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

My 30, 2024 through June 5, 2024
[Report Updated: August 12, 2024]

Tetra Tech, Inc. (Tetra Tech) prepared a Community Air Monitoring and Sampling Plan (CAMSP) to address community air monitoring during debris removal operations in response to the 2023 Maui Wildfires. Air monitoring and sampling occurred from May 30 through June 5, 2024, at the four community locations across Lahaina listed below and shown on **Figure 1**:

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

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

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "PM_{10}". Monitoring for PM_{10} was conducted 24 hours a day, 7 days a week from May 30 through June 5 at each of the locations. Monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for PM_{10}, 24-hour time-weighted average of 150 micrograms (µg) per cubic meter (µg/m^3) screening level.

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

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

Air Monitoring Results

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

Air Sampling Results

Collection of 28 samples to be analyzed for asbestos fibers occurred at each monitoring location throughout this reporting period. All analytical results were below the SSAL of 0.003 fibers per cubic centimeter (fibers/cc) and below the laboratory's analytical sensitivity. **Table 2** lists results. Notably, the

laboratory commented “Numerous gypsum fibers present” regarding samples collected at the following monitoring stations:

- Leialii Hawaiian Homelands on May 30, June 4 and 5
- WW Pump Station #4 on May 30, June 3, 4, and 5
- Lahaina Intermediate School on June 5
- Lahaina Boys & Girls Club on June 4 and 5

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

The heavy metal sample collected on June 4, 2024, from Leialii Hawaiian Homelands showed an exceedance of arsenic with a concentration of 0.537 $\mu g/m^3$ versus the SSAL of 0.05 $\mu g/m^3$. This sample was collected over an approximate 24-hour sampling period between June 3 and June 4, 2024. The average windspeed at this location during the sampling period was 1 mile per hour (mph) and generally originating from a southeast direction. USACE debris crews were observed working on June 3 in the area approximately 30 yards southwest and downwind from the sampling station. Field teams observed the utilization of dust suppression methods and no visible dust in the area during this work. Upwind of the sample location to the northeast, private contractors were conducting work on June 4 in the area approximately 10 feet from the sampling station at the adjacent property to clear metal debris in the yard. Dust was visible from this work location. An excavator was also in use for the construction of a rock wall across the street from the sampling station and tree removal crews were also observed in the general area.

Based on wind direction, use of dust suppression measures by USACE, and field observations of other dust and vapor producing activities, this arsenic exceedance was likely not attributable to USACE debris removal activities. For all other heavy metals, only low levels, below the respective SSALs, were detected in ambient air samples at all community sampling locations (see **Table 2**).

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

After discussion with HDOH, samples with elevated arsenic concentrations were re-analyzed by the laboratory to verify concentrations. This report has been updated to incorporate the re-analyzed lab results. The re-analyzed data are presented and discussed in the attached **Addendum to the Weekly Report**.

Meteorological Summary

Overall wind conditions during this weekly event averaged 1.1 mph originating from a generally south-southeast direction. **Table 3** summarizes meteorological data**.**

Quality Control Summary

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

Air monitoring proceeded by use of Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow comparison to NAAQS for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed before monitoring according to the manufacturer's procedures.

Collection of samples to be analyzed for asbestos occurred by use of a Casella Vortex 3 or similar air sampling pump. Sampling flow rates are determined and documented by pre- and post- calibration of each sampling pump according to a primary calibration standard. Calibration and sampling accorded with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump," and 073-3, "Air Quality Monitoring"; and EPA Environmental Response Team (ERT) SOPs 2008, "General Air Monitoring and Sampling Guidelines," and 2015 "Asbestos Air Sampling," included in the CAMSP.

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

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

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

Following receipt of air sampling results from off-site analytical laboratories, analytical data are maintained in an electronic database and compared to SSALs. Level 1 data verification of all analytical data occurs, and an industrial hygienist reviews results.

State of Hawaii, Department of Health, Clean Air Branch
2023 Maui Wildfires

Addendum to Ambient Community Air Monitoring and Sampling Weekly Report
Lahaina, Maui
May 30, 2024 through June 5, 2024

The weekly report presenting community air monitoring and sampling results from May 30 through June 5, 2024, reported an arsenic concentration of 0.537 micrograms per cubic meter (µg/m^3) in the sample collected from the Leialii Hawaiian Homelands on June 4, 2024, which exceeded the Site Screening Action Levels (SSAL) of 0.05 µg/m^3, as presented in the CAMSP. No other samples showed exceedances of the SSAL. However, two other sample results were noted as being higher as compared to the other arsenic sample results and these two samples were conservatively re-analyzed along with the June 4 sample. These samples, collected on May 31 and June 5, were reported with concentrations of 0.0120 µg/m^3 and 0.0423 µg/m^3, respectively, which remained below the SSAL. Each sample was collected over an approximate 24-hour sampling period. This Addendum to the weekly report addresses the originally reported exceedance and the re-analyzed concentrations for the three samples noted above.

Reported environmental conditions on May 31 included an average windspeed of 0.9 mile per hour (mph), generally originating from an east-southeast direction. On June 4, an average windspeed of 1 mph, generally originating from a southeast direction was recorded. On June 5, an average windspeed of 1 mph, generally originating from an east-southeast direction was recorded.

USACE debris crews were observed working on June 3 in the area approximately 30 yards southwest and downwind from the sampling station. Field teams observed the utilization of dust suppression methods and no visible dust in the area during this work. Upwind of the sample location to the northeast, private contractors were conducting work on June 4 in the area approximately 10 feet from the monitoring station at the adjacent property to clear metal debris in the yard. Dust was visible from this work location. An excavator was also in use for the construction of a rock wall across the street from the air monitor and tree removal crews were also observed in the general area.

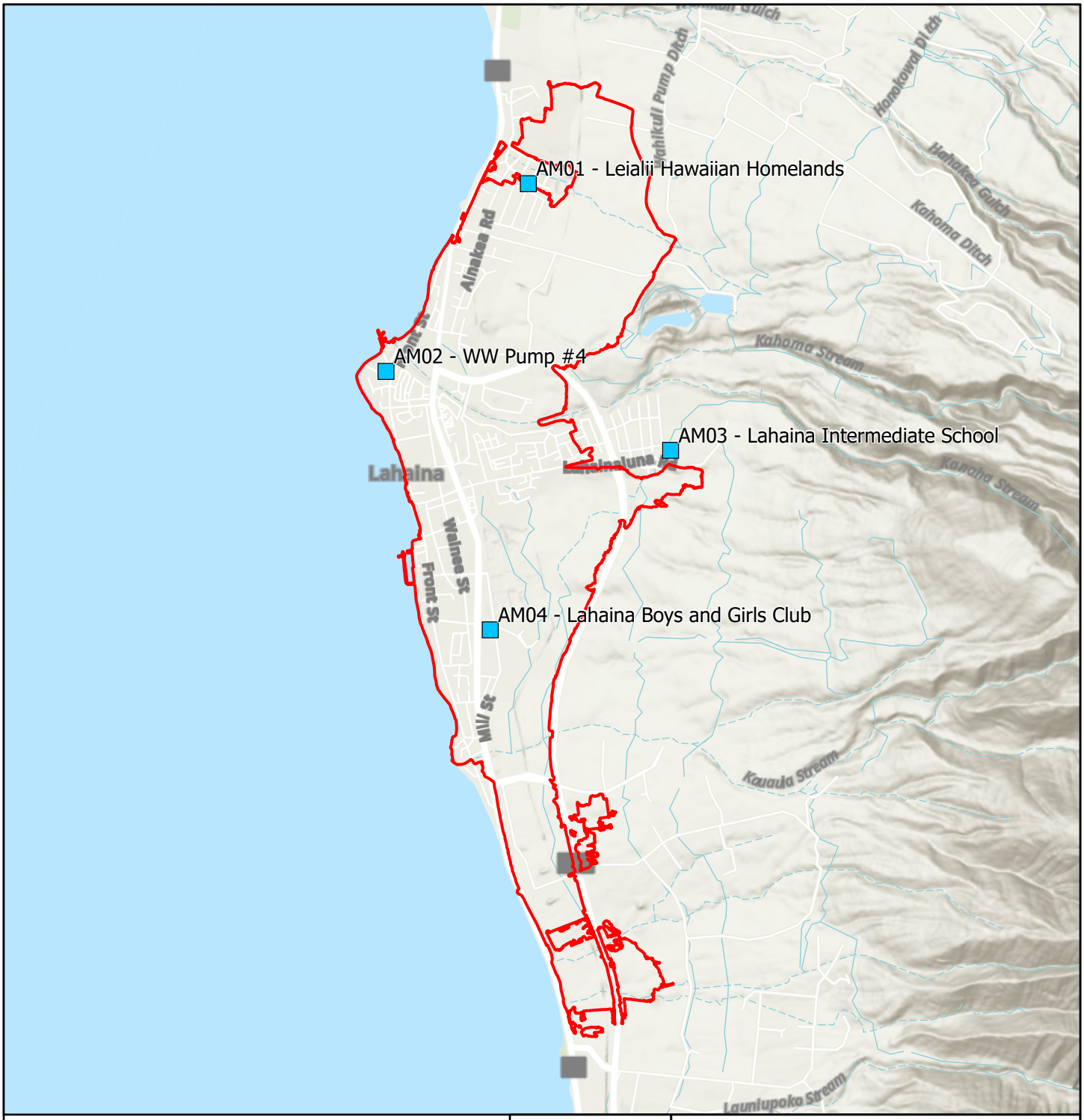
Following the reporting of the exceedance, and approval from HDOH, the three arsenic samples were re-analyzed by the laboratory to verify concentrations. A table showing the original results compared with the re-analyzed results can be found below:

Analyte		Arsenic	Arsenic (re-analysis)
Units		µg/m^3	µg/m^3
Screening Level*		0.05	0.05
5/31/2024	Leialii Hawaiian Homelands (AM-01)	0.0120	0.0124
6/4/2024	Leialii Hawaiian Homelands (AM-01)	**0.537**	**0.499**
6/5/2024	Leialii Hawaiian Homelands (AM-01)	0.0423	0.0475

Notes:
* Laboratory data were provided in nanograms per cubic meter, however data shown in Table 1 has been converted to micrograms per cubic meter so data were comparable to SSALs.

