromium	ND	3.91	ng/m³ Air		ND				10	U, D
Cobalt	0.937	0.0771	ng/m³ Air		0.958			2.18	10	D
Copper	185	4.65	ng/m³ Air		181			2.20	10	D
Lead	0.480	0.378	ng/m³ Air		0.410			15.7	10	D
Manganese	21.4	3.34	ng/m³ Air		21.9			2.43	10	D
Molybdenum	8.72	0.635	ng/m³ Air		8.52			2.37	10	D
Nickel	3.79	1.15	ng/m³ Air		3.82			0.667	10	D
Selenium	0.229	0.0158	ng/m³ Air		0.225			1.71	10	D
Thallium	0.00173	0.00104	ng/m³ Air		0.00186			7.43	10	D
Vanadium	2.35	0.0935	ng/m³ Air		2.43			3.37	10	D
Zinc	ND	136	ng/m³ Air		ND				10	U, D
Duplicate (B4F0406-DUP7)			**Source: 4060348-31R**		Prepared: 06/04/24		Analyzed: 06/07/24			
Antimony	ND	0.193	ng/m³ Air		ND				10	U, D
Arsenic	1.84	0.0468	ng/m³ Air		1.63			12.6	10	D
Barium	11.6	5.35	ng/m³ Air		10.2			13.1	10	D
Beryllium	0.0541	0.0160	ng/m³ Air		0.0465			15.0	10	D
Cadmium	ND	0.370	ng/m³ Air		ND				10	U, D
Chromium	ND	11.0	ng/m³ Air		ND				10	U, D
Cobalt	1.85	0.218	ng/m³ Air		1.63			12.9	10	D
Copper	35.2	13.2	ng/m³ Air		31.0			12.6	10	D
Lead	2.14	1.07	ng/m³ Air		1.88			13.3	10	D
Manganese	69.0	9.45	ng/m³ Air		60.6			12.9	10	D
Molybdenum	ND	1.80	ng/m³ Air		ND				10	U, D
Nickel	5.12	3.26	ng/m³ Air		4.49			13.1	10	D
Selenium	0.504	0.0448	ng/m³ Air		0.438			13.9	10	D
Thallium	0.00351	0.00294	ng/m³ Air		0.00300			15.8	10	D
Vanadium	4.79	0.264	ng/m³ Air		4.20			13.1	10	D
Zinc	ND	384	ng/m³ Air		ND				10	U, D
Matrix Spike (B4F0406-MS1)			**Source: 4060348-03**		Prepared: 06/04/24		Analyzed: 06/06/24			
Antimony	0.723	0.0374	ng/m³ Air	1.3389	0.0774	48.2	80-120			SL
Arsenic	2.76	0.00907	ng/m³ Air	2.6778	0.261	93.4	80-120			
Barium	29.5	1.04	ng/m³ Air	26.778	4.48	93.6	80-120			
Beryllium	1.29	0.00310	ng/m³ Air	1.3389	0.0499	92.7	80-120			
Cadmium	1.21	0.0717	ng/m³ Air	1.3389	ND	90.7	80-120			
Chromium	16.5	2.14	ng/m³ Air	13.389	3.22	98.9	80-120			
Cobalt	2.00	0.0422	ng/m³ Air	1.3389	0.658	99.9	80-120			
Copper	50.9	2.55	ng/m³ Air	26.778	22.9	105	80-120			

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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 B4F0406 - ICP-MS Extraction										
Matrix Spike (B4F0406-MS1) Continued	**Source: 4060348-03**			Prepared: 06/04/24		Analyzed: 06/06/24				
Lead	13.3	0.207	ng/m³ Air	13.389	0.508	95.4	80-120			
Manganese	22.5	1.83	ng/m³ Air	8.0333	14.5	98.9	80-120			
Molybdenum	2.18	0.348	ng/m³ Air	1.3389	1.14	77.8	80-120			QM-07
Nickel	4.56	0.631	ng/m³ Air	2.6778	1.87	100	80-120			
Selenium	2.57	0.00867	ng/m³ Air	2.6778	0.185	89.0	80-120			
Thallium	0.125	5.70E-4	ng/m³ Air	0.13389	0.00181	91.8	80-120			
Vanadium	4.37	0.0512	ng/m³ Air	2.6778	1.72	98.8	80-120			
Zinc	108	74.4	ng/m³ Air	80.333	ND	135	80-120			
Matrix Spike (B4F0406-MS2)	**Source: 4060348-24**			Prepared: 06/04/24		Analyzed: 06/06/24				
Antimony	0.627	0.0341	ng/m³ Air	1.2224	0.0533	46.9	80-120			SL
Arsenic	2.77	0.00828	ng/m³ Air	2.4448	0.594	89.1	80-120			
Barium	27.3	0.946	ng/m³ Air	24.448	4.77	92.0	80-120			
Beryllium	1.12	0.00283	ng/m³ Air	1.2224	0.0178	90.5	80-120			
Cadmium	1.13	0.0655	ng/m³ Air	1.2224	ND	92.4	80-120			
Chromium	15.6	1.95	ng/m³ Air	12.224	3.79	96.6	80-120			
Cobalt	2.12	0.0385	ng/m³ Air	1.2224	0.944	96.2	80-120			
Copper	202	2.32	ng/m³ Air	24.448	178	98.8	80-120			
Lead	11.8	0.189	ng/m³ Air	12.224	0.389	93.2	80-120			
Manganese	28.2	1.67	ng/m³ Air	7.3344	21.4	92.9	80-120			
Molybdenum	8.81	0.317	ng/m³ Air	1.2224	7.83	80.3	80-120			
Nickel	5.89	0.576	ng/m³ Air	2.4448	3.70	89.5	80-120			
Selenium	2.33	0.00792	ng/m³ Air	2.4448	0.215	86.6	80-120			
Thallium	0.110	5.21E-4	ng/m³ Air	0.12224	0.00177	88.3	80-120			
Vanadium	4.76	0.0468	ng/m³ Air	2.4448	2.46	94.3	80-120			
Zinc	92.9	67.9	ng/m³ Air	73.344	ND	127	80-120			
Matrix Spike (B4F0406-MS3)	**Source: 4060348-03R**			Prepared: 06/04/24		Analyzed: 06/07/24				
Antimony	0.738	0.0747	ng/m³ Air	1.3389	0.0793	49.2	80-120			D
Arsenic	2.78	0.0181	ng/m³ Air	2.6778	0.266	94.0	80-120			D
Barium	30.5	2.07	ng/m³ Air	26.778	4.69	96.3	80-120			D
Beryllium	1.35	0.00620	ng/m³ Air	1.3389	0.0538	97.1	80-120			D
Cadmium	1.28	0.143	ng/m³ Air	1.3389	ND	95.3	80-120			D
Chromium	16.2	4.28	ng/m³ Air	13.389	ND	121	80-120			D
Cobalt	1.99	0.0844	ng/m³ Air	1.3389	0.664	99.3	80-120			D
Copper	51.0	5.09	ng/m³ Air	26.778	23.6	102	80-120			D
Lead	13.5	0.414	ng/m³ Air	13.389	0.527	97.1	80-120			D
Manganese	22.5	3.66	ng/m³ Air	8.0333	14.8	96.3	80-120			D
Molybdenum	2.41	0.695	ng/m³ Air	1.3389	1.28	84.7	80-120			D
Nickel	4.55	1.26	ng/m³ Air	2.6778	1.90	99.0	80-120			D

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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 B4F0406 - ICP-MS Extraction										
Matrix Spike (B4F0406-MS3) Continued	**Source: 4060348-03R**			Prepared: 06/04/24			Analyzed: 06/07/24			
Selenium	2.74	0.0173	ng/m³ Air	2.6778	0.216	94.3	80-120			D
Thallium	0.128	0.00114	ng/m³ Air	0.13389	0.00211	94.3	80-120			D
Vanadium	4.18	0.102	ng/m³ Air	2.6778	1.65	94.2	80-120			D
Zinc	ND	149	ng/m³ Air	80.333	ND		80-120			U, D
Matrix Spike (B4F0406-MS4)	**Source: 4060348-24R**			Prepared: 06/04/24			Analyzed: 06/07/24			
Antimony	0.630	0.0682	ng/m³ Air	1.2224	ND	51.5	80-120			D
Arsenic	2.85	0.0166	ng/m³ Air	2.4448	0.609	91.6	80-120			D
Barium	28.3	1.89	ng/m³ Air	24.448	4.92	95.6	80-120			D
Beryllium	1.18	0.00566	ng/m³ Air	1.2224	0.0197	94.8	80-120			D
Cadmium	1.18	0.131	ng/m³ Air	1.2224	ND	96.2	80-120			D
Chromium	15.5	3.91	ng/m³ Air	12.224	ND	127	80-120			D
Cobalt	2.15	0.0771	ng/m³ Air	1.2224	0.958	97.5	80-120			D
Copper	207	4.65	ng/m³ Air	24.448	181	106	80-120			D
Lead	11.8	0.378	ng/m³ Air	12.224	0.410	93.4	80-120			D
Manganese	28.5	3.34	ng/m³ Air	7.3344	21.9	90.8	80-120			D
Molybdenum	9.60	0.635	ng/m³ Air	1.2224	8.52	88.2	80-120			D
Nickel	6.01	1.15	ng/m³ Air	2.4448	3.82	89.8	80-120			D
Selenium	2.53	0.0158	ng/m³ Air	2.4448	0.225	94.3	80-120			D
Thallium	0.111	0.00104	ng/m³ Air	0.12224	0.00186	89.1	80-120			D
Vanadium	4.68	0.0935	ng/m³ Air	2.4448	2.43	91.9	80-120			D
Zinc	ND	136	ng/m³ Air	73.344	ND		80-120			U, D
Matrix Spike Dup (B4F0406-MSD1)	**Source: 4060348-03**			Prepared: 06/04/24			Analyzed: 06/06/24			
Antimony	0.733	0.0374	ng/m³ Air	1.3389	0.0774	48.9	80-120	1.38	20	SL
Arsenic	2.80	0.00907	ng/m³ Air	2.6778	0.261	94.8	80-120	1.36	20	
Barium	29.8	1.04	ng/m³ Air	26.778	4.48	94.6	80-120	0.883	20	
Beryllium	1.31	0.00310	ng/m³ Air	1.3389	0.0499	94.2	80-120	1.59	20	
Cadmium	1.22	0.0717	ng/m³ Air	1.3389	ND	91.3	80-120	0.687	20	
Chromium	16.8	2.14	ng/m³ Air	13.389	3.22	101	80-120	1.89	20	
Cobalt	2.03	0.0422	ng/m³ Air	1.3389	0.658	103	80-120	1.84	20	
Copper	50.9	2.55	ng/m³ Air	26.778	22.9	105	80-120	0.00805	20	
Lead	13.2	0.207	ng/m³ Air	13.389	0.508	95.1	80-120	0.255	20	
Manganese	22.7	1.83	ng/m³ Air	8.0333	14.5	101	80-120	0.855	20	
Molybdenum	2.21	0.348	ng/m³ Air	1.3389	1.14	80.1	80-120	1.41	20	
Nickel	4.63	0.631	ng/m³ Air	2.6778	1.87	103	80-120	1.54	20	
Selenium	2.58	0.00867	ng/m³ Air	2.6778	0.185	89.5	80-120	0.455	20	
Thallium	0.127	5.70E-4	ng/m³ Air	0.13389	0.00181	93.5	80-120	1.78	20	
Vanadium	4.42	0.0512	ng/m³ Air	2.6778	1.72	101	80-120	1.10	20	
Zinc	123	74.4	ng/m³ Air	80.333	ND	153	80-120	12.5	20	

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
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 B4F0406 - ICP-MS Extraction										
Matrix Spike Dup (B4F0406-MSD2)		**Source: 4060348-24**		Prepared: 06/04/24		Analyzed: 06/06/24				
Antimony	0.583	0.0341	ng/m³ Air	1.2224	0.0533	43.3	80-120	7.24	20	SL
Arsenic	2.82	0.00828	ng/m³ Air	2.4448	0.594	90.9	80-120	1.62	20	
Barium	27.7	0.946	ng/m³ Air	24.448	4.77	94.0	80-120	1.77	20	
Beryllium	1.16	0.00283	ng/m³ Air	1.2224	0.0178	93.2	80-120	2.83	20	
Cadmium	1.12	0.0655	ng/m³ Air	1.2224	ND	91.6	80-120	0.792	20	
Chromium	16.3	1.95	ng/m³ Air	12.224	3.79	103	80-120	4.69	20	
Cobalt	2.18	0.0385	ng/m³ Air	1.2224	0.944	101	80-120	2.69	20	
Copper	208	2.32	ng/m³ Air	24.448	178	120	80-120	2.56	20	QM-4X
Lead	12.0	0.189	ng/m³ Air	12.224	0.389	94.6	80-120	1.43	20	
Manganese	28.7	1.67	ng/m³ Air	7.3344	21.4	99.1	80-120	1.59	20	
Molybdenum	9.12	0.317	ng/m³ Air	1.2224	7.83	106	80-120	3.52	20	
Nickel	6.14	0.576	ng/m³ Air	2.4448	3.70	99.7	80-120	4.13	20	
Selenium	2.38	0.00792	ng/m³ Air	2.4448	0.215	88.6	80-120	2.08	20	
Thallium	0.111	5.21E-4	ng/m³ Air	0.12224	0.00177	89.6	80-120	1.48	20	
Vanadium	4.85	0.0468	ng/m³ Air	2.4448	2.46	98.0	80-120	1.86	20	
Zinc	91.0	67.9	ng/m³ Air	73.344	ND	124	80-120	1.97	20	
Matrix Spike Dup (B4F0406-MSD3)		**Source: 4060348-03R**		Prepared: 06/04/24		Analyzed: 06/07/24				
Antimony	0.745	0.0747	ng/m³ Air	1.3389	0.0793	49.7	80-120	0.919	20	D
Arsenic	2.85	0.0181	ng/m³ Air	2.6778	0.266	96.4	80-120	2.31	20	D
Barium	30.9	2.07	ng/m³ Air	26.778	4.69	97.8	80-120	1.35	20	D
Beryllium	1.37	0.00620	ng/m³ Air	1.3389	0.0538	98.2	80-120	1.08	20	D
Cadmium	1.29	0.143	ng/m³ Air	1.3389	ND	96.2	80-120	0.950	20	D
Chromium	16.5	4.28	ng/m³ Air	13.389	ND	123	80-120	1.83	20	D
Cobalt	2.01	0.0844	ng/m³ Air	1.3389	0.664	101	80-120	1.02	20	D
Copper	50.9	5.09	ng/m³ Air	26.778	23.6	102	80-120	0.245	20	D
Lead	13.5	0.414	ng/m³ Air	13.389	0.527	97.1	80-120	0.0653	20	D
Manganese	22.4	3.66	ng/m³ Air	8.0333	14.8	94.6	80-120	0.600	20	D
Molybdenum	2.44	0.695	ng/m³ Air	1.3389	1.28	86.8	80-120	1.17	20	D
Nickel	4.64	1.26	ng/m³ Air	2.6778	1.90	102	80-120	1.88	20	D
Selenium	2.78	0.0173	ng/m³ Air	2.6778	0.216	95.6	80-120	1.24	20	D
Thallium	0.132	0.00114	ng/m³ Air	0.13389	0.00211	97.1	80-120	2.87	20	D
Vanadium	4.24	0.102	ng/m³ Air	2.6778	1.65	96.5	80-120	1.41	20	D
Zinc	ND	149	ng/m³ Air	80.333	ND		80-120		20	U, D
Matrix Spike Dup (B4F0406-MSD4)		**Source: 4060348-24R**		Prepared: 06/04/24		Analyzed: 06/07/24				
Antimony	0.587	0.0682	ng/m³ Air	1.2224	ND	48.0	80-120	7.06	20	D
Arsenic	2.86	0.0166	ng/m³ Air	2.4448	0.609	91.9	80-120	0.243	20	D
Barium	28.6	1.89	ng/m³ Air	24.448	4.92	96.8	80-120	1.05	20	D
Beryllium	1.21	0.00566	ng/m³ Air	1.2224	0.0197	97.1	80-120	2.33	20	D

