Ambient Community Air Monitoring Weekly Report
For the Hawaii Department of Health – Clean Air Branch

Lahaina, Maui

1/18/2024 – 1/24/2024
[Report Updated: 7/2/2024]

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. Summary analytical data is presented in **Tables 1 and 2**. **Figure 1** depicts the community air monitoring and sampling locations. **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 generally 1.3 mph in a SE 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 (January 18-24), WW Pump Station #4 (January 18-24), Lahaina Intermediate School (January 18-24), Lahaina Boys & Girls Club (January 18-24).

The results of PM10 monitoring found that screening levels were not exceeded 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 (PM2.5) 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 public health screening level of 0.003 fibers/cc and less than the lab's analytical sensitivity (see Table 1).

Heavy metal samples were not collected on 1/20, 1/21, 1/22, and 1/23 at WW Pump Station #4, Lahaina Intermediate School, Lahaina Boys & Girls Club, and not collected on 1/23 at Leialii Hawaiian Homelands. 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 heavy metals were detected in ambient air samples at all community sampling locations (see Table 1). Although heavy metals were detected, all of the heavy metals 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 sampling according to the manufacturer's procedures.

For asbestos sampling, Tetra Tech uses a Casella Vortex 3 or similar air sampling pump. Sampling flow rates will be 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" (Appendix A) and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

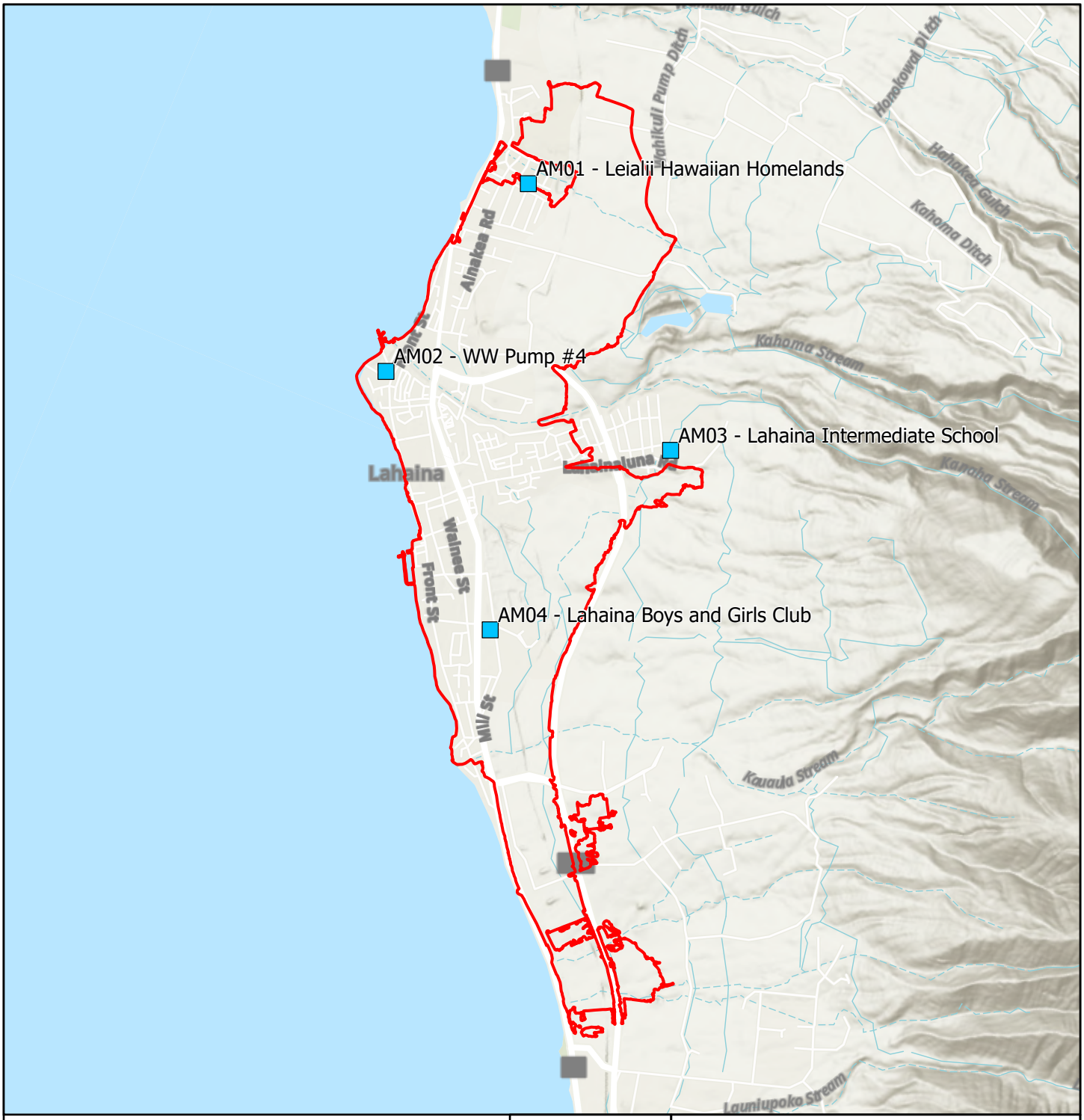
Tetra Tech is using Tisch Environmental High Volume Air Samplers, or equivalent, collocated with the real-time particulate monitors and asbestos samplers described above. Air samples for elemental metals at community locations are collected and analyzed in accordance with the following methods:

- 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



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results by Date
Maui Wildfire, Lahaina
1/18/2024-1/24/2024
[Report Updated: 7/2/2024]

Analyte		Asbestos	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		f/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
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 2
HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results for PM_{10}
Maui Wildfire, Lahaina
1/18/2024 - 1/24/2024
[Report Updated: 7/2/2024]

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, 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 3
Maui Wildfire - Lahaina
Meteorological Data
1/18/2024-1/24/2024
[Report Updated: 7/2/2024]

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**

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

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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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Receipt Date: 25-Jan-2024
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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

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-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

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HDOH Lahaina Community Air

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

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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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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

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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

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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

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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

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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

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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

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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

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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

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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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Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)
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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-AM02-012124-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

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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

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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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Receipt Date: 25-Jan-2024
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

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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

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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

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Report Date: 1-Feb-2024

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

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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

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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

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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

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Analysis Date: 1-Feb-2024
Report Date: 1-Feb-2024

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

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

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-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

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-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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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-FB01-012324-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

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

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 #: 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-AM01-012424-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**

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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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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

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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-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

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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**

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

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

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

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**

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**

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

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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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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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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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
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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

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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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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Tetra Tech, Inc.
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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

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.
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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 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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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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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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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

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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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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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 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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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 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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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 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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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 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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FILE #: 4205.00.003.001
REPORTED: 02/06/24 11:01
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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 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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1777 Sentry Pkwy, Bldg 12
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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										
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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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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Analyte	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.

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.

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