The re-analysis showed little variance from the originally reported values and was able to verify the exceedance reported for the sample collected on June 4 and that there were no exceedances of the SSAL on May 31 and June 5. A full table with the results for metals including the re-analyzed samples can be found in the Weekly Report in **Table 2**. The laboratory data sheets for re-analyzed metal samples results are included in the Weekly Report as **Appendix 1.**

Attachments



Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

Table 1
State of Hawaii, Department of Health, Clean Air Branch
Particulate Monitoring Results for PM_{10}
Maui Wildfires, Lahaina
May 30 through June 5, 2024
[Report Updated: August 12, 2024]

Screening Level		**150 µg/m^3**
5/30/2024	Leialii Hawaiian Homelands (AM-01)	12
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	12
	Lahaina Boys & Girls Club (AM-04)	7.5
5/31/2024	Leialii Hawaiian Homelands (AM-01)	9.4
	WW Pump Station #4 (AM-02)	5.7
	Lahaina Intermediate School (AM-03)	7.9
	Lahaina Boys & Girls Club (AM-04)	5.3
6/1/2024	Leialii Hawaiian Homelands (AM-01)	15
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	8.9
	Lahaina Boys & Girls Club (AM-04)	5.3
6/2/2024	Leialii Hawaiian Homelands (AM-01)	9.1
	WW Pump Station #4 (AM-02)	12
	Lahaina Intermediate School (AM-03)	8.6
	Lahaina Boys & Girls Club (AM-04)	7.2
6/3/2024	Leialii Hawaiian Homelands (AM-01)	9.8
	WW Pump Station #4 (AM-02)	11
	Lahaina Intermediate School (AM-03)	10
	Lahaina Boys & Girls Club (AM-04)	7.4
6/4/2024	Leialii Hawaiian Homelands (AM-01)	23
	WW Pump Station #4 (AM-02)	18
	Lahaina Intermediate School (AM-03)	13
	Lahaina Boys & Girls Club (AM-04)	11
6/5/2024	Leialii Hawaiian Homelands (AM-01)	14
	WW Pump Station #4 (AM-02)	16
	Lahaina Intermediate School (AM-03)	14
	Lahaina Boys & Girls Club (AM-04)	9.3

Notes:
µg/m3 = micrograms per cubic meter
24 hour TWA calculation results are shown in two significant figures

Table 2
State of Hawaii, Department of Health, Clean Air Branch
Asbestos and Metals Sampling Results
Maui Wildfires, Lahaina
May 30 through June 5, 2024
[Report Updated: August 12, 2024]

Analyte		Asbestos	Antimony	Arsenic	Arsenic (July 9 2024)	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		s/cc	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
Screening Level*		0.003 [1]	0.7	0.05	0.05	1.2	0.05	0.02	12	0.01	240	1.5	0.12	4.8	0.02	48	24	0.24	1200
5/30/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000423	0.00858		0.00996	0.0000232	ND	0.00593	0.000909	0.220	0.00342	0.0302	0.0106	0.00284	0.000292	0.00000320	0.00305	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.0000922	0.000319		0.00521	0.0000172	ND	0.00296	0.000572	0.0469	0.000701	0.0164	0.00228	0.00228	0.000255	0.00000179	0.00195	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000829	0.000390		0.00594	0.0000714	ND	0.00359	0.000890	0.0368	0.000773	0.0221	0.00198	0.00220	0.000302	0.00000219	0.00223	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000133	0.00184		0.00604	0.0000249	ND	0.00377	0.000705	0.0266	0.00211	0.0236	0.00134	0.00203	0.000276	0.00000216	0.00212	ND
5/31/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000389	0.0120	0.0124	0.0138	0.0000301	ND	0.00871	0.00143	0.239	0.00208	0.0437	0.0103	0.00353	0.000281	0.00000341	0.00476	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000100	0.000389		0.00534	0.0000176	ND	0.00270	0.000570	0.0579	0.000940	0.0168	0.00261	0.00182	0.000193	0.00000146	0.00175	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000696	0.000395		0.00543	0.0000670	ND	0.00408	0.000923	0.0365	0.000753	0.0230	0.00189	0.00226	0.000254	0.00000187	0.00202	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000121	0.00168		0.00531	0.0000198	0.0000789	0.00353	0.000614	0.0291	0.00130	0.0196	0.00147	0.00176	0.000187	0.00000157	0.00165	ND
6/1/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.000121	0.00295		0.00782	0.0000296	ND	0.00616	0.00145	0.213	0.000964	0.0382	0.0107	0.00394	0.000267	0.00000230	0.00385	ND
	WW Pump Station #4 (AM-02)	<0.0027	0.000104	0.000507		0.00561	0.0000185	ND	0.00347	0.000732	0.0476	0.00110	0.0190	0.00203	0.00216	0.000191	0.00000147	0.00212	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000562	0.000187		0.00323	0.0000321	ND	0.00250	0.000436	0.0414	0.000402	0.0107	0.00219	0.00131	0.000172	0.00000138	0.00100	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000107	0.000999		0.00422	0.0000124	ND	0.00247	0.000384	0.0241	0.000927	0.0129	0.00140	0.00124	0.000157	0.00000135	0.00103	ND
6/2/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000945	0.00243		0.0149	0.0000626	0.000101	0.0116	0.00299	0.190	0.00111	0.0736	0.00768	0.00929	0.000417	0.00000404	0.00757	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000321	0.00162		0.00966	0.0000240	ND	0.00508	0.000897	0.0593	0.00204	0.0241	0.00238	0.00302	0.000238	0.00000266	0.00264	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000608	0.000229		0.00318	0.0000225	ND	0.00432	0.000420	0.0364	0.000476	0.0104	0.00221	0.00178	0.000182	0.00000193	0.00103	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000122	0.00151		0.00612	0.0000298	ND	0.00431	0.000753	0.0259	0.00150	0.0253	0.00136	0.00236	0.000253	0.00000244	0.00200	ND
6/3/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.0000731	0.000979		0.00653	0.0000216	ND	0.00552	0.000954	0.260	0.000552	0.0251	0.0156	0.00424	0.000259	0.00000283	0.00263	ND
	WW Pump Station #4 (AM-02)	<0.0024	0.000323	0.00122		0.00871	0.0000201	ND	0.00314	0.000681	0.0534	0.00170	0.0190	0.00230	0.00284	0.000249	0.00000281	0.00195	ND
	Lahaina Intermediate School (AM-03)	<0.0024	0.0000720	0.000296		0.00350	0.0000279	ND	0.00249	0.000447	0.0428	0.000549	0.0113	0.00279	0.00148	0.000239	0.00000237	0.00119	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000104	0.000781		0.00495	0.0000175	ND	0.00302	0.000510	0.0295	0.00127	0.0183	0.00154	0.00161	0.000246	0.00000257	0.00153	ND
6/4/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.00937	**0.537**	**0.499**	0.327	0.0000721	0.00124	0.130	0.00469	0.624	0.00598	0.0965	0.0129	0.0115	0.000538	0.00000833	0.00794	0.994
	WW Pump Station #4 (AM-02)	<0.0024	0.000228	0.00230		0.00772	0.0000249	ND	0.00370	0.000710	0.0579	0.00193	0.0222	0.00222	0.00240	0.000346	0.00000354	0.00249	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.000102	0.000586		0.00570	0.0000345	ND	0.00270	0.000495	0.0464	0.00118	0.0137	0.00255	0.00160	0.000301	0.00000338	0.00151	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0024	0.000125	0.000613		0.00567	0.0000169	ND	0.00293	0.000510	0.0281	0.00120	0.0186	0.00149	0.00164	0.000314	0.00000375	0.00175	ND
6/5/2024	Leialii Hawaiian Homelands (AM-01)	<0.0024	0.00120	0.0423	0.0475	0.0445	0.0000630	0.000208	0.0193	0.00267	0.366	0.00297	0.0851	0.0114	0.00667	0.000528	0.00000795	0.00751	0.106
	WW Pump Station #4 (AM-02)	<0.0024	0.000192	0.000950		0.00754	0.0000255	ND	0.00372	0.000677	0.0522	0.00217	0.0248	0.00211	0.00186	0.000375	0.00000534	0.00247	ND
	Lahaina Intermediate School (AM-03)	<0.0027	0.0000861	0.000323		0.00413	0.0000300	ND	0.00258	0.000465	0.0541	0.00102	0.0128	0.00228	0.00149	0.000311	0.00000477	0.00143	ND
	Lahaina Boys & Girls Club (AM-04)	<0.0027	0.000133	0.000588		0.00503	0.0000161	ND	0.00260	0.000467	0.0301	0.00135	0.0164	0.00152	0.00144	0.000309	0.00000488	0.00160	ND
95% Upper Confidence Limit[2]		NA	0.000460	0.00173		0.0171	0.0000370	0.170	0.00905	0.00121	0.148	0.00192	0.0336	0.00581	0.00353	0.000310	0.00000370	0.00325	NA

Notes:

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

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

s/cc = structures per cubic centimeter

ug/m3 = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

Exceedance from Heavy Metal sample at Leialii Hawaiian Homelands (AM-01) on 6/4

Table 3
State of Hawaii, Department of Health, Clean Air Branch
Meteorological Data
Maui Wildfires, Lahaina
May 30 through June 5, 2024
[Report Updated: August 12, 2024]

Date	Station ID	Weather Station Name	Wind Speed (mph)	Wind Direction (angle)	Temperature (°F)	Rel Humidity (%)	Baro Pressure (mBar)
5/30/2024	AM-01	Leialii Hawaiian Homelands	1.1	SE	82	57	762.1
5/30/2024	AM-02	WW Pump Station #4	1.1	SSE	81	62	764.2
5/30/2024	AM-03	Lahaina Intermediate School	1.2	ESE	79	60	754.6
5/30/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	63	763.8
5/31/2024	AM-01	Leialii Hawaiian Homelands	0.9	ESE	81	58	761.8
5/31/2024	AM-02	WW Pump Station #4	0.9	SSE	81	63	764.0
5/31/2024	AM-03	Lahaina Intermediate School	1.0	ESE	78	63	754.4
5/31/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	77	64	763.6
6/1/2024	AM-01	Leialii Hawaiian Homelands	1.8	ESE	81	55	761.5
6/1/2024	AM-02	WW Pump Station #4	1.3	SE	82	59	763.6
6/1/2024	AM-03	Lahaina Intermediate School	1.3	ESE	79	58	754.0
6/1/2024	AM-04	Lahaina Boys & Girls Club	1.1	S	78	61	763.3
6/2/2024	AM-01	Leialii Hawaiian Homelands	1.2	SE	82	55	761.8
6/2/2024	AM-02	WW Pump Station #4	1.0	S	82	61	764.0
6/2/2024	AM-03	Lahaina Intermediate School	1.2	SE	79	60	754.3
6/2/2024	AM-04	Lahaina Boys & Girls Club	1.2	SSW	78	63	763.6
6/3/2024	AM-01	Leialii Hawaiian Homelands	0.8	SE	82	64	761.9
6/3/2024	AM-02	WW Pump Station #4	1.0	SSE	82	69	764.1
6/3/2024	AM-03	Lahaina Intermediate School	1.1	SE	79	67	754.4
6/3/2024	AM-04	Lahaina Boys & Girls Club	1.0	SSW	79	69	763.7
6/4/2024	AM-01	Leialii Hawaiian Homelands	1.0	SE	82	64	761.9
6/4/2024	AM-02	WW Pump Station #4	1.1	SSE	82	70	764.0
6/4/2024	AM-03	Lahaina Intermediate School	1.4	SSE	81	64	754.5
6/4/2024	AM-04	Lahaina Boys & Girls Club	1.1	SSW	78	70	763.6
6/5/2024	AM-01	Leialii Hawaiian Homelands	1.0	ESE	82	61	761.8
6/5/2024	AM-02	WW Pump Station #4	1.0	SE	82	68	763.9
6/5/2024	AM-03	Lahaina Intermediate School	1.1	ESE	79	66	754.3
6/5/2024	AM-04	Lahaina Boys & Girls Club	0.9	S	78	68	763.5