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
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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 B4F0406 - ICP-MS Extraction										
Matrix Spike Dup (B4F0406-MSD4) Contir				**Source: 4060348-24R**		Prepared: 06/04/24		Analyzed: 06/07/24		
Cadmium	1.17	0.131	ng/m³ Air	1.2224	ND	95.5	80-120	0.751	20	D
Chromium	16.1	3.91	ng/m³ Air	12.224	ND	132	80-120	3.56	20	D
Cobalt	2.19	0.0771	ng/m³ Air	1.2224	0.958	101	80-120	1.72	20	D
Copper	210	4.65	ng/m³ Air	24.448	181	119	80-120	1.54	20	D
Lead	12.1	0.378	ng/m³ Air	12.224	0.410	95.6	80-120	2.20	20	D
Manganese	28.8	3.34	ng/m³ Air	7.3344	21.9	94.1	80-120	0.853	20	D
Molybdenum	9.82	0.635	ng/m³ Air	1.2224	8.52	107	80-120	2.34	20	D
Nickel	6.23	1.15	ng/m³ Air	2.4448	3.82	98.6	80-120	3.51	20	D
Selenium	2.56	0.0158	ng/m³ Air	2.4448	0.225	95.3	80-120	0.985	20	D
Thallium	0.115	0.00104	ng/m³ Air	0.12224	0.00186	92.5	80-120	3.72	20	D
Vanadium	4.71	0.0935	ng/m³ Air	2.4448	2.43	93.2	80-120	0.682	20	D
Zinc	ND	136	ng/m³ Air	73.344	ND		80-120		20	U, D
Post Spike (B4F0406-PS1)				**Source: 4060348-03**		Prepared: 06/04/24		Analyzed: 06/06/24		
Antimony	0.333	0.0374	ng/m³ Air	0.26778	0.0774	95.4	75-125			SL
Arsenic	1.50	0.00907	ng/m³ Air	1.3389	0.261	92.6	75-125			
Barium	6.91	1.04	ng/m³ Air	2.6778	4.48	90.6	75-125			
Beryllium	0.303	0.00310	ng/m³ Air	0.26778	0.0499	94.4	75-125			
Cadmium	0.137	0.0717	ng/m³ Air	0.13389	ND	102	75-125			
Chromium	4.55	2.14	ng/m³ Air	1.3389	3.22	98.8	75-125			
Cobalt	0.928	0.0422	ng/m³ Air	0.26778	0.658	101	75-125			
Copper	37.0	2.55	ng/m³ Air	13.389	22.9	105	75-125			
Lead	25.8	0.207	ng/m³ Air	26.778	0.508	94.3	75-125			
Manganese	17.3	1.83	ng/m³ Air	2.6778	14.5	103	75-125			
Molybdenum	2.15	0.348	ng/m³ Air	1.3389	1.14	75.9	75-125			
Nickel	4.52	0.631	ng/m³ Air	2.6778	1.87	98.8	75-125			
Selenium	1.37	0.00867	ng/m³ Air	1.3389	0.185	88.5	75-125			
Thallium	0.0658	5.70E-4	ng/m³ Air	6.6944E-2	0.00181	95.6	75-125			
Vanadium	3.03	0.0512	ng/m³ Air	1.3389	1.72	97.6	75-125			
Zinc	ND	74.4	ng/m³ Air	26.778	ND		75-125			U
Post Spike (B4F0406-PS2)				**Source: 4060348-24**		Prepared: 06/04/24		Analyzed: 06/06/24		
Antimony	0.294	0.0341	ng/m³ Air	0.24448	0.0533	98.3	75-125			SL
Arsenic	1.76	0.00828	ng/m³ Air	1.2224	0.594	95.4	75-125			
Barium	7.14	0.946	ng/m³ Air	2.4448	4.77	96.9	75-125			
Beryllium	0.248	0.00283	ng/m³ Air	0.24448	0.0178	94.0	75-125			
Cadmium	0.142	0.0655	ng/m³ Air	0.12224	ND	117	75-125			
Chromium	5.13	1.95	ng/m³ Air	1.2224	3.79	110	75-125			
Cobalt	1.22	0.0385	ng/m³ Air	0.24448	0.944	112	75-125			
Copper	195	2.32	ng/m³ Air	12.224	178	141	75-125			A-01

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REPORTED: 06/11/24 15:56
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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 B4F0406 - ICP-MS Extraction										
Post Spike (B4F0406-PS2) Continued			**Source: 4060348-24**		Prepared: 06/04/24		Analyzed: 06/06/24			
Lead	23.9	0.189	ng/m³ Air	24.448	0.389	96.1	75-125			
Manganese	24.5	1.67	ng/m³ Air	2.4448	21.4	125	75-125			
Molybdenum	8.94	0.317	ng/m³ Air	1.2224	7.83	91.3	75-125			
Nickel	6.27	0.576	ng/m³ Air	2.4448	3.70	105	75-125			
Selenium	1.31	0.00792	ng/m³ Air	1.2224	0.215	89.5	75-125			
Thallium	0.0594	5.21E-4	ng/m³ Air	6.1120E-2	0.00177	94.4	75-125			
Vanadium	3.76	0.0468	ng/m³ Air	1.2224	2.46	106	75-125			
Zinc	ND	67.9	ng/m³ Air	24.448	ND		75-125			U
Post Spike (B4F0406-PS3)			**Source: 4060348-03R**		Prepared: 06/04/24		Analyzed: 06/07/24			
Antimony	0.338	0.0747	ng/m³ Air	0.26778	0.0793	96.7	75-125			D
Arsenic	1.53	0.0181	ng/m³ Air	1.3389	0.266	94.4	75-125			D
Barium	6.94	2.07	ng/m³ Air	2.6778	4.69	84.2	75-125			D
Beryllium	0.313	0.00620	ng/m³ Air	0.26778	0.0538	96.8	75-125			D
Cadmium	0.143	0.143	ng/m³ Air	0.13389	ND		75-125			D
Chromium	4.50	4.28	ng/m³ Air	1.3389	ND	336	75-125			D
Cobalt	0.933	0.0844	ng/m³ Air	0.26778	0.664	101	75-125			D
Copper	37.3	5.09	ng/m³ Air	13.389	23.6	102	75-125			D
Lead	26.5	0.414	ng/m³ Air	26.778	0.527	96.9	75-125			D
Manganese	17.3	3.66	ng/m³ Air	2.6778	14.8	96.7	75-125			D
Molybdenum	2.40	0.695	ng/m³ Air	1.3389	1.28	83.5	75-125			D
Nickel	4.59	1.26	ng/m³ Air	2.6778	1.90	100	75-125			D
Selenium	1.49	0.0173	ng/m³ Air	1.3389	0.216	95.5	75-125			D
Thallium	0.0686	0.00114	ng/m³ Air	6.6944E-2	0.00211	99.4	75-125			D
Vanadium	2.92	0.102	ng/m³ Air	1.3389	1.65	94.8	75-125			D
Zinc	ND	149	ng/m³ Air	26.778	ND		75-125			U, D
Post Spike (B4F0406-PS4)			**Source: 4060348-24R**		Prepared: 06/04/24		Analyzed: 06/07/24			
Antimony	21.9	0.0341	ng/m³ Air	0.24448	0.0531	NR	75-125			A-01a, D
Arsenic	78.2	0.00828	ng/m³ Air	1.2224	0.609	NR	75-125			A-01a, D
Barium	182	0.946	ng/m³ Air	2.4448	4.92	NR	75-125			A-01a, D
Beryllium	27.8	0.00283	ng/m³ Air	0.24448	0.0197	NR	75-125			A-01a, D
Cadmium	5.62	0.0655	ng/m³ Air	0.12224	ND	NR	75-125			A-01a, D
Chromium	484	1.95	ng/m³ Air	1.2224	3.83	NR	75-125			A-01a, D
Cobalt	162	0.0385	ng/m³ Air	0.24448	0.958	NR	75-125			A-01a, D
Copper	244000	2.32	ng/m³ Air	12.224	181	2.00E6	75-125			A-01a, D
Lead	1100	0.189	ng/m³ Air	24.448	0.410	NR	75-125			A-01a, D
Manganese	244000	1.67	ng/m³ Air	2.4448	21.9	10.00E6	75-125			A-01a, D
Molybdenum	100	0.317	ng/m³ Air	1.2224	8.52	NR	75-125			A-01a, D
Nickel	886	0.576	ng/m³ Air	2.4448	3.82	NR	75-125			A-01a, D

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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 B4F0406 - ICP-MS Extraction										
Post Spike (B4F0406-PS4) Continued			**Source: 4060348-24R**		Prepared: 06/04/24		Analyzed: 06/07/24			
Selenium	26.9	0.00792	ng/m³ Air	1.2224	0.225	NR	75-125			A-01a, D
Thallium	2.52	5.21E-4	ng/m³ Air	6.1120E-2	0.00186	NR	75-125			A-01a, D
Vanadium	334	0.0468	ng/m³ Air	1.2224	2.43	NR	75-125			A-01a, D
Zinc	244000	67.9	ng/m³ Air	24.448	ND	1.00E6	75-125			A-01a, D
Dilution Check (B4F0406-SRL1)			**Source: 4060348-03**		Prepared: 06/04/24		Analyzed: 06/06/24			
Antimony	ND	0.187	ng/m³ Air		ND				10	U, SL
Arsenic	0.271	0.0454	ng/m³ Air		0.261			3.72	10	
Barium	ND	5.18	ng/m³ Air		ND				10	U
Beryllium	0.0505	0.0155	ng/m³ Air		0.0499			1.19	10	
Cadmium	ND	0.359	ng/m³ Air		ND				10	U
Chromium	ND	10.7	ng/m³ Air		ND				10	U
Cobalt	0.674	0.211	ng/m³ Air		0.658			2.42	10	
Copper	24.2	12.7	ng/m³ Air		22.9			5.33	10	
Lead	ND	1.04	ng/m³ Air		ND				10	U
Manganese	14.9	9.15	ng/m³ Air		14.5			2.86	10	
Molybdenum	ND	1.74	ng/m³ Air		ND				10	U
Nickel	ND	3.16	ng/m³ Air		ND				10	U
Selenium	0.193	0.0434	ng/m³ Air		0.185			4.03	10	
Thallium	ND	0.00285	ng/m³ Air		ND				10	U
Vanadium	1.72	0.256	ng/m³ Air		1.72			0.123	10	
Zinc	ND	372	ng/m³ Air		ND				10	U
Dilution Check (B4F0406-SRL2)			**Source: 4060348-24**		Prepared: 06/04/24		Analyzed: 06/06/24			
Antimony	ND	0.171	ng/m³ Air		ND				10	U, SL
Arsenic	0.624	0.0414	ng/m³ Air		0.594			4.96	10	
Barium	4.87	4.73	ng/m³ Air		4.77			2.08	10	
Beryllium	0.0193	0.0141	ng/m³ Air		0.0178			7.91	10	
Cadmium	ND	0.327	ng/m³ Air		ND				10	U
Chromium	ND	9.77	ng/m³ Air		ND				10	U
Cobalt	0.983	0.193	ng/m³ Air		0.944			4.04	10	
Copper	186	11.6	ng/m³ Air		178			4.53	10	
Lead	ND	0.946	ng/m³ Air		ND				10	U
Manganese	22.1	8.35	ng/m³ Air		21.4			2.98	10	
Molybdenum	9.00	1.59	ng/m³ Air		7.83			13.9	10	
Nickel	3.88	2.88	ng/m³ Air		3.70			4.71	10	
Selenium	0.259	0.0396	ng/m³ Air		0.215			18.4	10	SRD-01
Thallium	0.00325	0.00260	ng/m³ Air		ND			59.1	10	
Vanadium	2.48	0.234	ng/m³ Air		2.46			0.813	10	
Zinc	ND	339	ng/m³ Air		ND				10	U

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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F0406 - ICP-MS Extraction										
Dilution Check (B4F0406-SRL3)				**Source: 4060348-03R**	Prepared: 06/04/24 Analyzed: 06/07/24					
Antimony	ND	0.374	ng/m³ Air		ND				10	U
Arsenic	0.272	0.0907	ng/m³ Air		0.266			2.16	10	
Barium	ND	10.4	ng/m³ Air		ND				10	U
Beryllium	0.0480	0.0310	ng/m³ Air		0.0538			11.5	10	
Cadmium	ND	0.717	ng/m³ Air		ND				10	U
Chromium	ND	21.4	ng/m³ Air		ND				10	U
Cobalt	0.680	0.422	ng/m³ Air		0.664			2.35	10	
Copper	ND	25.5	ng/m³ Air		ND				10	U
Lead	ND	2.07	ng/m³ Air		ND				10	U
Manganese	ND	18.3	ng/m³ Air		ND				10	U
Molybdenum	ND	3.48	ng/m³ Air		ND				10	U
Nickel	ND	6.31	ng/m³ Air		ND				10	U
Selenium	0.236	0.0867	ng/m³ Air		0.216			8.74	10	
Thallium	ND	0.00570	ng/m³ Air		ND				10	U
Vanadium	1.65	0.512	ng/m³ Air		1.65			0.434	10	
Zinc	ND	744	ng/m³ Air		ND				10	U

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CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
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FILE #: 4205.00.003.001
REPORTED: 06/11/24 15:56
SUBMITTED: 06/03/24
AQS SITE CODE:
SITE CODE: Lahaina fires

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.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
A-01a	Prep error, no ISTD added. No valid data
A-01	Parent sample greater than 4x Spike amount: Post spike
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.

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.

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by: Kierra Johnson 06/12/2024 and Shanna Vasser 06/13/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 05/23/2024 – 05/29/2024
Report No: 4060348

√	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 (MDL) were reported for barium in MFL-FB01-052324-HM, for barium in MFL-FB01-052524-HM, for barium and copper in MFL-FB01-052724-HM, for arsenic and barium in MFL-FB01-052924-HM, and arsenic, barium, and cobalt in MFL-LB01-052924-HM. MFL-LB01-052924-HM had detections about the MDL for arsenic, barium, and cobalt.

Notes:

7. MFL-AM01-052824-HM was analyzed at a two-fold dilution for arsenic, cadmium, molybdenum, and selenium. MFL-AM03-052324-HM was analyzed at a two-fold dilution for arsenic, cadmium, and molybdenum, and selenium. MFL-AM03-052424-HM and MFL-AM03-052924-HM were analyzed at a five-fold dilution for arsenic, cadmium, and molybdenum, and selenium. MFL-AM03-052524-HM and MFL-AM03-052824-HM were analyzed at a two-fold dilution for arsenic, cadmium, molybdenum, and selenium. MFL-AM04-052924-HM was analyzed at a five-fold dilution for antimony, arsenic, barium, cadmium, molybdenum, and selenium.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires
Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui

My 30, 2024 through June 5, 2024
[Report Updated: August 12, 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 May 30 through June 5, 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), and private contractors, 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 collected 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} was conducted 24 hours a day, 7 days a week from May 30 through June 5 at each of the locations. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms (µg) per cubic meter (µg/m^3) screening level.

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. 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 May 30, June 4 and 5
- WW Pump Station #4 on May 30, June 3, 4, and 5
- Lahaina Intermediate School on June 5
- Lahaina Boys & Girls Club on June 4 and 5

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.

The heavy metal sample collected on June 4, 2024, from Leialii Hawaiian Homelands showed an exceedance of arsenic with a concentration of 0.537 $\mu g/m^3$ versus the SSAL of 0.05 $\mu g/m^3$. This sample was collected over an approximate 24-hour sampling period between June 3 and June 4, 2024. The average windspeed at this location during the sampling period was 1 mile per hour (mph) and generally originating from a southeast direction. USACE debris crews were observed working on June 3 in the area approximately 30 yards southwest and downwind from the sampling station. Field teams observed the utilization of dust suppression methods and no visible dust in the area during this work. Upwind of the sample location to the northeast, private contractors were conducting work on June 4 in the area approximately 10 feet from the sampling station at the adjacent property to clear metal debris in the yard. Dust was visible from this work location. An excavator was also in use for the construction of a rock wall across the street from the sampling station and tree removal crews were also observed in the general area.

Based on wind direction, use of dust suppression measures by USACE, and field observations of other dust and vapor producing activities, this arsenic exceedance was likely not attributable to USACE debris removal activities. For all other heavy metals, only low levels, below the respective SSALs, were detected in ambient air samples at all community sampling locations (see **Table 2**).

Laboratory data sheets conveying asbestos and metals results are in **Appendix 1.**

After discussion with HDOH, samples with elevated arsenic concentrations were re-analyzed by the laboratory to verify concentrations. This report has been updated to incorporate the re-analyzed lab results. The re-analyzed data are presented and discussed in the attached **Addendum to the Weekly Report**.

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 mph originating from a generally south-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.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires

Addendum to Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui
May 30, 2024 through June 5, 2024

The weekly report presenting community air monitoring and sampling results from May 30 through June 5, 2024, reported an arsenic concentration of 0.537 micrograms per cubic meter (µg/m^3) in the sample collected from the Leialii Hawaiian Homelands on June 4, 2024, which exceeded the Site Screening Action Levels (SSAL) of 0.05 µg/m^3, as presented in the CAMSP. No other samples showed exceedances of the SSAL. However, two other sample results were noted as being higher as compared to the other arsenic sample results and these two samples were conservatively re-analyzed along with the June 4th sample. These samples collected on May 31 and June 5, were reported with concentrations of 0.0120 µg/m^3 and 0.0423 µg/m^3, respectively, which remained below the SSAL. Each sample was collected over an approximate 24-hour sampling period. This Addendum to the weekly report addresses the originally reported exceedance and the re-analyzed concentrations for the three samples noted above.

Reported environmental conditions on May 31 included an average windspeed of 0.9 mile per hour (mph), generally originating from an east-southeast direction. On June 4, an average windspeed of 1 mph, generally originating from a southeast direction was recorded. On June 5, an average windspeed of 1 mph, generally originating from an east-southeast direction was recorded.

USACE debris crews were observed working on June 3 in the area approximately 30 yards southwest and downwind from the sampling station. Field teams observed the utilization of dust suppression methods and no visible dust in the area during this work. Upwind of the sample location to the northeast, private contractors were conducting work on June 4 in the area approximately 10 feet from the monitoring station at the adjacent property to clear metal debris in the yard. Dust was visible from this work location. An excavator was also in use for the construction of a rock wall across the street from the air monitor and tree removal crews were also observed in the general area.

Following the reporting of the exceedance, and approval from HDOH, the three arsenic samples were re-analyzed by the laboratory to verify concentrations. A table showing the original results compared with the re-analyzed results can be found below:

Analyte		Arsenic	Arsenic (re-analysis)
Units		µg/m^3	µg/m^3
Screening Level*		0.05	0.05
5/31/2024	Leialii Hawaiian Homelands (AM-01)	0.0120	0.0124
6/4/2024	Leialii Hawaiian Homelands (AM-01)	**0.537**	**0.499**
6/5/2024	Leialii Hawaiian Homelands (AM-01)	0.0423	0.0475

Notes:
* Laboratory data were provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data were comparable to SSALs.

The re-analysis showed little variance from the originally reported values and was able to verify the exceedance reported for the sample collected on June 4 and that there were no exceedances of the SSAL on May 31 and June 5th. A full table with the results for metals including the re-analyzed samples can be found in the Weekly Report in **Table 2**. The laboratory data sheets for re-analyzed metal samples results are included in the Weekly Report as **Appendix 1.**

Attachments

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
May 30 through June 5, 2024
[Report Updated: August 12, 2024]

Screening Level		**150 µg/m^3**
5/30/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	7.5
5/31/2024	Leialii Hawaiian Homelands (AM-01)	9.4
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	7.9
	Lahaina Boys & Girls Club (AM-04)	5.3
6/1/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	8.9
	Lahaina Boys & Girls Club (AM-04)	5.3
6/2/2024	Leialii Hawaiian Homelands (AM-01)	9.1
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	8.6
	Lahaina Boys & Girls Club (AM-04)	7.2
6/3/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	7.4
6/4/2024	Leialii Hawaiian Homelands (AM-01)	23
	WW Pump Station #4 (AM-02)	18
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	11
6/5/2024	Leialii Hawaiian Homelands (AM-01)	14
	WW Pump Station #4 (AM-02)	16
	Lahaina Intermediate School (AM-03)	14
	Lahaina Boys & Girls Club (AM-04)	9.3

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
May 30 through June 5, 2024
[Report Updated: August 12, 2024]

Analyte		Asbestos	Antimony	Arsenic	Arsenic (July 9 2024)	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	µg/m³
Screening Level*		0.003 [1]	0.7	0.05	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
5/30/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000423	0.00858		0.00996	0.0000232	ND	0.00593	0.000909	0.220	0.00342	0.0302	0.0106	0.00284	0.000292	0.00000320	0.00305	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000922	0.000319		0.00521	0.0000172	ND	0.00296	0.000572	0.0469	0.000701	0.0164	0.00228	0.00228	0.000255	0.00000179	0.00195	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000829	0.000390		0.00594	0.0000714	ND	0.00359	0.000890	0.0368	0.000773	0.0221	0.00198	0.00220	0.000302	0.00000219	0.00223	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000133	0.00184		0.00604	0.0000249	ND	0.00377	0.000705	0.0266	0.00211	0.0236	0.00134	0.00203	0.000276	0.00000216	0.00212	ND
5/31/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000389	0.0120	0.0124	0.0138	0.0000301	ND	0.00871	0.00143	0.239	0.00208	0.0437	0.0103	0.00353	0.000281	0.00000341	0.00476	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000100	0.000389		0.00534	0.0000176	ND	0.00270	0.000570	0.0579	0.000940	0.0168	0.00261	0.00182	0.000193	0.00000146	0.00175	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000696	0.000395		0.00543	0.0000670	ND	0.00408	0.000923	0.0365	0.000753	0.0230	0.00189	0.00226	0.000254	0.00000187	0.00202	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000121	0.00168		0.00531	0.0000198	0.0000789	0.00353	0.000614	0.0291	0.00130	0.0196	0.00147	0.00176	0.000187	0.00000157	0.00165	ND
6/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000121	0.00295		0.00782	0.0000296	ND	0.00616	0.00145	0.213	0.000964	0.0382	0.0107	0.00394	0.000267	0.00000230	0.00385	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000104	0.000507		0.00561	0.0000185	ND	0.00347	0.000732	0.0476	0.00110	0.0190	0.00203	0.00216	0.000191	0.00000147	0.00212	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000562	0.000187		0.00323	0.0000321	ND	0.00250	0.000436	0.0414	0.000402	0.0107	0.00219	0.00131	0.000172	0.00000138	0.00100	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000107	0.000999		0.00422	0.0000124	ND	0.00247	0.000384	0.0241	0.000927	0.0129	0.00140	0.00124	0.000157	0.00000135	0.00103	ND
6/2/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000945	0.00243		0.0149	0.0000626	0.000101	0.0116	0.00299	0.190	0.00111	0.0736	0.00768	0.00929	0.000417	0.00000404	0.00757	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000321	0.00162		0.00966	0.0000240	ND	0.00508	0.000897	0.0593	0.00204	0.0241	0.00238	0.00302	0.000238	0.00000266	0.00264	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000608	0.000229		0.00318	0.0000225	ND	0.00432	0.000420	0.0364	0.000476	0.0104	0.00221	0.00178	0.000182	0.00000193	0.00103	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000122	0.00151		0.00612	0.0000298	ND	0.00431	0.000753	0.0259	0.00150	0.0253	0.00136	0.00236	0.000253	0.00000244	0.00200	ND
6/3/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000731	0.000979		0.00653	0.0000216	ND	0.00552	0.000954	0.260	0.000552	0.0251	0.0156	0.00424	0.000259	0.00000283	0.00263	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000323	0.00122		0.00871	0.0000201	ND	0.00314	0.000681	0.0534	0.00170	0.0190	0.00230	0.00284	0.000249	0.00000281	0.00195	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000720	0.000296		0.00350	0.0000279	ND	0.00249	0.000447	0.0428	0.000549	0.0113	0.00279	0.00148	0.000239	0.00000237	0.00119	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000104	0.000781		0.00495	0.0000175	ND	0.00302	0.000510	0.0295	0.00127	0.0183	0.00154	0.00161	0.000246	0.00000257	0.00153	ND
6/4/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.00937	**0.537**	**0.499**	0.327	0.0000721	0.00124	0.130	0.00469	0.624	0.00598	0.0965	0.0129	0.0115	0.000538	0.00000833	0.00794	0.994
	WW Pump Station #4 (AM-02)	<0.0024	0.000228	0.00230		0.00772	0.0000249	ND	0.00370	0.000710	0.0579	0.00193	0.0222	0.00222	0.00240	0.000346	0.00000354	0.00249	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.000102	0.000586		0.00570	0.0000345	ND	0.00270	0.000495	0.0464	0.00118	0.0137	0.00255	0.00160	0.000301	0.00000338	0.00151	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000125	0.000613		0.00567	0.0000169	ND	0.00293	0.000510	0.0281	0.00120	0.0186	0.00149	0.00164	0.000314	0.00000375	0.00175	ND
6/5/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.00120	0.0423	0.0475	0.0445	0.0000630	0.000208	0.0193	0.00267	0.366	0.00297	0.0851	0.0114	0.00667	0.000528	0.00000795	0.00751	0.106
	WW Pump Station #4 (AM-02)	<0.0024	0.000192	0.000950		0.00754	0.0000255	ND	0.00372	0.000677	0.0522	0.00217	0.0248	0.00211	0.00186	0.000375	0.00000534	0.00247	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000861	0.000323		0.00413	0.0000300	ND	0.00258	0.000465	0.0541	0.00102	0.0128	0.00228	0.00149	0.000311	0.00000477	0.00143	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000133	0.000588		0.00503	0.0000161	ND	0.00260	0.000467	0.0301	0.00135	0.0164	0.00152	0.00144	0.000309	0.00000488	0.00160	ND
95% Upper Confidence Limit[2]		NA	0.000460	0.00173		0.0171	0.0000370	0.170	0.00905	0.00121	0.148	0.00192	0.0336	0.00581	0.00353	0.000310	0.00000370	0.00325	NA

Notes:

[1] Asbestos result determined by transmission electron microscopy (TEM) in accordance with ISO Method 10312. PCMe results are presented here.

[2] 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

s/cc = structures per cubic centimeter

ug/m3 = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

Exceedance from Heavy Metal sample at Leialii Hawaiian Homelands (AM-01) on 6/4

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
May 30 through June 5, 2024
[Report Updated: August 12, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
5/30/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	82	57	762.1
5/30/2024	AM-02	WW Pump Station #4	1.1	SSE	81	62	764.2
5/30/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	60	754.6
5/30/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	63	763.8
5/31/2024	AM-01	Leialii Hawaiian Homelands	0.9	ESE	81	58	761.8
5/31/2024	AM-02	WW Pump Station #4	0.9	SSE	81	63	764.0
5/31/2024	AM-03	Lahaina Intermediate School	1.0	ESE	78	63	754.4
5/31/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	77	64	763.6
6/1/2024	AM-01	Leialii Hawaiian Homelands	1.8	ESE	81	55	761.5
6/1/2024	AM-02	WW Pump Station #4	1.3	SE	82	59	763.6
6/1/2024	AM-03	Lahaina Intermediate School	1.3	ESE	79	58	754.0
6/1/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	61	763.3
6/2/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	82	55	761.8
6/2/2024	AM-02	WW Pump Station #4	1.0	S	82	61	764.0
6/2/2024	AM-03	Lahaina Intermediate School	1.2	SE	79	60	754.3
6/2/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	78	63	763.6
6/3/2024	AM-01	Leialii Hawaiian Homelands	0.8	SE	82	64	761.9
6/3/2024	AM-02	WW Pump Station #4	1.0	SSE	82	69	764.1
6/3/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	67	754.4
6/3/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	69	763.7
6/4/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	82	64	761.9
6/4/2024	AM-02	WW Pump Station #4	1.1	SSE	82	70	764.0
6/4/2024	AM-03	Lahaina Intermediate School	1.4	SSE	81	64	754.5
6/4/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	70	763.6
6/5/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	82	61	761.8
6/5/2024	AM-02	WW Pump Station #4	1.0	SE	82	68	763.9
6/5/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	66	754.3
6/5/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	78	68	763.5

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 ingredient in drywall, plaster and cement so its presence in the sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. A more indepth discussion can be found in the attached weekly report.

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411210
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:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-053024-AB** **Sample Description: DK797410**

EMSL Sample Number:	042411210-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7148.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0001 **Customer Sample:** MFL-AM01-053024-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					
A6	J3	None Detected									
A6	F6	None Detected									
A6	A7	None Detected									
A7	H8	None Detected									
A7	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-053024-AB** **Sample Description: DK797425**

EMSL Sample Number:	042411210-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7054.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	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):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0002 **Customer Sample:** MFL-AM02-053024-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	H6	None Detected									
B5	E3	None Detected									
B5	B5	None Detected									
B6	A4	None Detected									
B6	E5	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:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-053024-AB** **Sample Description: DK797311**

EMSL Sample Number:	042411210-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7189.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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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: 042411210-0003 **Customer Sample:** MFL-AM03-053024-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	B5	None Detected									
C1	F9	None Detected									
C1	I5	None Detected									
C2	C3	None Detected									
C1	H7	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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Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-053024-AB**		**Sample Description:**	**DK797328**
EMSL Sample Number:	042411210-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0004 **Customer Sample:** MFL-AM04-053024-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	F2	None Detected									
C5	B7	None Detected									
C7	H6	None Detected									
C7	D5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411210
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:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-053024-AB**		**Sample Description:**	**DK797337**
EMSL Sample Number:	042411210-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0005 **Customer Sample:** MFL-FB01-053024-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	A3	None Detected									
D1	D8	None Detected									
D1	G5	None Detected									
D1	J4	None Detected									
D1	I8	None Detected									
D2	F6	None Detected									
D2	A5	None Detected									
D3	H7	None Detected									
D3	E3	None Detected									
D3	B6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-053124-AB**		**Sample Description:**	**DK797333**
EMSL Sample Number:	042411210-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7270.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0006 **Customer Sample:** MFL-AM01-053124-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	G4	None Detected									
D5	C6	None Detected									
D6	H8	None Detected									
D6	D4	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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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-053124-AB** **Sample Description: DK797332**

EMSL Sample Number:	042411210-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0007 **Customer Sample:** MFL-AM02-053124-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	J5	None Detected									
E1	E4	None Detected									
E1	B7	None Detected									
E2	G8	None Detected									
E2	D6	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-AM03-053124-AB**		**Sample Description:**	**DK797352**
EMSL Sample Number:	042411210-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7251.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
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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: 042411210-0008 **Customer Sample:** MFL-AM03-053124-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	A7	None Detected									
E5	F4	None Detected									
E5	I5	None Detected									
E6	C3	None Detected									
E6	H4	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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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-053124-AB**		**Sample Description:**	**DK797365**
EMSL Sample Number:	042411210-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0009 **Customer Sample:** MFL-AM04-053124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I3	None Detected									
F1	G7	None Detected									
F1	B4	None Detected									
F2	C8	None Detected									
F2	J4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
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Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-053124-AB** **Sample Description: DK797349**

EMSL Sample Number:	042411210-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
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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: 042411210-0010 **Customer Sample:** MFL-FB01-053124-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	J9	None Detected									
F5	H4	None Detected									
F5	E2	None Detected									
F5	B5	None Detected									
F6	I7	None Detected									
F6	G3	None Detected									
F6	C7	None Detected									
F7	D2	None Detected									
F7	D6	None Detected									
F7	I4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Project: **Maui Fires - Lahaina**

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Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-060124-AB** **Sample Description:** **DK797397**

EMSL Sample Number:	042411210-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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: 042411210-0011 **Customer Sample:** MFL-AM01-060124-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	J9	None Detected									
G1	G5	None Detected									
G1	B7	None Detected									
G2	H4	None Detected									
G2	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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Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060124-AB**	**Sample Description:**	**DK797363**
EMSL Sample Number:	042411210-0012	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	6900.9
Aspect ratio for fiber definition:	3:1	Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5	Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A *(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD	Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX		
Estimated Particulate Loading on Filter %:	8		
Target Analytical Sensitivity (Structures/cc):	0.001		
Analytical Sensitivity (Structures/cc):	**0.0009**	**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0012 **Customer Sample:** MFL-AM02-060124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	B4	None Detected									
G6	E7	None Detected									
G6	I5	None Detected									
G7	A3	None Detected									
G7	G6	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:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060124-AB**		**Sample Description:**	**DK797336**
EMSL Sample Number:	042411210-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7073.9
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):	0.0127
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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
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EMSL Order ID: 042411210
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: 042411210-0013 **Customer Sample:** MFL-AM03-060124-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	J4	None Detected									
H1	E5	None Detected									
H2	H8	None Detected									
H2	F3	None Detected									
H2	C5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Analysis Date:	06/12/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060124-AB**		**Sample Description:**	**DK797334**
EMSL Sample Number:	042411210-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7309.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0014 **Customer Sample:** MFL-AM04-060124-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	B7	None Detected									
H5	F3	None Detected									
H5	J5	None Detected									
H6	H9	None Detected									
H6	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

Attn: **Chelsea Saber**
Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060124-AB** **Sample Description:** **DK797348**

EMSL Sample Number:	042411210-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0015 **Customer Sample:** MFL-FB01-060124-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	J4	None Detected									
I1	H8	None Detected									
I1	E5	None Detected									
I1	B1	None Detected									
I3	I3	None Detected									
I3	G7	None Detected									
I3	C4	None Detected									
I4	J7	None Detected									
I4	G2	None Detected									
I4	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 ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060224-AB**		**Sample Description:**	**DK797361**
EMSL Sample Number:	042411210-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7191.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	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**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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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: 042411210-0016 **Customer Sample:** MFL-AM01-060224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I6	B4	None Detected									
I6	D7	None Detected									
I6	H5	None Detected									
I7	E5	None Detected									
I7	I3	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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Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060224-AB**		**Sample Description:**	**DK797376**
EMSL Sample Number:	042411210-0017		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):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411210
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: 042411210-0017 **Customer Sample:** MFL-AM02-060224-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	A3	None Detected									
J1	F6	None Detected									
J1	J8	None Detected									
J2	G5	None Detected									
J2	C5	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:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060224-AB**		**Sample Description:**	**DK797343**
EMSL Sample Number:	042411210-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7130.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 46.72	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411210
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: 042411210-0018 **Customer Sample:** MFL-AM03-060224-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	I7	None Detected									
J5	F3	None Detected									
J6	C8	None Detected									
J6	C4	None Detected									
J6	G6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411210
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:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-060224-AB** **Sample Description:** **DK797338**

EMSL Sample Number:	042411210-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7012.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 46.72	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 46.72**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411210
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: 042411210-0019 **Customer Sample:** MFL-AM04-060224-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	J6	None Detected									
K1	E3	None Detected									
K1	A4	None Detected									
K2	H7	None Detected									
K2	C9	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:	042411210
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:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060224-AB** **Sample Description: DK797339**

EMSL Sample Number:	042411210-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

Analytical Sensitivity (Structures/cc): **N/A** **Limit of Detection (Structures/cc):** **N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411210
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: 042411210-0020 **Customer Sample:** MFL-FB01-060224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A4	None Detected									
K5	D7	None Detected									
K5	G5	None Detected									
K5	I9	None Detected									
K6	I3	None Detected									
K6	H9	None Detected									
K6	C6	None Detected									
K7	B3	None Detected									
K7	F7	None Detected									
K7	J6	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:	042411210
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:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042411210-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures	**-**	**0**	**0**	**< 23.36**			

PCM EQUIVALENT (PCMe) Fibers
(>5 microns in length with >3:1 Aspect Ratio)

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.36**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.36**			
Actinolite	ADX	0	0	< 23.36			
Amosite	ADX	0	0	< 23.36			
Anthophyllite	ADX	0	0	< 23.36			
Crocidolite	ADX	0	0	< 23.36			
Tremolite	ADX	0	0	< 23.36			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.36**			
Other Minerals	-	0	0	< 23.36			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.36**			

Comment

Robyn Ray
Approved Signatory

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411210
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: 042411210-0021 **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	A4	None Detected									
A1	D7	None Detected									
A1	G4	None Detected									
A1	J2	None Detected									
A2	B3	None Detected									
A3	J7	None Detected									
A3	G4	None Detected									
A3	E8	None Detected									
A3	D3	None Detected									
A3	A5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042411210

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

EMSL Order Number / Lab Use Only

#042411210

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsbLab@EMSL.com

RECEIVED EMSL CINNAMINSON, NJ 2024 JUN -5 A 11:36

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	CHELSEA SABER
Street Address:	1560 BROADWAY STE 1900
City, State, Zip:	DENVER, CO 80202
Country:	USA
Phone:	703-989-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

Billing ID:	
Company Name:	
Billing Contact:	
Street Address:	
City, State, Zip:	
Country:	
Phone:	
Email(s) for Invoice:	

Project Information

Project Name/No:	MAUI FIRES - LAHAINA
Purchase Order:	1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)	
US State where samples collected:	HI
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name:	SHAINA EPSTEIN
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-AM01-053024-AB	DK797410	7,198.854	05/30/24 1054
MFL-AM02-053024-AB	DK797425	7,053.953	05/30/24 1115
MFL-AM03-053024-AB	DK797311	7,189.478	05/30/24 1304
MFL-AM09-053024-AB	DK797328	7,161.552	05/30/24 1327
MFL-FB01-053024-AB	DK797337	0	05/30/24 1200
MFL-AM01-053124-AB	DK797333	7,270.056	05/31/24 1057
MFL-AM02-053124-AB	DK797332	7,129.872	05/31/24 1119
MFL-AM03-053124-AB	DK797352	7,251.816	05/31/24 1259

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: SHAINA EPSTEIN	Date/Time: 06/03/24 1100	Received by: FedEx	Date/Time 6/5/24 9:45A
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.