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

Appendix 1

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-053024-AB** **Sample Description: DK797410**

EMSL Sample Number:	042411210-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7148.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0001 **Customer Sample:** MFL-AM01-053024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A6	J3	None Detected									
A6	F6	None Detected									
A6	A7	None Detected									
A7	H8	None Detected									
A7	D5	None Detected									

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

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EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Analysis Date:	06/11/2024
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-053024-AB** **Sample Description: DK797425**

EMSL Sample Number:	042411210-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7054.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0002 **Customer Sample:** MFL-AM02-053024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
B5	H6	None Detected									
B5	E3	None Detected									
B5	B5	None Detected									
B6	A4	None Detected									
B6	E5	None Detected									

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

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Tel/Fax: (800) 220-3675 / (856) 786-5974
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EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-053024-AB** **Sample Description: DK797311**

EMSL Sample Number:	042411210-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7189.5
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0003 **Customer Sample:** MFL-AM03-053024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C1	B5	None Detected									
C1	F9	None Detected									
C1	I5	None Detected									
C2	C3	None Detected									
C1	H7	None Detected									

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

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EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-053024-AB**		**Sample Description:**	**DK797328**
EMSL Sample Number:	042411210-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7161.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0004 **Customer Sample:** MFL-AM04-053024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
C5	J4	None Detected									
C5	F2	None Detected									
C5	B7	None Detected									
C7	H6	None Detected									
C7	D5	None Detected									

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

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Tetra Tech
1560 Broadway, Suite 1400
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-053024-AB** **Sample Description: DK797337**

EMSL Sample Number:	042411210-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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Approved Signatory

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Tel/Fax: (800) 220-3675 / (856) 786-5974
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EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0005 **Customer Sample:** MFL-FB01-053024-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	A3	None Detected									
D1	D8	None Detected									
D1	G5	None Detected									
D1	J4	None Detected									
D1	I8	None Detected									
D2	F6	None Detected									
D2	A5	None Detected									
D3	H7	None Detected									
D3	E3	None Detected									
D3	B6	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-053124-AB** **Sample Description: DK797333**

EMSL Sample Number:	042411210-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7270.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0006 **Customer Sample:** MFL-AM01-053124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	I7	None Detected									
D5	G4	None Detected									
D5	C6	None Detected									
D6	H8	None Detected									
D6	D4	None Detected									

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

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EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-053124-AB** **Sample Description: DK797332**

EMSL Sample Number:	042411210-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0007 **Customer Sample:** MFL-AM02-053124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	J5	None Detected									
E1	E4	None Detected									
E1	B7	None Detected									
E2	G8	None Detected									
E2	D6	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-053124-AB** **Sample Description: DK797352**

EMSL Sample Number:	042411210-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7251.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0008 **Customer Sample:** MFL-AM03-053124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A7	None Detected									
E5	F4	None Detected									
E5	I5	None Detected									
E6	C3	None Detected									
E6	H4	None Detected									

Abbreviations used:
XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled
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Tetra Tech
1560 Broadway, Suite 1400
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Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-053124-AB** **Sample Description: DK797365**

EMSL Sample Number:	042411210-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7176.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

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Approved Signatory

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Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0009 **Customer Sample:** MFL-AM04-053124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	I3	None Detected									
F1	G7	None Detected									
F1	B4	None Detected									
F2	C8	None Detected									
F2	J4	None Detected									

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

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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-053124-AB** **Sample Description: DK797349**

EMSL Sample Number:	042411210-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0010 **Customer Sample:** MFL-FB01-053124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	J9	None Detected									
F5	H4	None Detected									
F5	E2	None Detected									
F5	B5	None Detected									
F6	I7	None Detected									
F6	G3	None Detected									
F6	C7	None Detected									
F7	D2	None Detected									
F7	D6	None Detected									
F7	I4	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-060124-AB** **Sample Description: DK797397**

EMSL Sample Number:	042411210-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7162.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0011 **Customer Sample:** MFL-AM01-060124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J9	None Detected									
G1	G5	None Detected									
G1	B7	None Detected									
G2	H4	None Detected									
G2	D4	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-060124-AB** **Sample Description: DK797363**

EMSL Sample Number:	042411210-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6900.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0012 **Customer Sample:** MFL-AM02-060124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G6	B4	None Detected									
G6	E7	None Detected									
G6	I5	None Detected									
G7	A3	None Detected									
G7	G6	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-060124-AB** **Sample Description: DK797336**

EMSL Sample Number:	042411210-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7073.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0013 **Customer Sample:** MFL-AM03-060124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	J4	None Detected									
H1	E5	None Detected									
H2	H8	None Detected									
H2	F3	None Detected									
H2	C5	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-060124-AB** **Sample Description: DK797334**

EMSL Sample Number:	042411210-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7309.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0014 **Customer Sample:** MFL-AM04-060124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	B7	None Detected									
H5	F3	None Detected									
H5	J5	None Detected									
H6	H9	None Detected									
H6	D4	None Detected									

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

EMSL Analytical, Inc.
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Tel/Fax: (800) 220-3675 / (856) 786-5974
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EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-060124-AB**		**Sample Description:**	**DK797348**
EMSL Sample Number:	042411210-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0015 **Customer Sample:** MFL-FB01-060124-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J4	None Detected									
I1	H8	None Detected									
I1	E5	None Detected									
I1	B1	None Detected									
I3	I3	None Detected									
I3	G7	None Detected									
I3	C4	None Detected									
I4	J7	None Detected									
I4	G2	None Detected									
I4	D5	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM01-060224-AB** **Sample Description:** **DK797361**

EMSL Sample Number:	042411210-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7191.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0016 **Customer Sample:** MFL-AM01-060224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I6	B4	None Detected									
I6	D7	None Detected									
I6	H5	None Detected									
I7	E5	None Detected									
I7	I3	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM02-060224-AB** **Sample Description:** **DK797376**

EMSL Sample Number:	042411210-0017		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0017 **Customer Sample:** MFL-AM02-060224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	A3	None Detected									
J1	F6	None Detected									
J1	J8	None Detected									
J2	G5	None Detected									
J2	C5	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM03-060224-AB** **Sample Description:** **DK797343**

EMSL Sample Number:	042411210-0018		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7130.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0018 **Customer Sample:** MFL-AM03-060224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I7	None Detected									
J5	F3	None Detected									
J6	C8	None Detected									
J6	C4	None Detected									
J6	G6	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	06/12/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-AM04-060224-AB** **Sample Description:** **DK797338**

EMSL Sample Number:	042411210-0019		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7012.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0019 **Customer Sample:** MFL-AM04-060224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	J6	None Detected									
K1	E3	None Detected									
K1	A4	None Detected									
K2	H7	None Detected									
K2	C9	None Detected									

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

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Tetra Tech
1560 Broadway, Suite 1400
Denver, CO, 80202

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
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Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060224-AB** **Sample Description: DK797339**

EMSL Sample Number:	042411210-0020		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0020 **Customer Sample:** MFL-FB01-060224-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A4	None Detected									
K5	D7	None Detected									
K5	G5	None Detected									
K5	I9	None Detected									
K6	I3	None Detected									
K6	H9	None Detected									
K6	C6	None Detected									
K7	B3	None Detected									
K7	F7	None Detected									
K7	J6	None Detected									

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

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

EMSL Order:	042411210
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires - Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/05/2024 09:45 AM
Analysis Date:	06/11/2024
Report Date:	06/12/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042411210-0021		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0128
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

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

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

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

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411210
Client: Tetra Tech
Project ID: Maui Fires - Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411210-0021 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
A1	A4	None Detected									
A1	D7	None Detected									
A1	G4	None Detected									
A1	J2	None Detected									
A2	B3	None Detected									
A3	J7	None Detected									
A3	G4	None Detected									
A3	E8	None Detected									
A3	D3	None Detected									
A3	A5	None Detected									

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

OrderID: 042411210

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411210

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

RECEIVED EMSL CINNAMINSON, NJ 2024 JUN -5 A 11:36

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

Customer Information

Customer ID:	
Company Name:	TETRA TECH
Contact Name:	CHELSEA SABER
Street Address:	1560 BROADWAY STE 1900
City, State, Zip:	DENVER, CO 80202
Country:	USA
Phone:	703-989-2674
Email(s) for Report:	chelsea.saber@tetratech.com

Billing Information

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

Project Information

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

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-053024-AB	DK797410	7,198.854	05/30/24 1054
MFL-AM02-053024-AB	DK797425	7,053.953	05/30/24 1115
MFL-AM03-053024-AB	DK797311	7,189.478	05/30/24 1304
MFL-AM09-053024-AB	DK797328	7,161.552	05/30/24 1327
MFL-FB01-053024-AB	DK797337	0	05/30/24 1200
MFL-AM01-053124-AB	DK797333	7,270.056	05/31/24 1057
MFL-AM02-053124-AB	DK797332	7,129.872	05/31/24 1119
MFL-AM03-053124-AB	DK797352	7,251.816	05/31/24 1259

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

All samples received acceptable for analysis.

Method of Shipment:	FEDEX	Sample Condition Upon Receipt:	
Relinquished by:	SHAINA EPSTEIN	Date/Time: 06/03/24 1100	Received by: FedEx	Date/Time 6/5/24 9:45A
Relinquished by:		Date/Time:	Received by:	Date/Time

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

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

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

Page 1 of 20

OrderID: 042411210

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411210

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

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM09-053124-AB	DK797365	7,176.414	05/31/24 1323
MFL-FB01-053124-AB	DK797349	0	05/31/24 1200
MFL-AM01-060124-AB	DK797397	7,162.614	06/1/24 1041
MFL-AM02-060124-AB	DK797363	6,900.912	06/1/24 1126
MFL-AM03-060124-AB	DK797336	7,073.856	06/1/24 1305
MFL-AM04-060124-AB	DK797334	7,309.368	06/1/24 1326
MFL-FB01-060124-AB	DK797348	0	06/1/24 1200
MFL-AM01-060224-AB	DK797361	7,191.936	06/2/24 1050
MFL-AM02-060224-AB	DK797376	7,195.627	06/2/24 1130
MFL-AM03-060224-AB	DK797343	7,129.954	06/2/24 1309
MFL-AM04-060224-AB	DK797338	7,012.699	06/2/24 1334
MFL-FB01-060224-AB	DK797339	0	06/2/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUN -5 A 11:36

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by: SHAINA EPSTEIN	Date/Time: 06/03/24 1100	Received by: Fedex	Date/Time 6/5/24 9:45A
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Page of

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 06/14/2024 and Shanna Vasser 06/17/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/30/2024 – 06/02/224
Report No: 42411210