Page 1 of 20

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411210

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-AM09-053124-AB	DK797365	7,176.414	05/31/24 1323
MFL-FB01-053124-AB	DK797349	0	05/31/24 1200
MFL-AM01-060124-AB	DK797397	7,162.614	06/1/24 1041
MFL-AM02-060124-AB	DK797363	6,900.912	06/1/24 1126
MFL-AM03-060124-AB	DK797336	7,073.856	06/1/24 1305
MFL-AM04-060124-AB	DK797334	7,309.368	06/1/24 1326
MFL-FB01-060124-AB	DK797348	0	06/1/24 1200
MFL-AM01-060224-AB	DK797361	7,191.936	06/2/24 1050
MFL-AM02-060224-AB	DK797376	7,195.627	06/2/24 1130
MFL-AM03-060224-AB	DK797343	7,129.954	06/2/24 1309
MFL-AM04-060224-AB	DK797338	7,012.699	06/2/24 1334
MFL-FB01-060224-AB	DK797339	0	06/2/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUN -5 A 11:36

Method of Shipment: FEDEX

Sample Condition Upon Receipt:

Relinquished by: SHAINA EPSTEIN — Date/Time: 06/03/24 1100 — Received by: FedEx — Date/Time 6/5/24 9:45A

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.

Page of

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 06/14/2024 and Shanna Vasser 06/17/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/30/2024 – 06/02/224
Report No: 42411210

√	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:	042411596
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:	06/10/2024 09:00 AM
Analysis Date:	06/12/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060324-AB**		**Sample Description:**	**DK797373**
EMSL Sample Number:	042411596-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0001 **Customer Sample:** MFL-AM01-060324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	E5	None Detected									
D5	I4	None Detected									
D6	G8	None Detected									
D6	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:	042411596
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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Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060324-AB**		**Sample Description:**	**DK797353**
EMSL Sample Number:	042411596-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7139.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi² 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0002 **Customer Sample:** MFL-AM02-060324-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	B4	None Detected									
E1	E7	None Detected									
E1	J4	None Detected									
E2	C3	None Detected									
E2	G6	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:	06/10/2024 09:00 AM
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Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060324-AB**		**Sample Description:**	**DK797360**
EMSL Sample Number:	042411596-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7486.7
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):	0.0127
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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0003 **Customer Sample:** MFL-AM03-060324-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	A5	None Detected									
E5	D8	None Detected									
E5	J7	None Detected									
E6	B6	None Detected									
E6	H5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project ID:	N/A

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Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060324-AB**		**Sample Description:**	**DK797340**
EMSL Sample Number:	042411596-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7145.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi² 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

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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: 042411596-0004 **Customer Sample:** MFL-AM04-060324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	H4	None Detected									
F1	F7	None Detected									
F1	B5	None Detected									
F2	C6	None Detected									
F2	G9	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Analysis Date:	06/13/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-060324-AB**		**Sample Description:**	**DK797341**
EMSL Sample Number:	042411596-0005		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):	0.0127
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**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0005 **Customer Sample:** MFL-FB01-060324-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	A8	None Detected									
F5	D5	None Detected									
F5	H3	None Detected									
F5	J6	None Detected									
F6	I8	None Detected									
F6	F3	None Detected									
F6	C6	None Detected									
F7	B4	None Detected									
F7	E7	None Detected									
F7	J7	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:	042411596
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:	06/10/2024 09:00 AM
Analysis Date:	06/13/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060424-AB**		**Sample Description:**	**DK797375**
EMSL Sample Number:	042411596-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.8
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):	0.0127
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 %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0006 **Customer Sample:** MFL-AM01-060424-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	F7	None Detected									
G1	I7	None Detected									
G2	H6	None Detected									
G2	D4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
Project ID:	N/A

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Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060424-AB**		**Sample Description:**	**DK797355**
EMSL Sample Number:	042411596-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7142.6
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):	0.0127
Chi² 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

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: 042411596-0007 **Customer Sample:** MFL-AM02-060424-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	A7	None Detected									
G5	E4	None Detected									
G5	J6	None Detected									
G6	H2	None Detected									
G6	C8	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:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060424-AB**		**Sample Description:**	**DK797369**
EMSL Sample Number:	042411596-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6882.4
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):	0.0127
Chi² 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):	**0.0009**		**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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0008 **Customer Sample:** MFL-AM03-060424-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	I8	None Detected									
H1	G3	None Detected									
H1	B5	None Detected									
H2	H7	None Detected									
H2	D3	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:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060424-AB**		**Sample Description:**	**DK797327**
EMSL Sample Number:	042411596-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.4
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):	0.0127
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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

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: 042411596-0009 **Customer Sample:** MFL-AM04-060424-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	A7	None Detected									
H5	E4	None Detected									
H6	B4	None Detected									
H6	E9	None Detected									
H6	I7	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-060424-AB**		**Sample Description:**	**DK797364**
EMSL Sample Number:	042411596-0010		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):	0.0127
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**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

Concentrations and 95% Confidence Intervals are based on a Poissonian distribution. Structure counts above 31 may be better expressed with a Gaussian distribution. EMSL maintains liability limited to the cost of analysis. This report relates only to the samples reported above and may not be reproduced except in full without the written approval of EMSL. EMSL is not responsible for sample collection activities or analytical limitations. Interpretation and use of results are the responsibility of the client.

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EMSL Order ID:	**042411596**
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: 042411596-0010 **Customer Sample:** MFL-FB01-060424-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	J6	None Detected									
I1	G3	None Detected									
I1	D6	None Detected									
I1	A5	None Detected									
I2	B3	None Detected									
I2	F8	None Detected									
I2	J9	None Detected									
I3	C5	None Detected									
I3	G2	None Detected									
I3	I6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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EMSL Order:	042411596
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:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060524-AB**		**Sample Description:**	**DK797357**
EMSL Sample Number:	042411596-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.9
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):	0.0127
Chi² 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0011 **Customer Sample:** MFL-AM01-060524-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	A6	None Detected									
I5	F4	None Detected									
I6	C4	None Detected									
I6	D8	None Detected									
I6	J2	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Customer PO:	1207085
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Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060524-AB**		**Sample Description:**	**DK797350**
EMSL Sample Number:	042411596-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7211.3
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):	0.0127
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 %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0012 **Customer Sample:** MFL-AM02-060524-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	J5	None Detected									
J1	E4	None Detected									
J1	A8	None Detected									
J2	D6	None Detected									
J2	G8	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:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060524-AB**		**Sample Description:**	**DK797344**
EMSL Sample Number:	042411596-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7062.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
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):	**0.0009**		**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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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EMSL Order ID: 042411596
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: 042411596-0013 **Customer Sample:** MFL-AM03-060524-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	I7	None Detected									
J5	G4	None Detected									
J5	C6	None Detected									
J6	G8	None Detected									
J6	D4	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
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Project ID:	N/A

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Analysis Date:	06/15/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060524-AB**	**Sample Description:**	**DK797342**
EMSL Sample Number:	042411596-0014	Sample Matrix:	Air
Magnification used for fiber counting:	20,000	Volume (L) :	7129.7
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):	0.0127
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):	**0.0009**	**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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 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**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

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: 042411596
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: 042411596-0014 **Customer Sample:** MFL-AM04-060524-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	I5	None Detected									
K1	E7	None Detected									
K1	B4	None Detected									
K2	D8	None Detected									
K2	G4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411596
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:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060524-AB** **Sample Description: DK797346**

EMSL Sample Number:	042411596-0015		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):	0.0127
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**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411596
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: 042411596-0015 **Customer Sample:** MFL-FB01-060524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A3	None Detected									
K5	C7	None Detected									
K5	F3	None Detected									
K5	I6	None Detected									
K6	J4	None Detected									
K6	E2	None Detected									
K6	A6	None Detected									
K8	C3	None Detected									
K8	D8	None Detected									
K8	G5	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

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Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411596
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:	06/10/2024 09:00 AM
Analysis Date:	06/12/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042411596-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
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**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Approved Signatory

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID: 042411596
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: 042411596-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J10	None Detected									
D1	I5	None Detected									
D1	E3	None Detected									
D1	B6	None Detected									
D2	H8	None Detected									
D2	E3	None Detected									
D2	A8	None Detected									
D3	I6	None Detected									
D3	F4	None Detected									
D3	C6	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
XCGBLD - Crosses Countable Grid Bar Length Doubled

OrderID: 042411596

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411596

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information

Customer ID:
Company Name: Tetra Tech
Contact Name: Chelsea Saber
Street Address: 1560 Broadway STE 1400
City, State, Zip: Denver, CO 80202 Country: USA
Phone: 703-489-2674
Email(s) for Report: chelsea.saber@tetratech.com

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

RECEIVED EMSL CINNAMINSON, NJ 2024 JUN 10 A 9:20

Project Information

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment

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-AM01-060324-AB	DK797373	7,195.800	06/03/24 1105
MFL-AM02-060324-AB	DK797353	7,139.063	06/03/24 1128
MFL-AM03-060324-AB	DK797360	7,486.660	06/03/24 1310
MFL-AM04-060324-AB	DK797340	7,145.270	06/03/24 1330
MFL-FB01-060324-AB	DK797341	0	06/03/24 1200
MFL-AM01-060424-AB	DK797375	7,160.810	06/04/24 1050
MFL-AM02-060424-AB	DK797355	7,142.570	06/04/24 1120
MFL-AM03-060424-AB	DK797369	6,882.395	06/04/24 1306

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

All samples received acceptable for analysis.

15

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by: TED BROWN	Date/Time: 06/06/24 1100	Received by: FedEx	Date/Time 6/10/24 9AM
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-05 Asbestos R16 10/26/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 042411596

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411596

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-AM09-060924-AB	DK797327	7,175.376	06/09/24 1333
MFL-FB01-060924-AB	DK797364	0	06/09/24 1200
MFL-AM01-060524-AB	DK797357	7,173.904	06/05/24 1054
MFL-AM02-060524-AB	DK797350	7,211.261	06/05/24 1123
MFL-AM03-060524-AB	DK797344	7,062.118	06/05/24 1302
MFL-AM04-060524-AB	DK797342	7,129.710	06/05/24 1326
MFL-FB01-060524-AB	DK797346	0	06/05/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUN 10 A 9:00

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by: TED BROWN	Date/Time: 06/06/24 1100	Received by: FedEx	Date/Time 6/10/24 9AM
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 06/17/2024 and Shanna Vasser 06/18/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 06/03/2024 – 06/05/2024
Report No: 42411596

√	1.	Chain of custody (CoC) documentation is present.
√	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
NA	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
√	10.	Requested reporting limits are present.
NA	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.
√	13.	No detections in field QC blanks (lot/media blanks, field blanks, etc).

Discrepancies: None

Notes: None

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

June 19, 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 06/10/24 15:50.

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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-053024-HM	4061041-01	Air	05/30/24 23:59	06/10/24 15:50
MFL-AM02-053024-HM	4061041-02	Air	05/30/24 23:59	06/10/24 15:50
MFL-AM03-053024-HM	4061041-03	Air	05/30/24 23:59	06/10/24 15:50
MFL-AM04-053024-HM	4061041-04	Air	05/30/24 23:59	06/10/24 15:50
MFL-AM01-053124-HM	4061041-05	Air	05/31/24 23:59	06/10/24 15:50
MFL-AM02-053124-HM	4061041-06	Air	05/31/24 23:59	06/10/24 15:50
MFL-AM03-053124-HM	4061041-07	Air	05/31/24 23:59	06/10/24 15:50
MFL-AM04-053124-HM	4061041-08	Air	05/31/24 23:59	06/10/24 15:50
MFL-FB01-053124-HM	4061041-09	Air	05/31/24 00:00	06/10/24 15:50
MFL-AM01-060124-HM	4061041-10	Air	06/01/24 23:59	06/10/24 15:50
MFL-AM02-060124-HM	4061041-11	Air	06/01/24 23:59	06/10/24 15:50
MFL-AM03-060124-HM	4061041-12	Air	06/01/24 23:59	06/10/24 15:50
MFL-AM04-060124-HM	4061041-13	Air	06/01/24 23:59	06/10/24 15:50
MFL-AM01-060224-HM	4061041-14	Air	06/02/24 23:59	06/10/24 15:50
MFL-AM02-060224-HM	4061041-15	Air	06/02/24 23:59	06/10/24 15:50
MFL-AM03-060224-HM	4061041-16	Air	06/02/24 23:59	06/10/24 15:50
MFL-AM04-060224-HM	4061041-17	Air	06/02/24 23:59	06/10/24 15:50
MFL-FB01-060224-HM	4061041-18	Air	06/02/24 00:00	06/10/24 15:50
MFL-AM01-060324-HM	4061041-19	Air	06/03/24 23:59	06/10/24 15:50
MFL-AM02-060324-HM	4061041-20	Air	06/03/24 23:59	06/10/24 15:50
MFL-AM03-060324-HM	4061041-21	Air	06/03/24 23:59	06/10/24 15:50

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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-060324-HM	4061041-22	Air	06/03/24 23:59	06/10/24 15:50
MFL-AM01-060424-HM	4061041-23	Air	06/04/24 23:59	06/10/24 15:50
MFL-AM02-060424-HM	4061041-24	Air	06/04/24 23:59	06/10/24 15:50
MFL-AM03-060424-HM	4061041-25	Air	06/04/24 23:59	06/10/24 15:50
MFL-AM04-060424-HM	4061041-26	Air	06/04/24 23:59	06/10/24 15:50
MFL-FB01-060424-HM	4061041-27	Air	06/04/24 00:00	06/10/24 15:50
MFL-AM01-060524-HM	4061041-28	Air	06/05/24 23:59	06/10/24 15:50
MFL-AM02-060524-HM	4061041-29	Air	06/05/24 23:59	06/10/24 15:50
MFL-AM03-060524-HM	4061041-30	Air	06/05/24 23:59	06/10/24 15:50
MFL-AM04-060524-HM	4061041-31	Air	06/05/24 23:59	06/10/24 15:50

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053024-HM
Matrix: Air
Lab ID: 4061041-01
Sample Volume: 1848.352 m³
Filter ID:
Sampled: 05/30/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 00:41

Comments: Q8505811 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.423**	SL	**0.0340**
Arsenic	**7440-38-2**	**8.58**		**0.00825**
Barium	**7440-39-3**	**9.96**	QB-01	**0.942**
Beryllium	**7440-41-7**	**0.0232**		**0.00282**
Cadmium	7440-43-9	0.0351	U	0.0652
Chromium	**7440-47-3**	**5.93**		**1.95**
Cobalt	**7440-48-4**	**0.909**		**0.0384**
Copper	**7440-50-8**	**220**		**2.32**
Lead	**7439-92-1**	**3.42**		**0.188**
Manganese	**7439-96-5**	**30.2**		**1.66**
Molybdenum	**7439-98-7**	**10.6**		**0.316**
Nickel	**7440-02-0**	**2.84**		**0.574**
Selenium	**7782-49-2**	**0.292**		**0.00789**
Thallium	**7440-28-0**	**0.00320**		**5.18E-4**
Vanadium	**7440-62-2**	**3.05**		**0.0466**
Zinc	7440-66-6	67.2	U	67.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-053024-HM
Matrix: Air
Lab ID: 4061041-02
Sample Volume: 1976.138 m³
Filter ID:
Sampled: 05/30/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 00:57

Comments: Q8505813 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0922**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.319**		**0.00771**
Barium	**7440-39-3**	**5.21**	QB-01	**0.881**
Beryllium	**7440-41-7**	**0.0172**		**0.00263**
Cadmium	7440-43-9	0.0107	U	0.0610
Chromium	**7440-47-3**	**2.96**		**1.82**
Cobalt	**7440-48-4**	**0.572**		**0.0359**
Copper	**7440-50-8**	**46.9**		**2.17**
Lead	**7439-92-1**	**0.701**		**0.176**
Manganese	**7439-96-5**	**16.4**		**1.56**
Molybdenum	**7439-98-7**	**2.28**		**0.296**
Nickel	**7440-02-0**	**2.28**		**0.537**
Selenium	**7782-49-2**	**0.255**		**0.00738**
Thallium	**7440-28-0**	**0.00179**		**4.85E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0436**
Zinc	7440-66-6	38.3	U	63.2

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-053024-HM
Matrix: Air
Lab ID: 4061041-03
Sample Volume: 2024.081 m³
Filter ID:
Sampled: 05/30/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 01:13

Comments: Q8505814 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0829**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.390**		**0.00753**
Barium	**7440-39-3**	**5.94**	QB-01	**0.860**
Beryllium	**7440-41-7**	**0.0714**		**0.00257**
Cadmium	7440-43-9	0.0119	U	0.0596
Chromium	**7440-47-3**	**3.59**		**1.78**
Cobalt	**7440-48-4**	**0.890**		**0.0350**
Copper	**7440-50-8**	**36.8**		**2.11**
Lead	**7439-92-1**	**0.773**		**0.172**
Manganese	**7439-96-5**	**22.1**		**1.52**
Molybdenum	**7439-98-7**	**1.98**		**0.289**
Nickel	**7440-02-0**	**2.20**		**0.524**
Selenium	**7782-49-2**	**0.302**		**0.00720**
Thallium	**7440-28-0**	**0.00219**		**4.73E-4**
Vanadium	**7440-62-2**	**2.23**		**0.0425**
Zinc	7440-66-6	35.0	U	61.7

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-053024-HM
Matrix: Air
Lab ID: 4061041-04
Sample Volume: 1867.532 m³
Filter ID:
Sampled: 05/30/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 01:29

Comments: Q8505815 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0336**
Arsenic	**7440-38-2**	**1.84**		**0.00816**
Barium	**7440-39-3**	**6.04**	QB-01	**0.932**
Beryllium	**7440-41-7**	**0.0249**		**0.00279**
Cadmium	7440-43-9	0.0541	U	0.0646
Chromium	**7440-47-3**	**3.77**		**1.93**
Cobalt	**7440-48-4**	**0.705**		**0.0380**
Copper	**7440-50-8**	**26.6**		**2.29**
Lead	**7439-92-1**	**2.11**		**0.186**
Manganese	**7439-96-5**	**23.6**		**1.65**
Molybdenum	**7439-98-7**	**1.34**		**0.313**
Nickel	**7440-02-0**	**2.03**		**0.568**
Selenium	**7782-49-2**	**0.276**		**0.00781**
Thallium	**7440-28-0**	**0.00216**		**5.13E-4**
Vanadium	**7440-62-2**	**2.12**		**0.0461**
Zinc	7440-66-6	42.7	U	66.9