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

Discrepancies: None

Notes: None

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/12/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060324-AB**		**Sample Description:**	**DK797373**
EMSL Sample Number:	042411596-0001		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7195.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0001 **Customer Sample:** MFL-AM01-060324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D5	A7	None Detected									
D5	E5	None Detected									
D5	I4	None Detected									
D6	G8	None Detected									
D6	D4	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/12/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060324-AB**		**Sample Description:**	**DK797353**
EMSL Sample Number:	042411596-0002		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7139.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0002 **Customer Sample:** MFL-AM02-060324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E1	B4	None Detected									
E1	E7	None Detected									
E1	J4	None Detected									
E2	C3	None Detected									
E2	G6	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/12/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060324-AB**		**Sample Description:**	**DK797360**
EMSL Sample Number:	042411596-0003		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7486.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	6			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0003 **Customer Sample:** MFL-AM03-060324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
E5	A5	None Detected									
E5	D8	None Detected									
E5	J7	None Detected									
E6	B6	None Detected									
E6	H5	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/13/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060324-AB**		**Sample Description:**	**DK797340**
EMSL Sample Number:	042411596-0004		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7145.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0004 **Customer Sample:** MFL-AM04-060324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F1	H4	None Detected									
F1	F7	None Detected									
F1	B5	None Detected									
F2	C6	None Detected									
F2	G9	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/13/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-FB01-060324-AB**		**Sample Description:**	**DK797341**
EMSL Sample Number:	042411596-0005		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0005 **Customer Sample:** MFL-FB01-060324-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
F5	A8	None Detected									
F5	D5	None Detected									
F5	H3	None Detected									
F5	J6	None Detected									
F6	I8	None Detected									
F6	F3	None Detected									
F6	C6	None Detected									
F7	B4	None Detected									
F7	E7	None Detected									
F7	J7	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/13/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060424-AB**		**Sample Description:**	**DK797375**
EMSL Sample Number:	042411596-0006		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7160.8
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0006 **Customer Sample:** MFL-AM01-060424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G1	J3	None Detected									
G1	F7	None Detected									
G1	I7	None Detected									
G2	H6	None Detected									
G2	D4	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060424-AB**		**Sample Description:**	**DK797355**
EMSL Sample Number:	042411596-0007		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7142.6
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0007 **Customer Sample:** MFL-AM02-060424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
G5	A7	None Detected									
G5	E4	None Detected									
G5	J6	None Detected									
G6	H2	None Detected									
G6	C8	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060424-AB**		**Sample Description:**	**DK797369**
EMSL Sample Number:	042411596-0008		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	6882.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0008 **Customer Sample:** MFL-AM03-060424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H1	I8	None Detected									
H1	G3	None Detected									
H1	B5	None Detected									
H2	H7	None Detected									
H2	D3	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060424-AB**		**Sample Description:**	**DK797327**
EMSL Sample Number:	042411596-0009		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7175.4
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0009 **Customer Sample:** MFL-AM04-060424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
H5	A7	None Detected									
H5	E4	None Detected									
H6	B4	None Detected									
H6	E9	None Detected									
H6	I7	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060424-AB** **Sample Description: DK797364**

EMSL Sample Number:	042411596-0010		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0010 **Customer Sample:** MFL-FB01-060424-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I1	J6	None Detected									
I1	G3	None Detected									
I1	D6	None Detected									
I1	A5	None Detected									
I2	B3	None Detected									
I2	F8	None Detected									
I2	J9	None Detected									
I3	C5	None Detected									
I3	G2	None Detected									
I3	I6	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM01-060524-AB**		**Sample Description:**	**DK797357**
EMSL Sample Number:	042411596-0011		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7173.9
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0011 **Customer Sample:** MFL-AM01-060524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
I5	A6	None Detected									
I5	F4	None Detected									
I6	C4	None Detected									
I6	D8	None Detected									
I6	J2	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
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Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM02-060524-AB**		**Sample Description:**	**DK797350**
EMSL Sample Number:	042411596-0012		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7211.3
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	9			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0008**		**Limit of Detection (Structures/cc):**	**0.0024**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Actinolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Amosite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Anthophyllite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Crocidolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Tremolite	ADX	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**
Other Minerals	-	0	0	< 47.09	< 0.0024	Not Applicable	0.0024
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0024**	**Not Applicable**	**0.0024**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0012 **Customer Sample:** MFL-AM02-060524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J1	J5	None Detected									
J1	E4	None Detected									
J1	A8	None Detected									
J2	D6	None Detected									
J2	G8	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM03-060524-AB**		**Sample Description:**	**DK797344**
EMSL Sample Number:	042411596-0013		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7062.1
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	8			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0013 **Customer Sample:** MFL-AM03-060524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
J5	I7	None Detected									
J5	G4	None Detected									
J5	C6	None Detected									
J6	G8	None Detected									
J6	D4	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/15/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**MFL-AM04-060524-AB**		**Sample Description:**	**DK797342**
EMSL Sample Number:	042411596-0014		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	7129.7
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	5
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	7			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**0.0009**		**Limit of Detection (Structures/cc):**	**0.0027**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	Upper
Total Chrysotile	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Actinolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Amosite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Anthophyllite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Crocidolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Tremolite	ADX	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**
Other Minerals	-	0	0	< 47.09	< 0.0027	Not Applicable	0.0027
Total All Structures (PCMe)	**-**	**0**	**0**	**< 47.09**	**< 0.0027**	**Not Applicable**	**0.0027**

Comment

Numerous gypsum fibers present.

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0014 **Customer Sample:** MFL-AM04-060524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K1	I5	None Detected									
K1	E7	None Detected									
K1	B4	None Detected									
K2	D8	None Detected									
K2	G4	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/14/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number: **MFL-FB01-060524-AB** **Sample Description: DK797346**

EMSL Sample Number:	042411596-0015		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			

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

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0015 **Customer Sample:** MFL-FB01-060524-AB

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
K5	A3	None Detected									
K5	C7	None Detected									
K5	F3	None Detected									
K5	I6	None Detected									
K6	J4	None Detected									
K6	E2	None Detected									
K6	A6	None Detected									
K8	C3	None Detected									
K8	D8	None Detected									
K8	G5	None Detected									

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

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

EMSL Order:	042411596
Customer ID:	TTDC42
Customer PO:	1207085
Project ID:	N/A

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

Project: **Maui Fires Lahaina**

Phone:	(703) 489-2674
Fax:	N/A
Received Date:	06/10/2024 09:00 AM
Analysis Date:	06/12/2024
Report Date:	06/16/2024

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Customer Sample Number:	**Lab Blank**		**Sample Description:**	**Lab Blank**
EMSL Sample Number:	042411596-0016		Sample Matrix:	Air
Magnification used for fiber counting:	20,000		Volume (L) :	0.0
Aspect ratio for fiber definition:	3:1		Area of original collection filter (mm^2):	385
Minimum Length (µm):	≥ 0.5		Grid Opening Area (mm^2):	0.0127
Chi^2 Test for Random Distribution on Filter:	N/A	*(N/A)*	Grid Openings Analyzed:	10
Minimum Level of analysis (chrysotile):	CD		Analyst:	G.Barry
Minimum Level of analysis (amphibole):	ADX			
Estimated Particulate Loading on Filter %:	1			
Target Analytical Sensitivity (Structures/cc):	0.001			
Analytical Sensitivity (Structures/cc):	**N/A**		**Limit of Detection (Structures/cc):**	**N/A**

TOTAL STRUCTURES (All Sizes)

	Minimum ID Level	Structures Detected Primary	Structures Detected Total	Density (S/mm^2)	Concentration (S/cc)	95 % Confidence Interval (S/cc) Lower	95 % Confidence Interval (S/cc) Upper
Total Chrysotile	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures	**-**	**0**	**0**	**< 23.54**			

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

	Minimum ID Level	Fibers Detected Primary	Fibers Detected Total	Density (F/mm^2)	Concentration (F/cc)	95 % Confidence Interval (F/cc) Lower	95 % Confidence Interval (F/cc) Upper
Total Chrysotile (PCMe)	**CD**	**0**	**0**	**< 23.54**			
Total Amphibole (PCMe)	**ADX**	**0**	**0**	**< 23.54**			
Actinolite	ADX	0	0	< 23.54			
Amosite	ADX	0	0	< 23.54			
Anthophyllite	ADX	0	0	< 23.54			
Crocidolite	ADX	0	0	< 23.54			
Tremolite	ADX	0	0	< 23.54			
Total Asbestos Structures (PCMe)	**CD/ADX**	**0**	**0**	**< 23.54**			
Other Minerals	-	0	0	< 23.54			
Total All Structures (PCMe)	**-**	**0**	**0**	**< 23.54**			

Comment

Robyn Ray
Approved Signatory

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

EMSL Order ID: 042411596
Client: Tetra Tech
Project ID: Maui Fires Lahaina

ISO 10312 Determination of Asbestos Fibers
Direct Transfer Transmission Electron Microscopy

Analytical Bench Sheet Data

EMSL Sample ID: 042411596-0016 **Customer Sample:** Lab Blank

Grid ID	Grid Opening	Structure Type	Structure Number		Dimensions (µm)		Level of ID	Mineral Type	Additional Mineral ID	Image Number	Structure Comments
			Primary	Total	Length	Width					
D1	J10	None Detected									
D1	I5	None Detected									
D1	E3	None Detected									
D1	B6	None Detected									
D2	H8	None Detected									
D2	E3	None Detected									
D2	A8	None Detected									
D3	I6	None Detected									
D3	F4	None Detected									
D3	C6	None Detected									

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

OrderID: 042411596

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411596

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

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

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

Customer Information

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

Billing Information

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

RECEIVED EMSL CINNAMINSON, NJ 2024 JUN 10 A 9:20

Project Information

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

Turn-Around-Time (TAT)

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

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

Test Selection

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

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

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

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

Other Test (please specify)

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

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

*Please call with your project-specific requirements.

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM01-060324-AB	DK797373	7,195.800	06/03/24 1105
MFL-AM02-060324-AB	DK797353	7,139.063	06/03/24 1128
MFL-AM03-060324-AB	DK797360	7,486.660	06/03/24 1310
MFL-AM04-060324-AB	DK797340	7,145.270	06/03/24 1330
MFL-FB01-060324-AB	DK797341	0	06/03/24 1200
MFL-AM01-060424-AB	DK797375	7,160.810	06/04/24 1050
MFL-AM02-060424-AB	DK797355	7,142.570	06/04/24 1120
MFL-AM03-060424-AB	DK797369	6,882.395	06/04/24 1306

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

All samples received acceptable for analysis.

15

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by: TED BROWN	Date/Time: 06/06/24 1100	Received by: FedEx	Date/Time 6/10/24 9AM
Relinquished by:	Date/Time:	Received by:	Date/Time

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

OrderID: 042411596

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042411596

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

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

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

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

Sample Number	Sample Location / Description	Volume, Area or Homogeneous Area	Date / Time Sampled (Air Monitoring Only)
MFL-AM09-060924-AB	DK797327	7,175.376	06/09/24 1333
MFL-FB01-060924-AB	DK797364	0	06/09/24 1200
MFL-AM01-060524-AB	DK797357	7,173.904	06/05/24 1054
MFL-AM02-060524-AB	DK797350	7,211.261	06/05/24 1123
MFL-AM03-060524-AB	DK797344	7,062.118	06/05/24 1302
MFL-AM04-060524-AB	DK797342	7,129.710	06/05/24 1326
MFL-FB01-060524-AB	DK797346	0	06/05/24 1200

RECEIVED
EMSL
CINNAMINSON, NJ
2024 JUN 10 A 9:00

Method of Shipment: FEDEX		Sample Condition Upon Receipt:	
Relinquished by: TED BROWN	Date/Time: 06/06/24 1100	Received by: FedEx	Date/Time 6/10/24 9AM
Relinquished by:	Date/Time:	Received by:	Date/Time

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

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 06/17/2024 and Shanna Vasser 06/18/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 06/03/2024 – 06/05/2024
Report No: 42411596

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

Discrepancies: None

Notes: None

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

June 19, 2024

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

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 06/10/24 15:50.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-053024-HM	4061041-01	Air	05/30/24 23:59	06/10/24 15:50
MFL-AM02-053024-HM	4061041-02	Air	05/30/24 23:59	06/10/24 15:50
MFL-AM03-053024-HM	4061041-03	Air	05/30/24 23:59	06/10/24 15:50
MFL-AM04-053024-HM	4061041-04	Air	05/30/24 23:59	06/10/24 15:50
MFL-AM01-053124-HM	4061041-05	Air	05/31/24 23:59	06/10/24 15:50
MFL-AM02-053124-HM	4061041-06	Air	05/31/24 23:59	06/10/24 15:50
MFL-AM03-053124-HM	4061041-07	Air	05/31/24 23:59	06/10/24 15:50
MFL-AM04-053124-HM	4061041-08	Air	05/31/24 23:59	06/10/24 15:50
MFL-FB01-053124-HM	4061041-09	Air	05/31/24 00:00	06/10/24 15:50
MFL-AM01-060124-HM	4061041-10	Air	06/01/24 23:59	06/10/24 15:50
MFL-AM02-060124-HM	4061041-11	Air	06/01/24 23:59	06/10/24 15:50
MFL-AM03-060124-HM	4061041-12	Air	06/01/24 23:59	06/10/24 15:50
MFL-AM04-060124-HM	4061041-13	Air	06/01/24 23:59	06/10/24 15:50
MFL-AM01-060224-HM	4061041-14	Air	06/02/24 23:59	06/10/24 15:50
MFL-AM02-060224-HM	4061041-15	Air	06/02/24 23:59	06/10/24 15:50
MFL-AM03-060224-HM	4061041-16	Air	06/02/24 23:59	06/10/24 15:50
MFL-AM04-060224-HM	4061041-17	Air	06/02/24 23:59	06/10/24 15:50
MFL-FB01-060224-HM	4061041-18	Air	06/02/24 00:00	06/10/24 15:50
MFL-AM01-060324-HM	4061041-19	Air	06/03/24 23:59	06/10/24 15:50
MFL-AM02-060324-HM	4061041-20	Air	06/03/24 23:59	06/10/24 15:50
MFL-AM03-060324-HM	4061041-21	Air	06/03/24 23:59	06/10/24 15:50

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

MFL-AM04-060324-HM	4061041-22	Air	06/03/24 23:59	06/10/24 15:50
MFL-AM01-060424-HM	4061041-23	Air	06/04/24 23:59	06/10/24 15:50
MFL-AM02-060424-HM	4061041-24	Air	06/04/24 23:59	06/10/24 15:50
MFL-AM03-060424-HM	4061041-25	Air	06/04/24 23:59	06/10/24 15:50
MFL-AM04-060424-HM	4061041-26	Air	06/04/24 23:59	06/10/24 15:50
MFL-FB01-060424-HM	4061041-27	Air	06/04/24 00:00	06/10/24 15:50
MFL-AM01-060524-HM	4061041-28	Air	06/05/24 23:59	06/10/24 15:50
MFL-AM02-060524-HM	4061041-29	Air	06/05/24 23:59	06/10/24 15:50
MFL-AM03-060524-HM	4061041-30	Air	06/05/24 23:59	06/10/24 15:50
MFL-AM04-060524-HM	4061041-31	Air	06/05/24 23:59	06/10/24 15:50

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053024-HM
Matrix: Air
Lab ID: 4061041-01
Sample Volume: 1848.352 m³
Filter ID:
Sampled: 05/30/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 00:41

Comments: Q8505811 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.423**	SL	**0.0340**
Arsenic	**7440-38-2**	**8.58**		**0.00825**
Barium	**7440-39-3**	**9.96**	QB-01	**0.942**
Beryllium	**7440-41-7**	**0.0232**		**0.00282**
Cadmium	7440-43-9	0.0351	U	0.0652
Chromium	**7440-47-3**	**5.93**		**1.95**
Cobalt	**7440-48-4**	**0.909**		**0.0384**
Copper	**7440-50-8**	**220**		**2.32**
Lead	**7439-92-1**	**3.42**		**0.188**
Manganese	**7439-96-5**	**30.2**		**1.66**
Molybdenum	**7439-98-7**	**10.6**		**0.316**
Nickel	**7440-02-0**	**2.84**		**0.574**
Selenium	**7782-49-2**	**0.292**		**0.00789**
Thallium	**7440-28-0**	**0.00320**		**5.18E-4**
Vanadium	**7440-62-2**	**3.05**		**0.0466**
Zinc	7440-66-6	67.2	U	67.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-053024-HM
Matrix: Air
Lab ID: 4061041-02
Sample Volume: 1976.138 m³
Filter ID:
Sampled: 05/30/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 00:57

Comments: Q8505813 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0922**	SL	**0.0318**
Arsenic	**7440-38-2**	**0.319**		**0.00771**
Barium	**7440-39-3**	**5.21**	QB-01	**0.881**
Beryllium	**7440-41-7**	**0.0172**		**0.00263**
Cadmium	7440-43-9	0.0107	U	0.0610
Chromium	**7440-47-3**	**2.96**		**1.82**
Cobalt	**7440-48-4**	**0.572**		**0.0359**
Copper	**7440-50-8**	**46.9**		**2.17**
Lead	**7439-92-1**	**0.701**		**0.176**
Manganese	**7439-96-5**	**16.4**		**1.56**
Molybdenum	**7439-98-7**	**2.28**		**0.296**
Nickel	**7440-02-0**	**2.28**		**0.537**
Selenium	**7782-49-2**	**0.255**		**0.00738**
Thallium	**7440-28-0**	**0.00179**		**4.85E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0436**
Zinc	7440-66-6	38.3	U	63.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-053024-HM
Matrix: Air
Lab ID: 4061041-03
Sample Volume: 2024.081 m³
Filter ID:
Sampled: 05/30/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 01:13

Comments: Q8505814 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0829**	SL	**0.0310**
Arsenic	**7440-38-2**	**0.390**		**0.00753**
Barium	**7440-39-3**	**5.94**	QB-01	**0.860**
Beryllium	**7440-41-7**	**0.0714**		**0.00257**
Cadmium	7440-43-9	0.0119	U	0.0596
Chromium	**7440-47-3**	**3.59**		**1.78**
Cobalt	**7440-48-4**	**0.890**		**0.0350**
Copper	**7440-50-8**	**36.8**		**2.11**
Lead	**7439-92-1**	**0.773**		**0.172**
Manganese	**7439-96-5**	**22.1**		**1.52**
Molybdenum	**7439-98-7**	**1.98**		**0.289**
Nickel	**7440-02-0**	**2.20**		**0.524**
Selenium	**7782-49-2**	**0.302**		**0.00720**
Thallium	**7440-28-0**	**0.00219**		**4.73E-4**
Vanadium	**7440-62-2**	**2.23**		**0.0425**
Zinc	7440-66-6	35.0	U	61.7

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-053024-HM
Matrix: Air
Lab ID: 4061041-04
Sample Volume: 1867.532 m³
Filter ID:
Sampled: 05/30/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 01:29

Comments: Q8505815 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0336**
Arsenic	**7440-38-2**	**1.84**		**0.00816**
Barium	**7440-39-3**	**6.04**	QB-01	**0.932**
Beryllium	**7440-41-7**	**0.0249**		**0.00279**
Cadmium	7440-43-9	0.0541	U	0.0646
Chromium	**7440-47-3**	**3.77**		**1.93**
Cobalt	**7440-48-4**	**0.705**		**0.0380**
Copper	**7440-50-8**	**26.6**		**2.29**
Lead	**7439-92-1**	**2.11**		**0.186**
Manganese	**7439-96-5**	**23.6**		**1.65**
Molybdenum	**7439-98-7**	**1.34**		**0.313**
Nickel	**7440-02-0**	**2.03**		**0.568**
Selenium	**7782-49-2**	**0.276**		**0.00781**
Thallium	**7440-28-0**	**0.00216**		**5.13E-4**
Vanadium	**7440-62-2**	**2.12**		**0.0461**
Zinc	7440-66-6	42.7	U	66.9

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/12/24 21:53

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.389**	SL	**0.0330**
Barium	**7440-39-3**	**13.8**	QB-01	**0.915**
Beryllium	**7440-41-7**	**0.0301**		**0.00274**
Cadmium	7440-43-9	0.0481	U	0.0634
Chromium	**7440-47-3**	**8.71**		**1.89**
Cobalt	**7440-48-4**	**1.43**		**0.0373**
Copper	**7440-50-8**	**239**	A-01, PS-01, QM-4X	**2.25**
Lead	**7439-92-1**	**2.08**		**0.183**
Manganese	**7439-96-5**	**43.7**	A-01, PS-01	**1.62**
Molybdenum	**7439-98-7**	**10.3**		**0.307**
Nickel	**7440-02-0**	**3.53**		**0.558**
Selenium	**7782-49-2**	**0.281**	SRD-01	**0.00766**
Thallium	**7440-28-0**	**0.00341**		**5.04E-4**
Vanadium	**7440-62-2**	**4.76**		**0.0452**
Zinc	7440-66-6	57.9	U	65.7

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05RE1
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 18:41

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**12.0**	D	**0.0160**

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-053124-HM
Matrix: Air
Lab ID: 4061041-06
Sample Volume: 2047.518 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 01:44

Comments: Q8505817 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.100**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.389**		**0.00745**
Barium	**7440-39-3**	**5.34**	QB-01	**0.850**
Beryllium	**7440-41-7**	**0.0176**		**0.00254**
Cadmium	7440-43-9	0.0123	U	0.0589
Chromium	**7440-47-3**	**2.70**		**1.76**
Cobalt	**7440-48-4**	**0.570**		**0.0346**
Copper	**7440-50-8**	**57.9**		**2.09**
Lead	**7439-92-1**	**0.940**		**0.170**
Manganese	**7439-96-5**	**16.8**		**1.50**
Molybdenum	**7439-98-7**	**2.61**		**0.285**
Nickel	**7440-02-0**	**1.82**		**0.518**
Selenium	**7782-49-2**	**0.193**		**0.00712**
Thallium	**7440-28-0**	**0.00146**		**4.68E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0420**
Zinc	7440-66-6	37.8	U	61.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-053124-HM
Matrix: Air
Lab ID: 4061041-07
Sample Volume: 2058.145 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 01:59