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/12/24 21:53

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.389**	SL	**0.0330**
Barium	**7440-39-3**	**13.8**	QB-01	**0.915**
Beryllium	**7440-41-7**	**0.0301**		**0.00274**
Cadmium	7440-43-9	0.0481	U	0.0634
Chromium	**7440-47-3**	**8.71**		**1.89**
Cobalt	**7440-48-4**	**1.43**		**0.0373**
Copper	**7440-50-8**	**239**	A-01, PS-01, QM-4X	**2.25**
Lead	**7439-92-1**	**2.08**		**0.183**
Manganese	**7439-96-5**	**43.7**	A-01, PS-01	**1.62**
Molybdenum	**7439-98-7**	**10.3**		**0.307**
Nickel	**7440-02-0**	**3.53**		**0.558**
Selenium	**7782-49-2**	**0.281**	SRD-01	**0.00766**
Thallium	**7440-28-0**	**0.00341**		**5.04E-4**
Vanadium	**7440-62-2**	**4.76**		**0.0452**
Zinc	7440-66-6	57.9	U	65.7

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05RE1
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 18:41

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**12.0**	D	**0.0160**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-053124-HM
Matrix: Air
Lab ID: 4061041-06
Sample Volume: 2047.518 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 01:44

Comments: Q8505817 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.389**		**0.00745**
Barium	**7440-39-3**	**5.34**	QB-01	**0.850**
Beryllium	**7440-41-7**	**0.0176**		**0.00254**
Cadmium	7440-43-9	0.0123	U	0.0589
Chromium	**7440-47-3**	**2.70**		**1.76**
Cobalt	**7440-48-4**	**0.570**		**0.0346**
Copper	**7440-50-8**	**57.9**		**2.09**
Lead	**7439-92-1**	**0.940**		**0.170**
Manganese	**7439-96-5**	**16.8**		**1.50**
Molybdenum	**7439-98-7**	**2.61**		**0.285**
Nickel	**7440-02-0**	**1.82**		**0.518**
Selenium	**7782-49-2**	**0.193**		**0.00712**
Thallium	**7440-28-0**	**0.00146**		**4.68E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0420**
Zinc	7440-66-6	37.8	U	61.0

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-053124-HM
Matrix: Air
Lab ID: 4061041-07
Sample Volume: 2058.145 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 01:59

Comments: Q8505818 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0696**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.395**		**0.00741**
Barium	**7440-39-3**	**5.43**	QB-01	**0.846**
Beryllium	**7440-41-7**	**0.0670**		**0.00253**
Cadmium	7440-43-9	0.0130	U	0.0586
Chromium	**7440-47-3**	**4.08**		**1.75**
Cobalt	**7440-48-4**	**0.923**		**0.0345**
Copper	**7440-50-8**	**36.5**		**2.08**
Lead	**7439-92-1**	**0.753**		**0.169**
Manganese	**7439-96-5**	**23.0**		**1.49**
Molybdenum	**7439-98-7**	**1.89**		**0.284**
Nickel	**7440-02-0**	**2.26**		**0.515**
Selenium	**7782-49-2**	**0.254**		**0.00708**
Thallium	**7440-28-0**	**0.00187**		**4.66E-4**
Vanadium	**7440-62-2**	**2.02**		**0.0418**
Zinc	7440-66-6	34.7	U	60.7

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-053124-HM
Matrix: Air
Lab ID: 4061041-08
Sample Volume: 1870.806 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 02:16

Comments: Q8505821 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.121**	SL	**0.0336**
Arsenic	**7440-38-2**	**1.68**		**0.00815**
Barium	**7440-39-3**	**5.31**	QB-01	**0.931**
Beryllium	**7440-41-7**	**0.0198**		**0.00278**
Cadmium	**7440-43-9**	**0.0789**		**0.0644**
Chromium	**7440-47-3**	**3.53**		**1.92**
Cobalt	**7440-48-4**	**0.614**		**0.0379**
Copper	**7440-50-8**	**29.1**		**2.29**
Lead	**7439-92-1**	**1.30**		**0.186**
Manganese	**7439-96-5**	**19.6**		**1.64**
Molybdenum	**7439-98-7**	**1.47**		**0.312**
Nickel	**7440-02-0**	**1.76**		**0.567**
Selenium	**7782-49-2**	**0.187**		**0.00779**
Thallium	**7440-28-0**	**0.00157**		**5.12E-4**
Vanadium	**7440-62-2**	**1.65**		**0.0460**
Zinc	7440-66-6	39.6	U	66.8

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-053124-HM
Matrix: Air
Lab ID: 4061041-09
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 00:00
Received: 06/10/24 15:50
Analysis Date: 06/13/24 02:32

Comments: Q8505829 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0172	SL, U	0.0330
Arsenic	7440-38-2	0.00694	U	0.00801
Barium	7440-39-3	0.861	QB-01, U	0.915
Beryllium	7440-41-7	7.53E-4	U	0.00274
Cadmium	7440-43-9	4.95E-4	U	0.0634
Chromium	7440-47-3	0.824	U	1.89
Cobalt	7440-48-4	0.00918	U	0.0373
Copper	7440-50-8	0.401	U	2.25
Lead	7439-92-1	0.0242	U	0.183
Manganese	7439-96-5	0.145	U	1.62
Molybdenum	7439-98-7	0.137	U	0.307
Nickel	7440-02-0	0.414	U	0.558
Selenium	7782-49-2	0.00509	U	0.00766
Thallium	7440-28-0	1.53E-4	U	5.04E-4
Vanadium	7440-62-2	0.0157	U	0.0452
Zinc	7440-66-6	19.2	U	65.7

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060124-HM
Matrix: Air
Lab ID: 4061041-10
Sample Volume: 1875.325 m³
Filter ID:
Sampled: 06/01/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 02:46

Comments: Q8505824 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.121**	SL	**0.0335**
Arsenic	**7440-38-2**	**2.95**		**0.00813**
Barium	**7440-39-3**	**7.82**	QB-01	**0.928**
Beryllium	**7440-41-7**	**0.0296**		**0.00278**
Cadmium	7440-43-9	0.0236	U	0.0643
Chromium	**7440-47-3**	**6.16**		**1.92**
Cobalt	**7440-48-4**	**1.45**		**0.0378**
Copper	**7440-50-8**	**213**		**2.28**
Lead	**7439-92-1**	**0.964**		**0.186**
Manganese	**7439-96-5**	**38.2**		**1.64**
Molybdenum	**7439-98-7**	**10.7**		**0.311**
Nickel	**7440-02-0**	**3.94**		**0.566**
Selenium	**7782-49-2**	**0.267**		**0.00777**
Thallium	**7440-28-0**	**0.00230**		**5.11E-4**
Vanadium	**7440-62-2**	**3.85**		**0.0459**
Zinc	7440-66-6	30.1	U	66.6

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060124-HM
Matrix: Air
Lab ID: 4061041-11
Sample Volume: 2119.25 m³
Filter ID:
Sampled: 06/01/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 03:03

Comments: Q8505825 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.507**		**0.00719**
Barium	**7440-39-3**	**5.61**	QB-01	**0.821**
Beryllium	**7440-41-7**	**0.0185**		**0.00246**
Cadmium	7440-43-9	0.0198	U	0.0569
Chromium	**7440-47-3**	**3.47**		**1.70**
Cobalt	**7440-48-4**	**0.732**		**0.0335**
Copper	**7440-50-8**	**47.6**		**2.02**
Lead	**7439-92-1**	**1.10**		**0.164**
Manganese	**7439-96-5**	**19.0**		**1.45**
Molybdenum	**7439-98-7**	**2.03**		**0.276**
Nickel	**7440-02-0**	**2.16**		**0.501**
Selenium	**7782-49-2**	**0.191**		**0.00688**
Thallium	**7440-28-0**	**0.00147**		**4.52E-4**
Vanadium	**7440-62-2**	**2.12**		**0.0406**
Zinc	7440-66-6	24.2	U	59.0

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060124-HM
Matrix: Air
Lab ID: 4061041-12
Sample Volume: 1861.956 m³
Filter ID:
Sampled: 06/01/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/12/24 18:06

Comments: Q8505831 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0562**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.187**		**0.00819**
Barium	**7440-39-3**	**3.23**	QB-01	**0.935**
Beryllium	**7440-41-7**	**0.0321**		**0.00280**
Cadmium	7440-43-9	0.00851	U	0.0647
Chromium	**7440-47-3**	**2.50**		**1.93**
Cobalt	**7440-48-4**	**0.436**		**0.0381**
Copper	**7440-50-8**	**41.4**		**2.30**
Lead	**7439-92-1**	**0.402**		**0.187**
Manganese	**7439-96-5**	**10.7**		**1.65**
Molybdenum	**7439-98-7**	**2.19**		**0.314**
Nickel	**7440-02-0**	**1.31**		**0.570**
Selenium	**7782-49-2**	**0.172**		**0.00783**
Thallium	**7440-28-0**	**0.00138**		**5.15E-4**
Vanadium	**7440-62-2**	**1.00**		**0.0462**
Zinc	7440-66-6	27.4	U	67.1

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060124-HM
Matrix: Air
Lab ID: 4061041-13
Sample Volume: 1942.608 m³
Filter ID:
Sampled: 06/01/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 04:15

Comments: Q8505832 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.999**		**0.00785**
Barium	**7440-39-3**	**4.22**	QB-01	**0.896**
Beryllium	**7440-41-7**	**0.0124**		**0.00268**
Cadmium	7440-43-9	0.0144	U	0.0621
Chromium	**7440-47-3**	**2.47**		**1.85**
Cobalt	**7440-48-4**	**0.384**		**0.0365**
Copper	**7440-50-8**	**24.1**		**2.20**
Lead	**7439-92-1**	**0.927**		**0.179**
Manganese	**7439-96-5**	**12.9**		**1.58**
Molybdenum	**7439-98-7**	**1.40**		**0.301**
Nickel	**7440-02-0**	**1.24**		**0.546**
Selenium	**7782-49-2**	**0.157**		**0.00750**
Thallium	**7440-28-0**	**0.00135**		**4.93E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0443**
Zinc	7440-66-6	31.0	U	64.3

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060224-HM
Matrix: Air
Lab ID: 4061041-14
Sample Volume: 1976.398 m³
Filter ID:
Sampled: 06/02/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 04:30

Comments: Q8505834 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0945**	SL	**0.0318**
Arsenic	**7440-38-2**	**2.43**		**0.00771**
Barium	**7440-39-3**	**14.9**	QB-01	**0.881**
Beryllium	**7440-41-7**	**0.0626**		**0.00263**
Cadmium	**7440-43-9**	**0.101**		**0.0610**
Chromium	**7440-47-3**	**11.6**		**1.82**
Cobalt	**7440-48-4**	**2.99**		**0.0359**
Copper	**7440-50-8**	**190**		**2.17**
Lead	**7439-92-1**	**1.11**		**0.176**
Manganese	**7439-96-5**	**73.6**		**1.56**
Molybdenum	**7439-98-7**	**7.68**		**0.296**
Nickel	**7440-02-0**	**9.29**		**0.537**
Selenium	**7782-49-2**	**0.417**		**0.00738**
Thallium	**7440-28-0**	**0.00404**		**4.85E-4**
Vanadium	**7440-62-2**	**7.57**		**0.0435**
Zinc	7440-66-6	35.0	U	63.2

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060224-HM
Matrix: Air
Lab ID: 4061041-15
Sample Volume: 1951.511 m³
Filter ID:
Sampled: 06/02/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 04:50

Comments: Q8505835 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.321**	SL	**0.0322**
Arsenic	**7440-38-2**	**1.62**		**0.00781**
Barium	**7440-39-3**	**9.66**	QB-01	**0.892**
Beryllium	**7440-41-7**	**0.0240**		**0.00267**
Cadmium	7440-43-9	0.0243	U	0.0618
Chromium	**7440-47-3**	**5.08**		**1.84**
Cobalt	**7440-48-4**	**0.897**		**0.0363**
Copper	**7440-50-8**	**59.3**		**2.19**
Lead	**7439-92-1**	**2.04**		**0.178**
Manganese	**7439-96-5**	**24.1**		**1.58**
Molybdenum	**7439-98-7**	**2.38**		**0.299**
Nickel	**7440-02-0**	**3.02**		**0.544**
Selenium	**7782-49-2**	**0.238**		**0.00747**
Thallium	**7440-28-0**	**0.00266**		**4.91E-4**
Vanadium	**7440-62-2**	**2.64**		**0.0441**
Zinc	7440-66-6	38.0	U	64.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060224-HM
Matrix: Air
Lab ID: 4061041-16
Sample Volume: 2036.79 m³
Filter ID:
Sampled: 06/02/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 05:06

Comments: Q8505836 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0608**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.229**		**0.00748**
Barium	**7440-39-3**	**3.18**	QB-01	**0.855**
Beryllium	**7440-41-7**	**0.0225**		**0.00256**
Cadmium	7440-43-9	0.0107	U	0.0592
Chromium	**7440-47-3**	**4.32**		**1.77**
Cobalt	**7440-48-4**	**0.420**		**0.0348**
Copper	**7440-50-8**	**36.4**		**2.10**
Lead	**7439-92-1**	**0.476**		**0.171**
Manganese	**7439-96-5**	**10.4**		**1.51**
Molybdenum	**7439-98-7**	**2.21**		**0.287**
Nickel	**7440-02-0**	**1.78**		**0.521**
Selenium	**7782-49-2**	**0.182**		**0.00716**
Thallium	**7440-28-0**	**0.00193**		**4.70E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0423**
Zinc	7440-66-6	19.3	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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060224-HM
Matrix: Air
Lab ID: 4061041-17
Sample Volume: 1729.297 m³
Filter ID:
Sampled: 06/02/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 05:20

Comments: Q8505837 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0363**
Arsenic	**7440-38-2**	**1.51**		**0.00882**
Barium	**7440-39-3**	**6.12**	QB-01	**1.01**
Beryllium	**7440-41-7**	**0.0298**		**0.00301**
Cadmium	7440-43-9	0.0337	U	0.0697
Chromium	**7440-47-3**	**4.31**		**2.08**
Cobalt	**7440-48-4**	**0.753**		**0.0410**
Copper	**7440-50-8**	**25.9**		**2.47**
Lead	**7439-92-1**	**1.50**		**0.201**
Manganese	**7439-96-5**	**25.3**		**1.78**
Molybdenum	**7439-98-7**	**1.36**		**0.338**
Nickel	**7440-02-0**	**2.36**		**0.613**
Selenium	**7782-49-2**	**0.253**		**0.00843**
Thallium	**7440-28-0**	**0.00244**		**5.54E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0498**
Zinc	7440-66-6	28.0	U	72.3

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-060224-HM
Matrix: Air
Lab ID: 4061041-18
Sample Volume: 1976.398 m³
Filter ID:
Sampled: 06/02/24 00:00
Received: 06/10/24 15:50
Analysis Date: 06/13/24 05:36

Comments: Q8505842 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0176	SL, U	0.0318
Arsenic	**7440-38-2**	**0.00828**	FB-01	**0.00771**
Barium	**7440-39-3**	**0.942**	FB-01, QB-01	**0.881**
Beryllium	7440-41-7	9.25E-4	U	0.00263
Cadmium	7440-43-9	0.00125	U	0.0610
Chromium	7440-47-3	0.925	U	1.82
Cobalt	7440-48-4	0.0135	U	0.0359
Copper	7440-50-8	1.19	U	2.17
Lead	7439-92-1	0.0672	U	0.176
Manganese	7439-96-5	0.235	U	1.56
Molybdenum	7439-98-7	0.157	U	0.296
Nickel	7440-02-0	0.406	U	0.537
Selenium	7782-49-2	0.00514	U	0.00738
Thallium	7440-28-0	1.28E-4	U	4.85E-4
Vanadium	7440-62-2	0.0271	U	0.0435
Zinc	7440-66-6	12.8	U	63.2

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060324-HM
Matrix: Air
Lab ID: 4061041-19
Sample Volume: 1893.377 m³
Filter ID:
Sampled: 06/03/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 05:49

Comments: Q8505838 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0731**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.979**		**0.00805**
Barium	**7440-39-3**	**6.53**	QB-01	**0.919**
Beryllium	**7440-41-7**	**0.0216**		**0.00275**
Cadmium	7440-43-9	0.0244	U	0.0637
Chromium	**7440-47-3**	**5.52**		**1.90**
Cobalt	**7440-48-4**	**0.954**		**0.0375**
Copper	**7440-50-8**	**260**		**2.26**
Lead	**7439-92-1**	**0.552**		**0.184**
Manganese	**7439-96-5**	**25.1**		**1.62**
Molybdenum	**7439-98-7**	**15.6**		**0.308**
Nickel	**7440-02-0**	**4.24**		**0.560**
Selenium	**7782-49-2**	**0.259**		**0.00770**
Thallium	**7440-28-0**	**0.00283**		**5.06E-4**
Vanadium	**7440-62-2**	**2.63**		**0.0455**
Zinc	7440-66-6	25.0	U	66.0

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060324-HM
Matrix: Air
Lab ID: 4061041-20
Sample Volume: 2002.056 m³
Filter ID:
Sampled: 06/03/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 06:06

Comments: Q8505839 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.323**	SL	**0.0314**
Arsenic	**7440-38-2**	**1.22**		**0.00761**
Barium	**7440-39-3**	**8.71**	QB-01	**0.870**
Beryllium	**7440-41-7**	**0.0201**		**0.00260**
Cadmium	7440-43-9	0.0270	U	0.0602
Chromium	**7440-47-3**	**3.14**		**1.80**
Cobalt	**7440-48-4**	**0.681**		**0.0354**
Copper	**7440-50-8**	**53.4**		**2.14**
Lead	**7439-92-1**	**1.70**		**0.174**
Manganese	**7439-96-5**	**19.0**		**1.54**
Molybdenum	**7439-98-7**	**2.30**		**0.292**
Nickel	**7440-02-0**	**2.84**		**0.530**
Selenium	**7782-49-2**	**0.249**		**0.00728**
Thallium	**7440-28-0**	**0.00281**		**4.79E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0430**
Zinc	7440-66-6	35.5	U	62.4

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060324-HM
Matrix: Air
Lab ID: 4061041-21
Sample Volume: 1881.612 m³
Filter ID:
Sampled: 06/03/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 06:38

Comments: Q8505840 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0720**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.296**		**0.00810**
Barium	**7440-39-3**	**3.50**	QB-01	**0.925**
Beryllium	**7440-41-7**	**0.0279**		**0.00277**
Cadmium	7440-43-9	0.0142	U	0.0641
Chromium	**7440-47-3**	**2.49**		**1.91**
Cobalt	**7440-48-4**	**0.447**		**0.0377**
Copper	**7440-50-8**	**42.8**		**2.27**
Lead	**7439-92-1**	**0.549**		**0.185**
Manganese	**7439-96-5**	**11.3**		**1.63**
Molybdenum	**7439-98-7**	**2.79**		**0.310**
Nickel	**7440-02-0**	**1.48**		**0.564**
Selenium	**7782-49-2**	**0.239**		**0.00775**
Thallium	**7440-28-0**	**0.00237**		**5.09E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0457**
Zinc	7440-66-6	25.7	U	66.4

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060324-HM
Matrix: Air
Lab ID: 4061041-22
Sample Volume: 1718.763 m³
Filter ID:
Sampled: 06/03/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 07:47

Comments: Q8505843 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0365**
Arsenic	**7440-38-2**	**0.781**		**0.00887**
Barium	**7440-39-3**	**4.95**	QB-01	**1.01**
Beryllium	**7440-41-7**	**0.0175**		**0.00303**
Cadmium	7440-43-9	0.0203	U	0.0701
Chromium	**7440-47-3**	**3.02**		**2.09**
Cobalt	**7440-48-4**	**0.510**		**0.0413**
Copper	**7440-50-8**	**29.5**		**2.49**
Lead	**7439-92-1**	**1.27**		**0.203**
Manganese	**7439-96-5**	**18.3**		**1.79**
Molybdenum	**7439-98-7**	**1.54**		**0.340**
Nickel	**7440-02-0**	**1.61**		**0.617**
Selenium	**7782-49-2**	**0.246**		**0.00848**
Thallium	**7440-28-0**	**0.00257**		**5.58E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0501**
Zinc	7440-66-6	29.9	U	72.7

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 08:04

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0721		0.00272
Cadmium	7440-43-9	1.24		0.0629
Cobalt	7440-48-4	4.69		0.0370
Copper	7440-50-8	624		2.23
Lead	7439-92-1	5.98		0.182
Manganese	7439-96-5	96.5		1.60
Molybdenum	7439-98-7	12.9		0.305
Nickel	7440-02-0	11.5		0.553
Selenium	7782-49-2	0.538		0.00761
Thallium	7440-28-0	0.00833		5.00E-4
Vanadium	7440-62-2	7.94		0.0449

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE1
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:22

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	9.37	D, SL	0.164
Barium	7440-39-3	327	D, QB-01	4.54
Chromium	7440-47-3	130	D	9.38
Zinc	7440-66-6	994	D	326

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE2
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:42

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**537**	D	**0.795**

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060424-HM
Matrix: Air
Lab ID: 4061041-24
Sample Volume: 2093.123 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 08:24

Comments: Q8505845 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.228**	SL	**0.0300**
Arsenic	**7440-38-2**	**2.30**		**0.00728**
Barium	**7440-39-3**	**7.72**	QB-01	**0.832**
Beryllium	**7440-41-7**	**0.0249**		**0.00249**
Cadmium	7440-43-9	0.0298	U	0.0576
Chromium	**7440-47-3**	**3.70**		**1.72**
Cobalt	**7440-48-4**	**0.710**		**0.0339**
Copper	**7440-50-8**	**57.9**		**2.04**
Lead	**7439-92-1**	**1.93**		**0.166**
Manganese	**7439-96-5**	**22.2**		**1.47**
Molybdenum	**7439-98-7**	**2.22**		**0.279**
Nickel	**7440-02-0**	**2.40**		**0.507**
Selenium	**7782-49-2**	**0.346**		**0.00696**
Thallium	**7440-28-0**	**0.00354**		**4.58E-4**
Vanadium	**7440-62-2**	**2.49**		**0.0411**
Zinc	7440-66-6	38.4	U	59.7

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060424-HM
Matrix: Air
Lab ID: 4061041-25
Sample Volume: 1804.694 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 08:44

Comments: Q8505846 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.586**		**0.00845**
Barium	**7440-39-3**	**5.70**	QB-01	**0.965**
Beryllium	**7440-41-7**	**0.0345**		**0.00288**
Cadmium	7440-43-9	0.0265	U	0.0668
Chromium	**7440-47-3**	**2.70**		**1.99**
Cobalt	**7440-48-4**	**0.495**		**0.0393**
Copper	**7440-50-8**	**46.4**		**2.37**
Lead	**7439-92-1**	**1.18**		**0.193**
Manganese	**7439-96-5**	**13.7**		**1.70**
Molybdenum	**7439-98-7**	**2.55**		**0.324**
Nickel	**7440-02-0**	**1.60**		**0.588**
Selenium	**7782-49-2**	**0.301**		**0.00808**
Thallium	**7440-28-0**	**0.00338**		**5.31E-4**
Vanadium	**7440-62-2**	**1.51**		**0.0477**
Zinc	7440-66-6	26.9	U	69.2

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060424-HM
Matrix: Air
Lab ID: 4061041-26
Sample Volume: 1750.317 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 09:04

Comments: Q8505847 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0359**
Arsenic	**7440-38-2**	**0.613**		**0.00871**
Barium	**7440-39-3**	**5.67**	QB-01	**0.995**
Beryllium	**7440-41-7**	**0.0169**		**0.00297**
Cadmium	7440-43-9	0.0239	U	0.0689
Chromium	**7440-47-3**	**2.93**		**2.05**
Cobalt	**7440-48-4**	**0.510**		**0.0405**
Copper	**7440-50-8**	**28.1**		**2.44**
Lead	**7439-92-1**	**1.20**		**0.199**
Manganese	**7439-96-5**	**18.6**		**1.76**
Molybdenum	**7439-98-7**	**1.49**		**0.334**
Nickel	**7440-02-0**	**1.64**		**0.606**
Selenium	**7782-49-2**	**0.314**		**0.00833**
Thallium	**7440-28-0**	**0.00375**		**5.48E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0492**
Zinc	7440-66-6	28.8	U	71.4

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-060424-HM
Matrix: Air
Lab ID: 4061041-27
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 00:00
Received: 06/10/24 15:50
Analysis Date: 06/13/24 09:35

Comments: Q8508523 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0188	SL, U	0.0328
Arsenic	**7440-38-2**	**0.0419**	FB-01	**0.00795**
Barium	7440-39-3	0.692	QB-01, U	0.908
Beryllium	7440-41-7	5.04E-4	U	0.00272
Cadmium	7440-43-9	5.68E-4	U	0.0629
Chromium	7440-47-3	0.907	U	1.88
Cobalt	7440-48-4	0.0105	U	0.0370
Copper	7440-50-8	0.360	U	2.23
Lead	7439-92-1	0.0270	U	0.182
Manganese	7439-96-5	0.205	U	1.60
Molybdenum	7439-98-7	0.136	U	0.305
Nickel	7440-02-0	0.374	U	0.553
Selenium	7782-49-2	0.00273	U	0.00761
Thallium	7440-28-0	1.20E-4	U	5.00E-4
Vanadium	7440-62-2	0.0201	U	0.0449
Zinc	7440-66-6	14.3	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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 09:49

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	1.20	SL	0.0334
Barium	7440-39-3	44.5	QB-01	0.926
Beryllium	7440-41-7	0.0630		0.00277
Cadmium	7440-43-9	0.208		0.0641
Chromium	7440-47-3	19.3		1.91
Cobalt	7440-48-4	2.67		0.0377
Copper	7440-50-8	366		2.27
Lead	7439-92-1	2.97		0.185
Manganese	7439-96-5	85.1		1.63
Molybdenum	7439-98-7	11.4		0.311
Nickel	7440-02-0	6.67		0.564
Selenium	7782-49-2	0.528		0.00775
Thallium	7440-28-0	0.00795		5.09E-4
Vanadium	7440-62-2	7.51		0.0458
Zinc	7440-66-6	106		66.4

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28RE1
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:56

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**42.3**	D	**0.0648**

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ATTN: Ms. Chelsea Saber
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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060524-HM
Matrix: Air
Lab ID: 4061041-29
Sample Volume: 2100.567 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 10:09

Comments: Q8508518 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.192**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.950**		**0.00726**
Barium	**7440-39-3**	**7.54**	QB-01	**0.829**
Beryllium	**7440-41-7**	**0.0255**		**0.00248**
Cadmium	7440-43-9	0.0379	U	0.0574
Chromium	**7440-47-3**	**3.72**		**1.71**
Cobalt	**7440-48-4**	**0.677**		**0.0338**
Copper	**7440-50-8**	**52.2**		**2.04**
Lead	**7439-92-1**	**2.17**		**0.166**
Manganese	**7439-96-5**	**24.8**		**1.46**
Molybdenum	**7439-98-7**	**2.11**		**0.278**
Nickel	**7440-02-0**	**1.86**		**0.505**
Selenium	**7782-49-2**	**0.375**		**0.00694**
Thallium	**7440-28-0**	**0.00534**		**4.56E-4**
Vanadium	**7440-62-2**	**2.47**		**0.0410**
Zinc	7440-66-6	25.8	U	59.5

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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060524-HM
Matrix: Air
Lab ID: 4061041-30
Sample Volume: 1988.414 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 10:28

Comments: Q8508519 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0861**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.323**		**0.00767**
Barium	**7440-39-3**	**4.13**	QB-01	**0.876**
Beryllium	**7440-41-7**	**0.0300**		**0.00262**
Cadmium	7440-43-9	0.0205	U	0.0606
Chromium	**7440-47-3**	**2.58**		**1.81**
Cobalt	**7440-48-4**	**0.465**		**0.0357**
Copper	**7440-50-8**	**54.1**		**2.15**
Lead	**7439-92-1**	**1.02**		**0.175**
Manganese	**7439-96-5**	**12.8**		**1.55**
Molybdenum	**7439-98-7**	**2.28**		**0.294**
Nickel	**7440-02-0**	**1.49**		**0.533**
Selenium	**7782-49-2**	**0.311**		**0.00733**
Thallium	**7440-28-0**	**0.00477**		**4.82E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0433**
Zinc	7440-66-6	26.1	U	62.8

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060524-HM
Matrix: Air
Lab ID: 4061041-31
Sample Volume: 1734.245 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 11:38

Comments: Q8508521 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0362**
Arsenic	**7440-38-2**	**0.588**		**0.00879**
Barium	**7440-39-3**	**5.03**	QB-01	**1.00**
Beryllium	**7440-41-7**	**0.0161**		**0.00300**
Cadmium	7440-43-9	0.0263	U	0.0695
Chromium	**7440-47-3**	**2.60**		**2.07**
Cobalt	**7440-48-4**	**0.467**		**0.0409**
Copper	**7440-50-8**	**30.1**		**2.47**
Lead	**7439-92-1**	**1.35**		**0.201**
Manganese	**7439-96-5**	**16.4**		**1.77**
Molybdenum	**7439-98-7**	**1.52**		**0.337**
Nickel	**7440-02-0**	**1.44**		**0.612**
Selenium	**7782-49-2**	**0.309**		**0.00841**
Thallium	**7440-28-0**	**0.00488**		**5.53E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0496**
Zinc	7440-66-6	23.3	U	72.1

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Blue Bell, PA 19422
ATTN: Ms. Chelsea Saber
PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
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 2406040 - B4F1206										
Calibration Blank (2406040-CCB1)				Prepared & Analyzed: 06/12/24						
Antimony	0.569		ng/l							
Arsenic	2.43		ng/l							
Barium	0.668		ng/l							
Beryllium	0.0755		ng/l							
Cadmium	0.0261		ng/l							
Chromium	3.13		ng/l							
Cobalt	0.382		ng/l							
Copper	282		ng/l							
Lead	-2.17		ng/l							U
Manganese	5.82		ng/l							
Molybdenum	28.8		ng/l							
Nickel	2.26		ng/l							
Selenium	9.08		ng/l							
Thallium	0.775		ng/l							
Vanadium	-26.1		ng/l							U
Zinc	-17.3		ng/l							U
Calibration Blank (2406040-CCB2)				Prepared & Analyzed: 06/12/24						
Antimony	0.0458		ng/l							
Arsenic	1.54		ng/l							
Barium	0.439		ng/l							
Beryllium	0.368		ng/l							
Cadmium	0.0567		ng/l							
Chromium	1.39		ng/l							
Cobalt	0.0535		ng/l							
Copper	193		ng/l							
Lead	-3.89		ng/l							U
Manganese	4.05		ng/l							
Molybdenum	5.12		ng/l							
Nickel	2.60		ng/l							
Selenium	12.1		ng/l							
Thallium	0.717		ng/l							
Vanadium	-20.0		ng/l							U
Zinc	-33.4		ng/l							U
Calibration Blank (2406040-CCB3)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	-0.0664		ng/l							U
Arsenic	6.52		ng/l							
Barium	0.385		ng/l							
Beryllium	0.694		ng/l							

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Blue Bell, PA 19422
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PHONE: (703) 885-5495 **FAX:**