Comments: Q8505818 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0696**	SL	**0.0305**
Arsenic	**7440-38-2**	**0.395**		**0.00741**
Barium	**7440-39-3**	**5.43**	QB-01	**0.846**
Beryllium	**7440-41-7**	**0.0670**		**0.00253**
Cadmium	7440-43-9	0.0130	U	0.0586
Chromium	**7440-47-3**	**4.08**		**1.75**
Cobalt	**7440-48-4**	**0.923**		**0.0345**
Copper	**7440-50-8**	**36.5**		**2.08**
Lead	**7439-92-1**	**0.753**		**0.169**
Manganese	**7439-96-5**	**23.0**		**1.49**
Molybdenum	**7439-98-7**	**1.89**		**0.284**
Nickel	**7440-02-0**	**2.26**		**0.515**
Selenium	**7782-49-2**	**0.254**		**0.00708**
Thallium	**7440-28-0**	**0.00187**		**4.66E-4**
Vanadium	**7440-62-2**	**2.02**		**0.0418**
Zinc	7440-66-6	34.7	U	60.7

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-053124-HM
Matrix: Air
Lab ID: 4061041-08
Sample Volume: 1870.806 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 02:16

Comments: Q8505821 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.121**	SL	**0.0336**
Arsenic	**7440-38-2**	**1.68**		**0.00815**
Barium	**7440-39-3**	**5.31**	QB-01	**0.931**
Beryllium	**7440-41-7**	**0.0198**		**0.00278**
Cadmium	**7440-43-9**	**0.0789**		**0.0644**
Chromium	**7440-47-3**	**3.53**		**1.92**
Cobalt	**7440-48-4**	**0.614**		**0.0379**
Copper	**7440-50-8**	**29.1**		**2.29**
Lead	**7439-92-1**	**1.30**		**0.186**
Manganese	**7439-96-5**	**19.6**		**1.64**
Molybdenum	**7439-98-7**	**1.47**		**0.312**
Nickel	**7440-02-0**	**1.76**		**0.567**
Selenium	**7782-49-2**	**0.187**		**0.00779**
Thallium	**7440-28-0**	**0.00157**		**5.12E-4**
Vanadium	**7440-62-2**	**1.65**		**0.0460**
Zinc	7440-66-6	39.6	U	66.8

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-053124-HM
Matrix: Air
Lab ID: 4061041-09
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 00:00
Received: 06/10/24 15:50
Analysis Date: 06/13/24 02:32

Comments: Q8505829 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0172	SL, U	0.0330
Arsenic	7440-38-2	0.00694	U	0.00801
Barium	7440-39-3	0.861	QB-01, U	0.915
Beryllium	7440-41-7	7.53E-4	U	0.00274
Cadmium	7440-43-9	4.95E-4	U	0.0634
Chromium	7440-47-3	0.824	U	1.89
Cobalt	7440-48-4	0.00918	U	0.0373
Copper	7440-50-8	0.401	U	2.25
Lead	7439-92-1	0.0242	U	0.183
Manganese	7439-96-5	0.145	U	1.62
Molybdenum	7439-98-7	0.137	U	0.307
Nickel	7440-02-0	0.414	U	0.558
Selenium	7782-49-2	0.00509	U	0.00766
Thallium	7440-28-0	1.53E-4	U	5.04E-4
Vanadium	7440-62-2	0.0157	U	0.0452
Zinc	7440-66-6	19.2	U	65.7

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060124-HM
Matrix: Air
Lab ID: 4061041-10
Sample Volume: 1875.325 m³
Filter ID:
Sampled: 06/01/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 02:46

Comments: Q8505824 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.121**	SL	**0.0335**
Arsenic	**7440-38-2**	**2.95**		**0.00813**
Barium	**7440-39-3**	**7.82**	QB-01	**0.928**
Beryllium	**7440-41-7**	**0.0296**		**0.00278**
Cadmium	7440-43-9	0.0236	U	0.0643
Chromium	**7440-47-3**	**6.16**		**1.92**
Cobalt	**7440-48-4**	**1.45**		**0.0378**
Copper	**7440-50-8**	**213**		**2.28**
Lead	**7439-92-1**	**0.964**		**0.186**
Manganese	**7439-96-5**	**38.2**		**1.64**
Molybdenum	**7439-98-7**	**10.7**		**0.311**
Nickel	**7440-02-0**	**3.94**		**0.566**
Selenium	**7782-49-2**	**0.267**		**0.00777**
Thallium	**7440-28-0**	**0.00230**		**5.11E-4**
Vanadium	**7440-62-2**	**3.85**		**0.0459**
Zinc	7440-66-6	30.1	U	66.6

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060124-HM
Matrix: Air
Lab ID: 4061041-11
Sample Volume: 2119.25 m³
Filter ID:
Sampled: 06/01/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 03:03

Comments: Q8505825 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0296**
Arsenic	**7440-38-2**	**0.507**		**0.00719**
Barium	**7440-39-3**	**5.61**	QB-01	**0.821**
Beryllium	**7440-41-7**	**0.0185**		**0.00246**
Cadmium	7440-43-9	0.0198	U	0.0569
Chromium	**7440-47-3**	**3.47**		**1.70**
Cobalt	**7440-48-4**	**0.732**		**0.0335**
Copper	**7440-50-8**	**47.6**		**2.02**
Lead	**7439-92-1**	**1.10**		**0.164**
Manganese	**7439-96-5**	**19.0**		**1.45**
Molybdenum	**7439-98-7**	**2.03**		**0.276**
Nickel	**7440-02-0**	**2.16**		**0.501**
Selenium	**7782-49-2**	**0.191**		**0.00688**
Thallium	**7440-28-0**	**0.00147**		**4.52E-4**
Vanadium	**7440-62-2**	**2.12**		**0.0406**
Zinc	7440-66-6	24.2	U	59.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060124-HM
Matrix: Air
Lab ID: 4061041-12
Sample Volume: 1861.956 m³
Filter ID:
Sampled: 06/01/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/12/24 18:06

Comments: Q8505831 - MS/MSD - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0562**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.187**		**0.00819**
Barium	**7440-39-3**	**3.23**	QB-01	**0.935**
Beryllium	**7440-41-7**	**0.0321**		**0.00280**
Cadmium	7440-43-9	0.00851	U	0.0647
Chromium	**7440-47-3**	**2.50**		**1.93**
Cobalt	**7440-48-4**	**0.436**		**0.0381**
Copper	**7440-50-8**	**41.4**		**2.30**
Lead	**7439-92-1**	**0.402**		**0.187**
Manganese	**7439-96-5**	**10.7**		**1.65**
Molybdenum	**7439-98-7**	**2.19**		**0.314**
Nickel	**7440-02-0**	**1.31**		**0.570**
Selenium	**7782-49-2**	**0.172**		**0.00783**
Thallium	**7440-28-0**	**0.00138**		**5.15E-4**
Vanadium	**7440-62-2**	**1.00**		**0.0462**
Zinc	7440-66-6	27.4	U	67.1

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060124-HM
Matrix: Air
Lab ID: 4061041-13
Sample Volume: 1942.608 m³
Filter ID:
Sampled: 06/01/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 04:15

Comments: Q8505832 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.107**	SL	**0.0323**
Arsenic	**7440-38-2**	**0.999**		**0.00785**
Barium	**7440-39-3**	**4.22**	QB-01	**0.896**
Beryllium	**7440-41-7**	**0.0124**		**0.00268**
Cadmium	7440-43-9	0.0144	U	0.0621
Chromium	**7440-47-3**	**2.47**		**1.85**
Cobalt	**7440-48-4**	**0.384**		**0.0365**
Copper	**7440-50-8**	**24.1**		**2.20**
Lead	**7439-92-1**	**0.927**		**0.179**
Manganese	**7439-96-5**	**12.9**		**1.58**
Molybdenum	**7439-98-7**	**1.40**		**0.301**
Nickel	**7440-02-0**	**1.24**		**0.546**
Selenium	**7782-49-2**	**0.157**		**0.00750**
Thallium	**7440-28-0**	**0.00135**		**4.93E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0443**
Zinc	7440-66-6	31.0	U	64.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060224-HM
Matrix: Air
Lab ID: 4061041-14
Sample Volume: 1976.398 m³
Filter ID:
Sampled: 06/02/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 04:30

Comments: Q8505834 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0945**	SL	**0.0318**
Arsenic	**7440-38-2**	**2.43**		**0.00771**
Barium	**7440-39-3**	**14.9**	QB-01	**0.881**
Beryllium	**7440-41-7**	**0.0626**		**0.00263**
Cadmium	**7440-43-9**	**0.101**		**0.0610**
Chromium	**7440-47-3**	**11.6**		**1.82**
Cobalt	**7440-48-4**	**2.99**		**0.0359**
Copper	**7440-50-8**	**190**		**2.17**
Lead	**7439-92-1**	**1.11**		**0.176**
Manganese	**7439-96-5**	**73.6**		**1.56**
Molybdenum	**7439-98-7**	**7.68**		**0.296**
Nickel	**7440-02-0**	**9.29**		**0.537**
Selenium	**7782-49-2**	**0.417**		**0.00738**
Thallium	**7440-28-0**	**0.00404**		**4.85E-4**
Vanadium	**7440-62-2**	**7.57**		**0.0435**
Zinc	7440-66-6	35.0	U	63.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060224-HM
Matrix: Air
Lab ID: 4061041-15
Sample Volume: 1951.511 m³
Filter ID:
Sampled: 06/02/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 04:50

Comments: Q8505835 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.321**	SL	**0.0322**
Arsenic	**7440-38-2**	**1.62**		**0.00781**
Barium	**7440-39-3**	**9.66**	QB-01	**0.892**
Beryllium	**7440-41-7**	**0.0240**		**0.00267**
Cadmium	7440-43-9	0.0243	U	0.0618
Chromium	**7440-47-3**	**5.08**		**1.84**
Cobalt	**7440-48-4**	**0.897**		**0.0363**
Copper	**7440-50-8**	**59.3**		**2.19**
Lead	**7439-92-1**	**2.04**		**0.178**
Manganese	**7439-96-5**	**24.1**		**1.58**
Molybdenum	**7439-98-7**	**2.38**		**0.299**
Nickel	**7440-02-0**	**3.02**		**0.544**
Selenium	**7782-49-2**	**0.238**		**0.00747**
Thallium	**7440-28-0**	**0.00266**		**4.91E-4**
Vanadium	**7440-62-2**	**2.64**		**0.0441**
Zinc	7440-66-6	38.0	U	64.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060224-HM
Matrix: Air
Lab ID: 4061041-16
Sample Volume: 2036.79 m³
Filter ID:
Sampled: 06/02/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 05:06

Comments: Q8505836 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0608**	SL	**0.0308**
Arsenic	**7440-38-2**	**0.229**		**0.00748**
Barium	**7440-39-3**	**3.18**	QB-01	**0.855**
Beryllium	**7440-41-7**	**0.0225**		**0.00256**
Cadmium	7440-43-9	0.0107	U	0.0592
Chromium	**7440-47-3**	**4.32**		**1.77**
Cobalt	**7440-48-4**	**0.420**		**0.0348**
Copper	**7440-50-8**	**36.4**		**2.10**
Lead	**7439-92-1**	**0.476**		**0.171**
Manganese	**7439-96-5**	**10.4**		**1.51**
Molybdenum	**7439-98-7**	**2.21**		**0.287**
Nickel	**7440-02-0**	**1.78**		**0.521**
Selenium	**7782-49-2**	**0.182**		**0.00716**
Thallium	**7440-28-0**	**0.00193**		**4.70E-4**
Vanadium	**7440-62-2**	**1.03**		**0.0423**
Zinc	7440-66-6	19.3	U	61.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060224-HM
Matrix: Air
Lab ID: 4061041-17
Sample Volume: 1729.297 m³
Filter ID:
Sampled: 06/02/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 05:20