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
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 2406040 - B4F1206										
Calibration Blank (2406040-CCB3) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Cadmium	-0.0628		ng/l							U
Chromium	1.97		ng/l							
Cobalt	0.0204		ng/l							
Copper	183		ng/l							
Lead	-4.88		ng/l							U
Manganese	1.49		ng/l							
Molybdenum	4.64		ng/l							
Nickel	3.13		ng/l							
Selenium	0.941		ng/l							
Thallium	1.11		ng/l							
Vanadium	-27.1		ng/l							U
Zinc	-66.5		ng/l							U
Calibration Blank (2406040-CCB4)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	0.144		ng/l							
Arsenic	5.04		ng/l							
Barium	0.621		ng/l							
Beryllium	0.376		ng/l							
Cadmium	-0.0284		ng/l							U
Chromium	2.60		ng/l							
Cobalt	0.00372		ng/l							
Copper	127		ng/l							
Lead	-5.09		ng/l							U
Manganese	3.02		ng/l							
Molybdenum	5.26		ng/l							
Nickel	4.87		ng/l							
Selenium	3.29		ng/l							
Thallium	0.787		ng/l							
Vanadium	-25.4		ng/l							U
Zinc	-62.9		ng/l							U
Calibration Blank (2406040-CCB5)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	0.372		ng/l							
Arsenic	4.56		ng/l							
Barium	3.62		ng/l							
Beryllium	-0.539		ng/l							U
Cadmium	0.141		ng/l							
Chromium	5.45		ng/l							
Cobalt	0.340		ng/l							
Copper	124		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Calibration Blank (2406040-CCB5) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Lead	-3.58		ng/l							U
Manganese	6.47		ng/l							
Molybdenum	6.13		ng/l							
Nickel	8.75		ng/l							
Selenium	5.75		ng/l							
Thallium	0.877		ng/l							
Vanadium	-28.8		ng/l							U
Zinc	373		ng/l							
Calibration Blank (2406040-CCB6)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	0.166		ng/l							
Arsenic	8.73		ng/l							
Barium	0.569		ng/l							
Beryllium	-0.626		ng/l							U
Cadmium	-0.0235		ng/l							U
Chromium	3.10		ng/l							
Cobalt	-0.00570		ng/l							U
Copper	95.1		ng/l							
Lead	-5.55		ng/l							U
Manganese	1.70		ng/l							
Molybdenum	5.84		ng/l							
Nickel	8.21		ng/l							
Selenium	13.1		ng/l							
Thallium	0.760		ng/l							
Vanadium	-39.5		ng/l							U
Zinc	26.6		ng/l							
Calibration Blank (2406040-CCB7)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	0.116		ng/l							
Arsenic	11.9		ng/l							
Barium	1.03		ng/l							
Beryllium	-0.800		ng/l							U
Cadmium	-0.0553		ng/l							U
Chromium	2.86		ng/l							
Cobalt	0.106		ng/l							
Copper	76.6		ng/l							
Lead	-5.47		ng/l							U
Manganese	1.37		ng/l							
Molybdenum	4.64		ng/l							
Nickel	6.06		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Calibration Blank (2406040-CCB7) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Selenium	19.7		ng/l							
Thallium	0.842		ng/l							
Vanadium	-42.4		ng/l							U
Zinc	-19.7		ng/l							U
Calibration Check (2406040-CCV1)				Prepared & Analyzed: 06/12/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	233000		ng/l	240000		97.3	90-110			
Cobalt	49800		ng/l	50000		99.6	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.7	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	499		ng/l	500.00		99.8	90-110			
Vanadium	19500		ng/l	20000		97.6	90-110			
Zinc	504000		ng/l	500000		101	90-110			
Calibration Check (2406040-CCV2)				Prepared & Analyzed: 06/12/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4840		ng/l	5000.0		96.7	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	230000		ng/l	240000		95.8	90-110			
Cobalt	49100		ng/l	50000		98.2	90-110			
Copper	1.95E6		ng/l	2.0000E6		97.5	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	484000		ng/l	500000		96.7	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	118000		ng/l	120000		98.5	90-110			
Selenium	19700		ng/l	20000		98.6	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	498000		ng/l	500000		99.7	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 2406040 - B4F1206										
Calibration Check (2406040-CCV3)				Prepared & Analyzed: 06/12/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4880		ng/l	5000.0		97.5	90-110			
Cadmium	19800		ng/l	20000		98.9	90-110			
Chromium	226000		ng/l	240000		94.0	90-110			
Cobalt	48300		ng/l	50000		96.6	90-110			
Copper	1.91E6		ng/l	2.0000E6		95.3	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	477000		ng/l	500000		95.3	90-110			
Molybdenum	49000		ng/l	50000		98.0	90-110			
Nickel	117000		ng/l	120000		97.2	90-110			
Selenium	19800		ng/l	20000		98.9	90-110			
Thallium	482		ng/l	500.00		96.4	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	492000		ng/l	500000		98.4	90-110			
Calibration Check (2406040-CCV4)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4920		ng/l	5000.0		98.3	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	228000		ng/l	240000		95.0	90-110			
Cobalt	48900		ng/l	50000		97.8	90-110			
Copper	1.93E6		ng/l	2.0000E6		96.3	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	486000		ng/l	500000		97.1	90-110			
Molybdenum	49800		ng/l	50000		99.5	90-110			
Nickel	117000		ng/l	120000		97.7	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	496000		ng/l	500000		99.2	90-110			
Calibration Check (2406040-CCV5)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	21100		ng/l	20000		105	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4980		ng/l	5000.0		99.6	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 2406040 - B4F1206										
Calibration Check (2406040-CCV5) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	227000		ng/l	240000		94.5	90-110			
Cobalt	48800		ng/l	50000		97.6	90-110			
Copper	1.92E6		ng/l	2.0000E6		96.1	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	483000		ng/l	500000		96.6	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	117000		ng/l	120000		97.7	90-110			
Selenium	19700		ng/l	20000		98.7	90-110			
Thallium	485		ng/l	500.00		96.9	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	498000		ng/l	500000		99.7	90-110			
Calibration Check (2406040-CCV6)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	4980		ng/l	5000.0		99.7	90-110			
Cadmium	20000		ng/l	20000		99.9	90-110			
Chromium	234000		ng/l	240000		97.5	90-110			
Cobalt	49000		ng/l	50000		98.1	90-110			
Copper	1.93E6		ng/l	2.0000E6		96.7	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	489000		ng/l	500000		97.8	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	118000		ng/l	120000		98.1	90-110			
Selenium	19700		ng/l	20000		98.7	90-110			
Thallium	475		ng/l	500.00		95.1	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	493000		ng/l	500000		98.6	90-110			
Calibration Check (2406040-CCV7)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	48400		ng/l	50000		96.8	90-110			
Copper	1.92E6		ng/l	2.0000E6		96.0	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 2406040 - B4F1206										
Calibration Check (2406040-CCV7) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Lead	201000		ng/l	200000		101	90-110			
Manganese	484000		ng/l	500000		96.7	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	116000		ng/l	120000		96.8	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	475		ng/l	500.00		94.9	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	493000		ng/l	500000		98.5	90-110			
High Cal Check (2406040-HCV1)				Prepared & Analyzed: 06/12/24						
Antimony	40000		ng/l	40000		99.9	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	399000		ng/l	400000		99.8	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39500		ng/l	40000		98.8	95-105			
Chromium	477000		ng/l	480000		99.3	95-105			
Cobalt	99500		ng/l	100000		99.5	95-105			
Copper	3.94E6		ng/l	4.0000E6		98.4	95-105			
Lead	399000		ng/l	400000		99.7	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	99900		ng/l	100000		99.9	95-105			
Nickel	238000		ng/l	240000		99.1	95-105			
Selenium	39900		ng/l	40000		99.7	95-105			
Thallium	999		ng/l	1000.0		99.9	95-105			
Vanadium	40000		ng/l	40000		100	95-105			
Zinc	987000		ng/l	1.0000E6		98.7	95-105			
Initial Cal Blank (2406040-ICB1)				Prepared & Analyzed: 06/12/24						
Antimony	0.136		ng/l							
Arsenic	-0.672		ng/l							U
Barium	0.469		ng/l							
Beryllium	-0.0879		ng/l							U
Cadmium	0.0629		ng/l							
Chromium	1.05		ng/l							
Cobalt	0.293		ng/l							
Copper	262		ng/l							
Lead	-2.34		ng/l							U
Manganese	4.08		ng/l							
Molybdenum	7.06		ng/l							
Nickel	0.280		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Initial Cal Blank (2406040-ICB1) Continu				Prepared & Analyzed: 06/12/24						
Selenium	4.99		ng/l							
Thallium	0.743		ng/l							
Vanadium	-17.1		ng/l							U
Zinc	301		ng/l							
Initial Cal Check (2406040-ICV1)				Prepared & Analyzed: 06/12/24						
Antimony	19200		ng/l	20000		96.0	90-110			
Arsenic	19100		ng/l	20000		95.3	90-110			
Barium	193000		ng/l	200000		96.6	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	234000		ng/l	240000		97.7	90-110			
Cobalt	47600		ng/l	50000		95.2	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.0	90-110			
Lead	193000		ng/l	200000		96.6	90-110			
Manganese	489000		ng/l	500000		97.9	90-110			
Molybdenum	48400		ng/l	50000		96.7	90-110			
Nickel	118000		ng/l	120000		98.1	90-110			
Selenium	19700		ng/l	20000		98.4	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19600		ng/l	20000		97.8	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Interference Check A (2406040-IFA1)				Prepared & Analyzed: 06/12/24						
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	316000		ng/l	300000		105	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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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 2406040 - B4F1206										
Interference Check B (2406040-IFB1)				Prepared & Analyzed: 06/12/24						
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	4550		ng/l	5000.0		90.9	80-120			
Cadmium	19800		ng/l	20000		98.8	80-120			
Chromium	231000		ng/l	240000		96.2	80-120			
Cobalt	49300		ng/l	50000		98.7	80-120			
Copper	1.88E6		ng/l	2.0000E6		93.8	80-120			
Lead	210000		ng/l	200000		105	80-120			
Manganese	503000		ng/l	500000		101	80-120			
Molybdenum	372000		ng/l	350000		106	80-120			
Nickel	115000		ng/l	120000		96.2	80-120			
Selenium	18600		ng/l	20000		92.9	80-120			
Thallium	531		ng/l	500.00		106	80-120			
Vanadium	19500		ng/l	20000		97.7	80-120			
Zinc	463000		ng/l	500000		92.7	80-120			
Batch 2406048 - B4F1206										
Calibration Blank (2406048-CCB1)				Prepared & Analyzed: 06/13/24						
Arsenic	-0.878		ng/l							U
Calibration Blank (2406048-CCB2)				Prepared & Analyzed: 06/13/24						
Arsenic	-0.871		ng/l							U
Calibration Check (2406048-CCV1)				Prepared & Analyzed: 06/13/24						
Arsenic	19900		ng/l	20000		99.6	90-110			
Calibration Check (2406048-CCV2)				Prepared & Analyzed: 06/13/24						
Arsenic	20100		ng/l	20000		101	90-110			
High Cal Check (2406048-HCV1)				Prepared & Analyzed: 06/13/24						
Arsenic	39700		ng/l	40000		99.2	95-105			
Initial Cal Blank (2406048-ICB1)				Prepared & Analyzed: 06/13/24						
Arsenic	0.923		ng/l							
Initial Cal Check (2406048-ICV1)				Prepared & Analyzed: 06/13/24						
Arsenic	19400		ng/l	20000		97.2	90-110			
Interference Check A (2406048-IFA1)				Prepared & Analyzed: 06/13/24						
Arsenic	0.00		ng/l				80-120			U
Interference Check B (2406048-IFB1)				Prepared & Analyzed: 06/13/24						
Arsenic	20200		ng/l	20000		101	80-120			
Batch B4F1206 - ICP-MS Extraction										

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
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 B4F1206 - ICP-MS Extraction										
Blank (B4F1206-BLK1)				Prepared & Analyzed: 06/12/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, 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 (B4F1206-BS1)				Prepared & Analyzed: 06/12/24						
Antimony	0.778	0.0386	ng/m³ Air	1.3829		56.2	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.8	80-120			
Barium	29.3	1.07	ng/m³ Air	27.658		106	80-120			QB-01
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		96.0	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.3	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.7	80-120			
Copper	29.4	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.48	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.53	0.359	ng/m³ Air	1.3829		111	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.71	0.00896	ng/m³ Air	2.7658		97.9	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		98.8	80-120			
Zinc	128	76.8	ng/m³ Air	82.975		154	80-120			
LCS (B4F1206-BS2)				Prepared & Analyzed: 06/12/24						
Antimony	0.795	0.0386	ng/m³ Air	1.3829		57.5	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.7	80-120			
Barium	29.1	1.07	ng/m³ Air	27.658		105	80-120			QB-01
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		97.1	80-120			

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REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
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 B4F1206 - ICP-MS Extraction										
LCS (B4F1206-BS2) Continued					Prepared & Analyzed: 06/12/24					
Cadmium	1.32	0.0741	ng/m³ Air	1.3829		95.4	80-120			
Chromium	15.0	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.9	80-120			
Copper	28.6	2.63	ng/m³ Air	27.658		103	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.46	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.50	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	3.14	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.5	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		98.6	80-120			
Zinc	136	76.8	ng/m³ Air	82.975		164	80-120			
Duplicate (B4F1206-DUP1)			**Source: 4061041-12**		Prepared & Analyzed: 06/12/24					
Antimony	0.0641	0.0337	ng/m³ Air		0.0562			13.1	10	SL
Arsenic	0.184	0.00819	ng/m³ Air		0.187			1.38	10	
Barium	3.11	0.935	ng/m³ Air		3.23			3.69	10	QB-01
Beryllium	0.0315	0.00280	ng/m³ Air		0.0321			1.73	10	
Cadmium	ND	0.0647	ng/m³ Air		ND				10	U
Chromium	2.43	1.93	ng/m³ Air		2.50			3.19	10	
Cobalt	0.409	0.0381	ng/m³ Air		0.436			6.41	10	
Copper	39.3	2.30	ng/m³ Air		41.4			5.08	10	
Lead	0.394	0.187	ng/m³ Air		0.402			2.00	10	
Manganese	10.2	1.65	ng/m³ Air		10.7			5.03	10	
Molybdenum	2.17	0.314	ng/m³ Air		2.19			0.827	10	
Nickel	1.29	0.570	ng/m³ Air		1.31			1.66	10	
Selenium	0.162	0.00783	ng/m³ Air		0.172			5.90	10	
Thallium	0.00131	5.15E-4	ng/m³ Air		0.00138			5.54	10	
Vanadium	0.946	0.0462	ng/m³ Air		1.00			5.97	10	
Zinc	ND	67.1	ng/m³ Air		ND				10	U
Duplicate (B4F1206-DUP2)			**Source: 4061041-05**		Prepared & Analyzed: 06/12/24					
Antimony	0.354	0.0330	ng/m³ Air		0.389			9.42	10	SL
Arsenic	11.8	0.00801	ng/m³ Air		12.3			4.08	10	
Barium	13.2	0.915	ng/m³ Air		13.8			3.79	10	QB-01
Beryllium	0.0312	0.00274	ng/m³ Air		0.0301			3.86	10	
Cadmium	ND	0.0634	ng/m³ Air		ND				10	U
Chromium	8.30	1.89	ng/m³ Air		8.71			4.82	10	
Cobalt	1.40	0.0373	ng/m³ Air		1.43			2.39	10	
Copper	248	2.25	ng/m³ Air		239			3.72	10	

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REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
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 B4F1206 - ICP-MS Extraction										
Duplicate (B4F1206-DUP2) Continued			**Source: 4061041-05**		Prepared & Analyzed: 06/12/24					
Lead	2.02	0.183	ng/m³ Air		2.08			3.18	10	
Manganese	42.7	1.62	ng/m³ Air		43.7			2.42	10	
Molybdenum	10.6	0.307	ng/m³ Air		10.3			3.29	10	
Nickel	3.37	0.558	ng/m³ Air		3.53			4.61	10	
Selenium	0.271	0.00766	ng/m³ Air		0.281			3.41	10	
Thallium	0.00325	5.04E-4	ng/m³ Air		0.00341			4.81	10	
Vanadium	4.60	0.0452	ng/m³ Air		4.76			3.40	10	
Zinc	ND	65.7	ng/m³ Air		ND				10	U
Duplicate (B4F1206-DUP3)			**Source: 4061041-20**		Prepared: 06/12/24 Analyzed: 06/13/24					
Antimony	0.323	0.0314	ng/m³ Air		0.323			0.0831	10	SL
Arsenic	1.22	0.00761	ng/m³ Air		1.22			0.269	10	
Barium	8.78	0.870	ng/m³ Air		8.71			0.833	10	QB-01
Beryllium	0.0190	0.00260	ng/m³ Air		0.0201			5.45	10	
Cadmium	ND	0.0602	ng/m³ Air		ND				10	U
Chromium	3.15	1.80	ng/m³ Air		3.14			0.423	10	
Cobalt	0.681	0.0354	ng/m³ Air		0.681			0.0298	10	
Copper	53.6	2.14	ng/m³ Air		53.4			0.353	10	
Lead	1.71	0.174	ng/m³ Air		1.70			0.762	10	
Manganese	19.0	1.54	ng/m³ Air		19.0			0.349	10	
Molybdenum	2.31	0.292	ng/m³ Air		2.30			0.528	10	
Nickel	2.84	0.530	ng/m³ Air		2.84			0.115	10	
Selenium	0.258	0.00728	ng/m³ Air		0.249			3.44	10	
Thallium	0.00280	4.79E-4	ng/m³ Air		0.00281			0.366	10	
Vanadium	1.95	0.0430	ng/m³ Air		1.95			0.346	10	
Zinc	ND	62.4	ng/m³ Air		ND				10	U
Duplicate (B4F1206-DUP4)			**Source: 4061041-26**		Prepared: 06/12/24 Analyzed: 06/13/24					
Antimony	0.124	0.0359	ng/m³ Air		0.125			0.982	10	SL
Arsenic	0.612	0.00871	ng/m³ Air		0.613			0.309	10	
Barium	5.66	0.995	ng/m³ Air		5.67			0.146	10	QB-01
Beryllium	0.0176	0.00297	ng/m³ Air		0.0169			4.28	10	
Cadmium	ND	0.0689	ng/m³ Air		ND				10	U
Chromium	2.89	2.05	ng/m³ Air		2.93			1.19	10	
Cobalt	0.506	0.0405	ng/m³ Air		0.510			0.816	10	
Copper	28.0	2.44	ng/m³ Air		28.1			0.330	10	
Lead	1.18	0.199	ng/m³ Air		1.20			1.15	10	
Manganese	18.5	1.76	ng/m³ Air		18.6			0.764	10	
Molybdenum	1.48	0.334	ng/m³ Air		1.49			0.806	10	
Nickel	1.63	0.606	ng/m³ Air		1.64			0.695	10	

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
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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 B4F1206 - ICP-MS Extraction										
Duplicate (B4F1206-DUP4) Continued		**Source: 4061041-26**		Prepared: 06/12/24 Analyzed: 06/13/24						
Selenium	0.310	0.00833	ng/m³ Air		0.314			1.29	10	
Thallium	0.00362	5.48E-4	ng/m³ Air		0.00375			3.73	10	
Vanadium	1.73	0.0492	ng/m³ Air		1.75			0.788	10	
Zinc	ND	71.4	ng/m³ Air		ND				10	U
Duplicate (B4F1206-DUP5)		**Source: 4061041-05R**		Prepared: 06/12/24 Analyzed: 06/13/24						
Arsenic	11.6	0.0160	ng/m³ Air		12.0			3.82	10	D
Matrix Spike (B4F1206-MS1)		**Source: 4061041-12**		Prepared & Analyzed: 06/12/24						
Antimony	0.655	0.0337	ng/m³ Air	1.2084	0.0562	49.5	80-120			SL
Arsenic	2.41	0.00819	ng/m³ Air	2.4168	0.187	91.8	80-120			
Barium	26.9	0.935	ng/m³ Air	24.168	3.23	98.0	80-120			QB-01
Beryllium	1.10	0.00280	ng/m³ Air	1.2084	0.0321	88.7	80-120			
Cadmium	1.11	0.0647	ng/m³ Air	1.2084	ND	92.2	80-120			
Chromium	14.1	1.93	ng/m³ Air	12.084	2.50	96.3	80-120			
Cobalt	1.56	0.0381	ng/m³ Air	1.2084	0.436	93.4	80-120			
Copper	64.2	2.30	ng/m³ Air	24.168	41.4	94.4	80-120			
Lead	12.2	0.187	ng/m³ Air	12.084	0.402	97.8	80-120			
Manganese	17.6	1.65	ng/m³ Air	7.2504	10.7	95.3	80-120			
Molybdenum	3.31	0.314	ng/m³ Air	1.2084	2.19	92.4	80-120			
Nickel	3.65	0.570	ng/m³ Air	2.4168	1.31	96.5	80-120			
Selenium	2.40	0.00783	ng/m³ Air	2.4168	0.172	92.2	80-120			
Thallium	0.113	5.15E-4	ng/m³ Air	0.12084	0.00138	92.4	80-120			
Vanadium	3.24	0.0462	ng/m³ Air	2.4168	1.00	92.6	80-120			
Zinc	103	67.1	ng/m³ Air	72.504	ND	142	80-120			
Matrix Spike (B4F1206-MS2)		**Source: 4061041-05**		Prepared & Analyzed: 06/12/24						
Antimony	0.944	0.0330	ng/m³ Air	1.1826	0.389	46.9	80-120			SL
Arsenic	14.4	0.00801	ng/m³ Air	2.3652	12.3	92.6	80-120			
Barium	36.8	0.915	ng/m³ Air	23.652	13.8	97.3	80-120			QB-01
Beryllium	1.12	0.00274	ng/m³ Air	1.1826	0.0301	92.0	80-120			
Cadmium	1.11	0.0634	ng/m³ Air	1.1826	ND	93.8	80-120			
Chromium	19.5	1.89	ng/m³ Air	11.826	8.71	91.3	80-120			
Cobalt	2.54	0.0373	ng/m³ Air	1.1826	1.43	93.5	80-120			
Copper	263	2.25	ng/m³ Air	23.652	239	98.7	80-120			
Lead	13.7	0.183	ng/m³ Air	11.826	2.08	98.3	80-120			
Manganese	50.5	1.62	ng/m³ Air	7.0955	43.7	96.0	80-120			
Molybdenum	11.3	0.307	ng/m³ Air	1.1826	10.3	87.9	80-120			
Nickel	5.62	0.558	ng/m³ Air	2.3652	3.53	88.7	80-120			
Selenium	2.41	0.00766	ng/m³ Air	2.3652	0.281	90.0	80-120			
Thallium	0.109	5.04E-4	ng/m³ Air	0.11826	0.00341	89.4	80-120			