Comments: Q8505837 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.122**	SL	**0.0363**
Arsenic	**7440-38-2**	**1.51**		**0.00882**
Barium	**7440-39-3**	**6.12**	QB-01	**1.01**
Beryllium	**7440-41-7**	**0.0298**		**0.00301**
Cadmium	7440-43-9	0.0337	U	0.0697
Chromium	**7440-47-3**	**4.31**		**2.08**
Cobalt	**7440-48-4**	**0.753**		**0.0410**
Copper	**7440-50-8**	**25.9**		**2.47**
Lead	**7439-92-1**	**1.50**		**0.201**
Manganese	**7439-96-5**	**25.3**		**1.78**
Molybdenum	**7439-98-7**	**1.36**		**0.338**
Nickel	**7440-02-0**	**2.36**		**0.613**
Selenium	**7782-49-2**	**0.253**		**0.00843**
Thallium	**7440-28-0**	**0.00244**		**5.54E-4**
Vanadium	**7440-62-2**	**2.00**		**0.0498**
Zinc	7440-66-6	28.0	U	72.3

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-060224-HM
Matrix: Air
Lab ID: 4061041-18
Sample Volume: 1976.398 m³
Filter ID:
Sampled: 06/02/24 00:00
Received: 06/10/24 15:50
Analysis Date: 06/13/24 05:36

Comments: Q8505842 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0176	SL, U	0.0318
Arsenic	**7440-38-2**	**0.00828**	FB-01	**0.00771**
Barium	**7440-39-3**	**0.942**	FB-01, QB-01	**0.881**
Beryllium	7440-41-7	9.25E-4	U	0.00263
Cadmium	7440-43-9	0.00125	U	0.0610
Chromium	7440-47-3	0.925	U	1.82
Cobalt	7440-48-4	0.0135	U	0.0359
Copper	7440-50-8	1.19	U	2.17
Lead	7439-92-1	0.0672	U	0.176
Manganese	7439-96-5	0.235	U	1.56
Molybdenum	7439-98-7	0.157	U	0.296
Nickel	7440-02-0	0.406	U	0.537
Selenium	7782-49-2	0.00514	U	0.00738
Thallium	7440-28-0	1.28E-4	U	4.85E-4
Vanadium	7440-62-2	0.0271	U	0.0435
Zinc	7440-66-6	12.8	U	63.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060324-HM
Matrix: Air
Lab ID: 4061041-19
Sample Volume: 1893.377 m³
Filter ID:
Sampled: 06/03/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 05:49

Comments: Q8505838 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0731**	SL	**0.0332**
Arsenic	**7440-38-2**	**0.979**		**0.00805**
Barium	**7440-39-3**	**6.53**	QB-01	**0.919**
Beryllium	**7440-41-7**	**0.0216**		**0.00275**
Cadmium	7440-43-9	0.0244	U	0.0637
Chromium	**7440-47-3**	**5.52**		**1.90**
Cobalt	**7440-48-4**	**0.954**		**0.0375**
Copper	**7440-50-8**	**260**		**2.26**
Lead	**7439-92-1**	**0.552**		**0.184**
Manganese	**7439-96-5**	**25.1**		**1.62**
Molybdenum	**7439-98-7**	**15.6**		**0.308**
Nickel	**7440-02-0**	**4.24**		**0.560**
Selenium	**7782-49-2**	**0.259**		**0.00770**
Thallium	**7440-28-0**	**0.00283**		**5.06E-4**
Vanadium	**7440-62-2**	**2.63**		**0.0455**
Zinc	7440-66-6	25.0	U	66.0

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060324-HM
Matrix: Air
Lab ID: 4061041-20
Sample Volume: 2002.056 m³
Filter ID:
Sampled: 06/03/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 06:06

Comments: Q8505839 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.323**	SL	**0.0314**
Arsenic	**7440-38-2**	**1.22**		**0.00761**
Barium	**7440-39-3**	**8.71**	QB-01	**0.870**
Beryllium	**7440-41-7**	**0.0201**		**0.00260**
Cadmium	7440-43-9	0.0270	U	0.0602
Chromium	**7440-47-3**	**3.14**		**1.80**
Cobalt	**7440-48-4**	**0.681**		**0.0354**
Copper	**7440-50-8**	**53.4**		**2.14**
Lead	**7439-92-1**	**1.70**		**0.174**
Manganese	**7439-96-5**	**19.0**		**1.54**
Molybdenum	**7439-98-7**	**2.30**		**0.292**
Nickel	**7440-02-0**	**2.84**		**0.530**
Selenium	**7782-49-2**	**0.249**		**0.00728**
Thallium	**7440-28-0**	**0.00281**		**4.79E-4**
Vanadium	**7440-62-2**	**1.95**		**0.0430**
Zinc	7440-66-6	35.5	U	62.4

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060324-HM
Matrix: Air
Lab ID: 4061041-21
Sample Volume: 1881.612 m³
Filter ID:
Sampled: 06/03/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 06:38

Comments: Q8505840 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0720**	SL	**0.0334**
Arsenic	**7440-38-2**	**0.296**		**0.00810**
Barium	**7440-39-3**	**3.50**	QB-01	**0.925**
Beryllium	**7440-41-7**	**0.0279**		**0.00277**
Cadmium	7440-43-9	0.0142	U	0.0641
Chromium	**7440-47-3**	**2.49**		**1.91**
Cobalt	**7440-48-4**	**0.447**		**0.0377**
Copper	**7440-50-8**	**42.8**		**2.27**
Lead	**7439-92-1**	**0.549**		**0.185**
Manganese	**7439-96-5**	**11.3**		**1.63**
Molybdenum	**7439-98-7**	**2.79**		**0.310**
Nickel	**7440-02-0**	**1.48**		**0.564**
Selenium	**7782-49-2**	**0.239**		**0.00775**
Thallium	**7440-28-0**	**0.00237**		**5.09E-4**
Vanadium	**7440-62-2**	**1.19**		**0.0457**
Zinc	7440-66-6	25.7	U	66.4

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060324-HM
Matrix: Air
Lab ID: 4061041-22
Sample Volume: 1718.763 m³
Filter ID:
Sampled: 06/03/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 07:47

Comments: Q8505843 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.104**	SL	**0.0365**
Arsenic	**7440-38-2**	**0.781**		**0.00887**
Barium	**7440-39-3**	**4.95**	QB-01	**1.01**
Beryllium	**7440-41-7**	**0.0175**		**0.00303**
Cadmium	7440-43-9	0.0203	U	0.0701
Chromium	**7440-47-3**	**3.02**		**2.09**
Cobalt	**7440-48-4**	**0.510**		**0.0413**
Copper	**7440-50-8**	**29.5**		**2.49**
Lead	**7439-92-1**	**1.27**		**0.203**
Manganese	**7439-96-5**	**18.3**		**1.79**
Molybdenum	**7439-98-7**	**1.54**		**0.340**
Nickel	**7440-02-0**	**1.61**		**0.617**
Selenium	**7782-49-2**	**0.246**		**0.00848**
Thallium	**7440-28-0**	**0.00257**		**5.58E-4**
Vanadium	**7440-62-2**	**1.53**		**0.0501**
Zinc	7440-66-6	29.9	U	72.7

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 08:04

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0721		0.00272
Cadmium	7440-43-9	1.24		0.0629
Cobalt	7440-48-4	4.69		0.0370
Copper	7440-50-8	624		2.23
Lead	7439-92-1	5.98		0.182
Manganese	7439-96-5	96.5		1.60
Molybdenum	7439-98-7	12.9		0.305
Nickel	7440-02-0	11.5		0.553
Selenium	7782-49-2	0.538		0.00761
Thallium	7440-28-0	0.00833		5.00E-4
Vanadium	7440-62-2	7.94		0.0449

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE1
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:22

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	9.37	D, SL	0.164
Barium	7440-39-3	327	D, QB-01	4.54
Chromium	7440-47-3	130	D	9.38
Zinc	7440-66-6	994	D	326

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE2
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:42

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**537**	D	**0.795**

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060424-HM
Matrix: Air
Lab ID: 4061041-24
Sample Volume: 2093.123 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 08:24

Comments: Q8505845 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.228**	SL	**0.0300**
Arsenic	**7440-38-2**	**2.30**		**0.00728**
Barium	**7440-39-3**	**7.72**	QB-01	**0.832**
Beryllium	**7440-41-7**	**0.0249**		**0.00249**
Cadmium	7440-43-9	0.0298	U	0.0576
Chromium	**7440-47-3**	**3.70**		**1.72**
Cobalt	**7440-48-4**	**0.710**		**0.0339**
Copper	**7440-50-8**	**57.9**		**2.04**
Lead	**7439-92-1**	**1.93**		**0.166**
Manganese	**7439-96-5**	**22.2**		**1.47**
Molybdenum	**7439-98-7**	**2.22**		**0.279**
Nickel	**7440-02-0**	**2.40**		**0.507**
Selenium	**7782-49-2**	**0.346**		**0.00696**
Thallium	**7440-28-0**	**0.00354**		**4.58E-4**
Vanadium	**7440-62-2**	**2.49**		**0.0411**
Zinc	7440-66-6	38.4	U	59.7

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060424-HM
Matrix: Air
Lab ID: 4061041-25
Sample Volume: 1804.694 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 08:44

Comments: Q8505846 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.102**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.586**		**0.00845**
Barium	**7440-39-3**	**5.70**	QB-01	**0.965**
Beryllium	**7440-41-7**	**0.0345**		**0.00288**
Cadmium	7440-43-9	0.0265	U	0.0668
Chromium	**7440-47-3**	**2.70**		**1.99**
Cobalt	**7440-48-4**	**0.495**		**0.0393**
Copper	**7440-50-8**	**46.4**		**2.37**
Lead	**7439-92-1**	**1.18**		**0.193**
Manganese	**7439-96-5**	**13.7**		**1.70**
Molybdenum	**7439-98-7**	**2.55**		**0.324**
Nickel	**7440-02-0**	**1.60**		**0.588**
Selenium	**7782-49-2**	**0.301**		**0.00808**
Thallium	**7440-28-0**	**0.00338**		**5.31E-4**
Vanadium	**7440-62-2**	**1.51**		**0.0477**
Zinc	7440-66-6	26.9	U	69.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060424-HM
Matrix: Air
Lab ID: 4061041-26
Sample Volume: 1750.317 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 09:04