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REPORTED: 06/19/24 13:12
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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 B4F1206 - ICP-MS Extraction										
Matrix Spike (B4F1206-MS2) Continued Source: 4061041-05 Prepared & Analyzed: 06/12/24										
Vanadium	6.98	0.0452	ng/m³ Air	2.3652	4.76	94.2	80-120			
Zinc	128	65.7	ng/m³ Air	70.955	ND	180	80-120			
Matrix Spike (B4F1206-MS3) Source: 4061041-05R Prepared: 06/12/24 Analyzed: 06/13/24										
Arsenic	14.0	0.0160	ng/m³ Air	2.3652	12.0	84.2	80-120			D
Matrix Spike Dup (B4F1206-MSD1) Source: 4061041-12 Prepared & Analyzed: 06/12/24										
Antimony	0.664	0.0337	ng/m³ Air	1.2084	0.0562	50.3	80-120	1.40	20	SL
Arsenic	2.48	0.00819	ng/m³ Air	2.4168	0.187	94.9	80-120	3.00	20	
Barium	27.9	0.935	ng/m³ Air	24.168	3.23	102	80-120	3.49	20	QB-01
Beryllium	1.18	0.00280	ng/m³ Air	1.2084	0.0321	94.8	80-120	6.43	20	
Cadmium	1.14	0.0647	ng/m³ Air	1.2084	ND	94.5	80-120	2.42	20	
Chromium	14.6	1.93	ng/m³ Air	12.084	2.50	99.7	80-120	2.86	20	
Cobalt	1.62	0.0381	ng/m³ Air	1.2084	0.436	97.9	80-120	3.47	20	
Copper	64.5	2.30	ng/m³ Air	24.168	41.4	95.9	80-120	0.551	20	
Lead	12.7	0.187	ng/m³ Air	12.084	0.402	101	80-120	3.46	20	
Manganese	18.4	1.65	ng/m³ Air	7.2504	10.7	106	80-120	4.15	20	
Molybdenum	3.42	0.314	ng/m³ Air	1.2084	2.19	102	80-120	3.37	20	
Nickel	3.72	0.570	ng/m³ Air	2.4168	1.31	99.6	80-120	2.01	20	
Selenium	2.44	0.00783	ng/m³ Air	2.4168	0.172	93.9	80-120	1.68	20	
Thallium	0.118	5.15E-4	ng/m³ Air	0.12084	0.00138	96.4	80-120	4.25	20	
Vanadium	3.36	0.0462	ng/m³ Air	2.4168	1.00	97.3	80-120	3.42	20	
Zinc	101	67.1	ng/m³ Air	72.504	ND	139	80-120	1.68	20	
Matrix Spike Dup (B4F1206-MSD2) Source: 4061041-05 Prepared & Analyzed: 06/12/24										
Antimony	1.01	0.0330	ng/m³ Air	1.1826	0.389	52.2	80-120	6.44	20	SL
Arsenic	14.4	0.00801	ng/m³ Air	2.3652	12.3	92.2	80-120	0.0577	20	
Barium	37.3	0.915	ng/m³ Air	23.652	13.8	99.7	80-120	1.48	20	QB-01
Beryllium	1.18	0.00274	ng/m³ Air	1.1826	0.0301	97.3	80-120	5.42	20	
Cadmium	1.11	0.0634	ng/m³ Air	1.1826	ND	93.7	80-120	0.0818	20	
Chromium	19.6	1.89	ng/m³ Air	11.826	8.71	92.0	80-120	0.469	20	
Cobalt	2.56	0.0373	ng/m³ Air	1.1826	1.43	95.5	80-120	0.944	20	
Copper	268	2.25	ng/m³ Air	23.652	239	121	80-120	2.02	20	QM-4X
Lead	13.7	0.183	ng/m³ Air	11.826	2.08	97.9	80-120	0.328	20	
Manganese	51.2	1.62	ng/m³ Air	7.0955	43.7	105	80-120	1.27	20	
Molybdenum	11.7	0.307	ng/m³ Air	1.1826	10.3	117	80-120	2.96	20	
Nickel	5.64	0.558	ng/m³ Air	2.3652	3.53	89.5	80-120	0.316	20	
Selenium	2.44	0.00766	ng/m³ Air	2.3652	0.281	91.1	80-120	1.04	20	
Thallium	0.110	5.04E-4	ng/m³ Air	0.11826	0.00341	90.4	80-120	1.07	20	
Vanadium	7.00	0.0452	ng/m³ Air	2.3652	4.76	94.9	80-120	0.252	20	
Zinc	123	65.7	ng/m³ Air	70.955	ND	173	80-120	4.08	20	

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
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 B4F1206 - ICP-MS Extraction										
Matrix Spike Dup (B4F1206-MSD3)		**Source: 4061041-05R**		Prepared: 06/12/24 Analyzed: 06/13/24						
Arsenic	14.0	0.0160	ng/m³ Air	2.3652	12.0	85.7	80-120	0.252	20	D
Post Spike (B4F1206-PS1)		**Source: 4061041-12**		Prepared & Analyzed: 06/12/24						
Antimony	0.294	0.0337	ng/m³ Air	0.24168	0.0562	98.4	75-125			SL
Arsenic	1.33	0.00819	ng/m³ Air	1.2084	0.187	94.6	75-125			
Barium	5.64	0.935	ng/m³ Air	2.4168	3.23	100	75-125			QB-01
Beryllium	0.264	0.00280	ng/m³ Air	0.24168	0.0321	96.0	75-125			
Cadmium	0.128	0.0647	ng/m³ Air	0.12084	ND	106	75-125			
Chromium	3.64	1.93	ng/m³ Air	1.2084	2.50	94.2	75-125			
Cobalt	0.659	0.0381	ng/m³ Air	0.24168	0.436	92.5	75-125			
Copper	52.7	2.30	ng/m³ Air	12.084	41.4	94.2	75-125			
Lead	24.3	0.187	ng/m³ Air	24.168	0.402	98.7	75-125			
Manganese	13.0	1.65	ng/m³ Air	2.4168	10.7	93.9	75-125			
Molybdenum	3.33	0.314	ng/m³ Air	1.2084	2.19	93.7	75-125			
Nickel	3.67	0.570	ng/m³ Air	2.4168	1.31	97.5	75-125			
Selenium	1.30	0.00783	ng/m³ Air	1.2084	0.172	93.2	75-125			
Thallium	0.0613	5.15E-4	ng/m³ Air	6.0420E-2	0.00138	99.1	75-125			
Vanadium	2.16	0.0462	ng/m³ Air	1.2084	1.00	95.6	75-125			
Zinc	ND	67.1	ng/m³ Air	24.168	ND		75-125			U
Post Spike (B4F1206-PS2)		**Source: 4061041-05**		Prepared & Analyzed: 06/12/24						
Antimony	0.628	0.0330	ng/m³ Air	0.23652	0.389	101	75-125			SL
Arsenic	13.3	0.00801	ng/m³ Air	1.1826	12.3	88.8	75-125			
Barium	16.0	0.915	ng/m³ Air	2.3652	13.8	93.0	75-125			QB-01
Beryllium	0.259	0.00274	ng/m³ Air	0.23652	0.0301	96.9	75-125			
Cadmium	0.165	0.0634	ng/m³ Air	0.11826	ND	139	75-125			
Chromium	9.62	1.89	ng/m³ Air	1.1826	8.71	77.4	75-125			
Cobalt	1.62	0.0373	ng/m³ Air	0.23652	1.43	80.6	75-125			
Copper	246	2.25	ng/m³ Air	11.826	239	54.5	75-125			A-01, PS-01
Lead	25.4	0.183	ng/m³ Air	23.652	2.08	98.7	75-125			
Manganese	45.3	1.62	ng/m³ Air	2.3652	43.7	65.9	75-125			A-01, PS-01
Molybdenum	11.2	0.307	ng/m³ Air	1.1826	10.3	79.6	75-125			
Nickel	5.71	0.558	ng/m³ Air	2.3652	3.53	92.4	75-125			
Selenium	1.35	0.00766	ng/m³ Air	1.1826	0.281	90.1	75-125			
Thallium	0.0602	5.04E-4	ng/m³ Air	5.9129E-2	0.00341	96.0	75-125			
Vanadium	5.79	0.0452	ng/m³ Air	1.1826	4.76	87.4	75-125			
Zinc	80.7	65.7	ng/m³ Air	23.652	ND	341	75-125			
Post Spike (B4F1206-PS3)		**Source: 4061041-05R**		Prepared: 06/12/24 Analyzed: 06/13/24						
Arsenic	13.0	0.0160	ng/m³ Air	1.1826	12.0	80.2	75-125			D
Dilution Check (B4F1206-SRL1)		**Source: 4061041-12**		Prepared & Analyzed: 06/12/24						

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
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 B4F1206 - ICP-MS Extraction										
Dilution Check (B4F1206-SRL1) Continue				**Source: 4061041-12**		Prepared & Analyzed: 06/12/24				
Antimony	ND	0.169	ng/m³ Air		ND				10	SL, U
Arsenic	0.193	0.0409	ng/m³ Air		0.187			3.16	10	
Barium	ND	4.67	ng/m³ Air		ND				10	QB-01, U
Beryllium	0.0343	0.0140	ng/m³ Air		0.0321			6.51	10	
Cadmium	ND	0.324	ng/m³ Air		ND				10	U
Chromium	ND	9.66	ng/m³ Air		ND				10	U
Cobalt	0.441	0.190	ng/m³ Air		0.436			1.14	10	
Copper	42.3	11.5	ng/m³ Air		41.4			2.35	10	
Lead	ND	0.935	ng/m³ Air		ND				10	U
Manganese	10.9	8.26	ng/m³ Air		10.7			1.74	10	
Molybdenum	2.24	1.57	ng/m³ Air		2.19			2.33	10	
Nickel	ND	2.85	ng/m³ Air		ND				10	U
Selenium	0.168	0.0391	ng/m³ Air		0.172			2.48	10	
Thallium	0.00272	0.00257	ng/m³ Air		ND			65.4	10	
Vanadium	1.04	0.231	ng/m³ Air		1.00			3.03	10	
Zinc	ND	336	ng/m³ Air		ND				10	U
Dilution Check (B4F1206-SRL2)				**Source: 4061041-05**		Prepared & Analyzed: 06/12/24				
Antimony	0.377	0.165	ng/m³ Air		0.389			3.24	10	SL
Arsenic	12.3	0.0401	ng/m³ Air		12.3			0.375	10	
Barium	13.6	4.57	ng/m³ Air		13.8			0.999	10	QB-01
Beryllium	0.0329	0.0137	ng/m³ Air		0.0301			9.12	10	
Cadmium	ND	0.317	ng/m³ Air		ND				10	U
Chromium	ND	9.45	ng/m³ Air		ND				10	U
Cobalt	1.44	0.186	ng/m³ Air		1.43			0.274	10	
Copper	248	11.2	ng/m³ Air		239			3.56	10	
Lead	2.02	0.915	ng/m³ Air		2.08			3.30	10	
Manganese	43.7	8.08	ng/m³ Air		43.7			0.0685	10	
Molybdenum	10.6	1.53	ng/m³ Air		10.3			2.87	10	
Nickel	3.56	2.79	ng/m³ Air		3.53			0.914	10	
Selenium	0.309	0.0383	ng/m³ Air		0.281			9.72	10	SRD-01
Thallium	0.00616	0.00252	ng/m³ Air		0.00341			57.4	10	
Vanadium	4.76	0.226	ng/m³ Air		4.76			0.0513	10	
Zinc	ND	328	ng/m³ Air		ND				10	U
Dilution Check (B4F1206-SRL3)				**Source: 4061041-05R**		Prepared: 06/12/24 Analyzed: 06/13/24				
Arsenic	12.3	0.0801	ng/m³ Air		12.0			2.47	10	D

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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: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

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.
QB-01	Analyte exceeds method blank criteria
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
A-01	Parent sample >4x spike amount
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 06/20/2024 and Shanna Vasser 6/21/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/30/2024 – 06/05/2024
Report No: 4061041

√	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 and barium in MFL-FB01-060224-HM and for arsenic MFL-FB01-060424-HM.

Notes:

1. Laboratory report was revised on June 19, 2024, to correct a typographical error in the sample ID for MFL-AM04-053024-HM, which originally was reported as a duplicate MFL-AM0**3**-053024-HM.

2. MFL-AM01-053124-HM was analyzed at a two-fold dilution for arsenic. MFL-AM01-060424-HM was analyzed at a five-fold dilution for antimony, barium, chromium, zinc and a 100-fold dilution for arsenic. MFL-AM01-060524-HM was analyzed at an eight-fold dilution for arsenic.

Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

July 09, 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 06/10/24 15:50.

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

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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: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-053124-HM	4061041-05	Air	05/31/24 23:59	06/10/24 15:50
MFL-AM01-060424-HM	4061041-23	Air	06/04/24 23:59	06/10/24 15:50
MFL-AM01-060524-HM	4061041-28	Air	06/05/24 23:59	06/10/24 15:50

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/12/24 21:53

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.389**	SL	**0.0330**
Barium	**7440-39-3**	**13.8**	QB-01	**0.915**
Beryllium	**7440-41-7**	**0.0301**		**0.00274**
Cadmium	7440-43-9	0.0481	U	0.0634
Chromium	**7440-47-3**	**8.71**		**1.89**
Cobalt	**7440-48-4**	**1.43**		**0.0373**
Copper	**7440-50-8**	**239**	A-01, PS-01, QM-4X	**2.25**
Lead	**7439-92-1**	**2.08**		**0.183**
Manganese	**7439-96-5**	**43.7**	A-01, PS-01	**1.62**
Molybdenum	**7439-98-7**	**10.3**		**0.307**
Nickel	**7440-02-0**	**3.53**		**0.558**
Selenium	**7782-49-2**	**0.281**	SRD-01	**0.00766**
Thallium	**7440-28-0**	**0.00341**		**5.04E-4**
Vanadium	**7440-62-2**	**4.76**		**0.0452**
Zinc	7440-66-6	57.9	U	65.7

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05RE1
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 18:41

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**12.0**	D	**0.0160**

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05RE2
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/26/24 11:30

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**12.4**	D	**0.0160**

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 08:04

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0721		0.00272
Cadmium	7440-43-9	1.24		0.0629
Cobalt	7440-48-4	4.69		0.0370
Copper	7440-50-8	624		2.23
Lead	7439-92-1	5.98		0.182
Manganese	7439-96-5	96.5		1.60
Molybdenum	7439-98-7	12.9		0.305
Nickel	7440-02-0	11.5		0.553
Selenium	7782-49-2	0.538		0.00761
Thallium	7440-28-0	0.00833		5.00E-4
Vanadium	7440-62-2	7.94		0.0449

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REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE1
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:22

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	9.37	D, SL	0.164
Barium	7440-39-3	327	D, QB-01	4.54
Chromium	7440-47-3	130	D	9.38
Zinc	7440-66-6	994	D	326

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SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE2
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:42

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**537**	D	**0.795**

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE3
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/26/24 11:48

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**499**	D	**0.795**

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: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 09:49

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	1.20	SL	0.0334
Barium	7440-39-3	44.5	QB-01	0.926
Beryllium	7440-41-7	0.0630		0.00277
Cadmium	7440-43-9	0.208		0.0641
Chromium	7440-47-3	19.3		1.91
Cobalt	7440-48-4	2.67		0.0377
Copper	7440-50-8	366		2.27
Lead	7439-92-1	2.97		0.185
Manganese	7439-96-5	85.1		1.63
Molybdenum	7439-98-7	11.4		0.311
Nickel	7440-02-0	6.67		0.564
Selenium	7782-49-2	0.528		0.00775
Thallium	7440-28-0	0.00795		5.09E-4
Vanadium	7440-62-2	7.51		0.0458
Zinc	7440-66-6	106		66.4

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28RE1
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:56

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**42.3**	D	**0.0648**

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28RE2
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/26/24 12:03

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**47.5**	D	**0.0648**

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REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

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AQS SITE CODE:
SITE CODE: Lahaina fires

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.
QB-01	Analyte exceeds method blank criteria
PS-01	Post Spike exceeds DQO criteria.
D	This result obtained by dilution.
A-01	Parent sample >4x spike amount
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 08/02/2024 and Shanna Vasser 08/02/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/30/2024 – 06/05/2024
Report No: 4061041

√	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 and barium in MFL-FB01-060224-HM and for arsenic MFL-FB01-060424-HM.

Notes:

1. Laboratory report was revised on June 19, 2024, to correct a typographical error in the sample ID for MFL-AM04-053024-HM, which originally was reported as a duplicate MFL-AM0**3**-053024-HM.

1. A second report was provided on July 9, 2024 including reanalysis data for MFL-AM01-053124-HM, MFL-AM01-060424-HM, and MFL-AM01-060524-HM. These sample were re-analyzed by the lab due to elevated and/or exceeded arsenic values. During reanalysis, MFL-AM01-053124-HM was analyzed at a two-fold dilution for arsenic, MFL-AM01-060424-HM was analyzed at a

100-fold dilution for arsenic, and MFL-AM01-060524-HM was analyzed at an eight-fold dilution for arsenic.

2. In the original lab report dated June 19, 2024, MFL-AM01-053124-HM was analyzed at a two-fold dilution for arsenic. MFL-AM01-060424-HM was analyzed at a five-fold dilution for antimony, barium, chromium, zinc and a 100-fold dilution for arsenic. MFL-AM01-060524-HM was analyzed at an eight-fold dilution for arsenic.