Comments: Q8505847 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.125**	SL	**0.0359**
Arsenic	**7440-38-2**	**0.613**		**0.00871**
Barium	**7440-39-3**	**5.67**	QB-01	**0.995**
Beryllium	**7440-41-7**	**0.0169**		**0.00297**
Cadmium	7440-43-9	0.0239	U	0.0689
Chromium	**7440-47-3**	**2.93**		**2.05**
Cobalt	**7440-48-4**	**0.510**		**0.0405**
Copper	**7440-50-8**	**28.1**		**2.44**
Lead	**7439-92-1**	**1.20**		**0.199**
Manganese	**7439-96-5**	**18.6**		**1.76**
Molybdenum	**7439-98-7**	**1.49**		**0.334**
Nickel	**7440-02-0**	**1.64**		**0.606**
Selenium	**7782-49-2**	**0.314**		**0.00833**
Thallium	**7440-28-0**	**0.00375**		**5.48E-4**
Vanadium	**7440-62-2**	**1.75**		**0.0492**
Zinc	7440-66-6	28.8	U	71.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-FB01-060424-HM
Matrix: Air
Lab ID: 4061041-27
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 00:00
Received: 06/10/24 15:50
Analysis Date: 06/13/24 09:35

Comments: Q8508523 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	0.0188	SL, U	0.0328
Arsenic	**7440-38-2**	**0.0419**	FB-01	**0.00795**
Barium	7440-39-3	0.692	QB-01, U	0.908
Beryllium	7440-41-7	5.04E-4	U	0.00272
Cadmium	7440-43-9	5.68E-4	U	0.0629
Chromium	7440-47-3	0.907	U	1.88
Cobalt	7440-48-4	0.0105	U	0.0370
Copper	7440-50-8	0.360	U	2.23
Lead	7439-92-1	0.0270	U	0.182
Manganese	7439-96-5	0.205	U	1.60
Molybdenum	7439-98-7	0.136	U	0.305
Nickel	7440-02-0	0.374	U	0.553
Selenium	7782-49-2	0.00273	U	0.00761
Thallium	7440-28-0	1.20E-4	U	5.00E-4
Vanadium	7440-62-2	0.0201	U	0.0449
Zinc	7440-66-6	14.3	U	65.2

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 09:49

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	1.20	SL	0.0334
Barium	7440-39-3	44.5	QB-01	0.926
Beryllium	7440-41-7	0.0630		0.00277
Cadmium	7440-43-9	0.208		0.0641
Chromium	7440-47-3	19.3		1.91
Cobalt	7440-48-4	2.67		0.0377
Copper	7440-50-8	366		2.27
Lead	7439-92-1	2.97		0.185
Manganese	7439-96-5	85.1		1.63
Molybdenum	7439-98-7	11.4		0.311
Nickel	7440-02-0	6.67		0.564
Selenium	7782-49-2	0.528		0.00775
Thallium	7440-28-0	0.00795		5.09E-4
Vanadium	7440-62-2	7.51		0.0458
Zinc	7440-66-6	106		66.4

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28RE1
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:56

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**42.3**	D	**0.0648**

CERTIFICATE OF ANALYSIS

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM02-060524-HM
Matrix: Air
Lab ID: 4061041-29
Sample Volume: 2100.567 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 10:09

Comments: Q8508518 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.192**	SL	**0.0299**
Arsenic	**7440-38-2**	**0.950**		**0.00726**
Barium	**7440-39-3**	**7.54**	QB-01	**0.829**
Beryllium	**7440-41-7**	**0.0255**		**0.00248**
Cadmium	7440-43-9	0.0379	U	0.0574
Chromium	**7440-47-3**	**3.72**		**1.71**
Cobalt	**7440-48-4**	**0.677**		**0.0338**
Copper	**7440-50-8**	**52.2**		**2.04**
Lead	**7439-92-1**	**2.17**		**0.166**
Manganese	**7439-96-5**	**24.8**		**1.46**
Molybdenum	**7439-98-7**	**2.11**		**0.278**
Nickel	**7440-02-0**	**1.86**		**0.505**
Selenium	**7782-49-2**	**0.375**		**0.00694**
Thallium	**7440-28-0**	**0.00534**		**4.56E-4**
Vanadium	**7440-62-2**	**2.47**		**0.0410**
Zinc	7440-66-6	25.8	U	59.5

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM03-060524-HM
Matrix: Air
Lab ID: 4061041-30
Sample Volume: 1988.414 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 10:28

Comments: Q8508519 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.0861**	SL	**0.0316**
Arsenic	**7440-38-2**	**0.323**		**0.00767**
Barium	**7440-39-3**	**4.13**	QB-01	**0.876**
Beryllium	**7440-41-7**	**0.0300**		**0.00262**
Cadmium	7440-43-9	0.0205	U	0.0606
Chromium	**7440-47-3**	**2.58**		**1.81**
Cobalt	**7440-48-4**	**0.465**		**0.0357**
Copper	**7440-50-8**	**54.1**		**2.15**
Lead	**7439-92-1**	**1.02**		**0.175**
Manganese	**7439-96-5**	**12.8**		**1.55**
Molybdenum	**7439-98-7**	**2.28**		**0.294**
Nickel	**7440-02-0**	**1.49**		**0.533**
Selenium	**7782-49-2**	**0.311**		**0.00733**
Thallium	**7440-28-0**	**0.00477**		**4.82E-4**
Vanadium	**7440-62-2**	**1.43**		**0.0433**
Zinc	7440-66-6	26.1	U	62.8

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM04-060524-HM
Matrix: Air
Lab ID: 4061041-31
Sample Volume: 1734.245 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 11:38

Comments: Q8508521 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.133**	SL	**0.0362**
Arsenic	**7440-38-2**	**0.588**		**0.00879**
Barium	**7440-39-3**	**5.03**	QB-01	**1.00**
Beryllium	**7440-41-7**	**0.0161**		**0.00300**
Cadmium	7440-43-9	0.0263	U	0.0695
Chromium	**7440-47-3**	**2.60**		**2.07**
Cobalt	**7440-48-4**	**0.467**		**0.0409**
Copper	**7440-50-8**	**30.1**		**2.47**
Lead	**7439-92-1**	**1.35**		**0.201**
Manganese	**7439-96-5**	**16.4**		**1.77**
Molybdenum	**7439-98-7**	**1.52**		**0.337**
Nickel	**7440-02-0**	**1.44**		**0.612**
Selenium	**7782-49-2**	**0.309**		**0.00841**
Thallium	**7440-28-0**	**0.00488**		**5.53E-4**
Vanadium	**7440-62-2**	**1.60**		**0.0496**
Zinc	7440-66-6	23.3	U	72.1

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REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Calibration Blank (2406040-CCB1)				Prepared & Analyzed: 06/12/24						
Antimony	0.569		ng/l							
Arsenic	2.43		ng/l							
Barium	0.668		ng/l							
Beryllium	0.0755		ng/l							
Cadmium	0.0261		ng/l							
Chromium	3.13		ng/l							
Cobalt	0.382		ng/l							
Copper	282		ng/l							
Lead	-2.17		ng/l							U
Manganese	5.82		ng/l							
Molybdenum	28.8		ng/l							
Nickel	2.26		ng/l							
Selenium	9.08		ng/l							
Thallium	0.775		ng/l							
Vanadium	-26.1		ng/l							U
Zinc	-17.3		ng/l							U
Calibration Blank (2406040-CCB2)				Prepared & Analyzed: 06/12/24						
Antimony	0.0458		ng/l							
Arsenic	1.54		ng/l							
Barium	0.439		ng/l							
Beryllium	0.368		ng/l							
Cadmium	0.0567		ng/l							
Chromium	1.39		ng/l							
Cobalt	0.0535		ng/l							
Copper	193		ng/l							
Lead	-3.89		ng/l							U
Manganese	4.05		ng/l							
Molybdenum	5.12		ng/l							
Nickel	2.60		ng/l							
Selenium	12.1		ng/l							
Thallium	0.717		ng/l							
Vanadium	-20.0		ng/l							U
Zinc	-33.4		ng/l							U
Calibration Blank (2406040-CCB3)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	-0.0664		ng/l							U
Arsenic	6.52		ng/l							
Barium	0.385		ng/l							
Beryllium	0.694		ng/l							

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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 2406040 - B4F1206										
Calibration Blank (2406040-CCB3) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Cadmium	-0.0628		ng/l							U
Chromium	1.97		ng/l							
Cobalt	0.0204		ng/l							
Copper	183		ng/l							
Lead	-4.88		ng/l							U
Manganese	1.49		ng/l							
Molybdenum	4.64		ng/l							
Nickel	3.13		ng/l							
Selenium	0.941		ng/l							
Thallium	1.11		ng/l							
Vanadium	-27.1		ng/l							U
Zinc	-66.5		ng/l							U
Calibration Blank (2406040-CCB4)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	0.144		ng/l							
Arsenic	5.04		ng/l							
Barium	0.621		ng/l							
Beryllium	0.376		ng/l							
Cadmium	-0.0284		ng/l							U
Chromium	2.60		ng/l							
Cobalt	0.00372		ng/l							
Copper	127		ng/l							
Lead	-5.09		ng/l							U
Manganese	3.02		ng/l							
Molybdenum	5.26		ng/l							
Nickel	4.87		ng/l							
Selenium	3.29		ng/l							
Thallium	0.787		ng/l							
Vanadium	-25.4		ng/l							U
Zinc	-62.9		ng/l							U
Calibration Blank (2406040-CCB5)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	0.372		ng/l							
Arsenic	4.56		ng/l							
Barium	3.62		ng/l							
Beryllium	-0.539		ng/l							U
Cadmium	0.141		ng/l							
Chromium	5.45		ng/l							
Cobalt	0.340		ng/l							
Copper	124		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Calibration Blank (2406040-CCB5) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Lead	-3.58		ng/l							U
Manganese	6.47		ng/l							
Molybdenum	6.13		ng/l							
Nickel	8.75		ng/l							
Selenium	5.75		ng/l							
Thallium	0.877		ng/l							
Vanadium	-28.8		ng/l							U
Zinc	373		ng/l							
Calibration Blank (2406040-CCB6)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	0.166		ng/l							
Arsenic	8.73		ng/l							
Barium	0.569		ng/l							
Beryllium	-0.626		ng/l							U
Cadmium	-0.0235		ng/l							U
Chromium	3.10		ng/l							
Cobalt	-0.00570		ng/l							U
Copper	95.1		ng/l							
Lead	-5.55		ng/l							U
Manganese	1.70		ng/l							
Molybdenum	5.84		ng/l							
Nickel	8.21		ng/l							
Selenium	13.1		ng/l							
Thallium	0.760		ng/l							
Vanadium	-39.5		ng/l							U
Zinc	26.6		ng/l							
Calibration Blank (2406040-CCB7)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	0.116		ng/l							
Arsenic	11.9		ng/l							
Barium	1.03		ng/l							
Beryllium	-0.800		ng/l							U
Cadmium	-0.0553		ng/l							U
Chromium	2.86		ng/l							
Cobalt	0.106		ng/l							
Copper	76.6		ng/l							
Lead	-5.47		ng/l							U
Manganese	1.37		ng/l							
Molybdenum	4.64		ng/l							
Nickel	6.06		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Calibration Blank (2406040-CCB7) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Selenium	19.7		ng/l							
Thallium	0.842		ng/l							
Vanadium	-42.4		ng/l							U
Zinc	-19.7		ng/l							U
Calibration Check (2406040-CCV1)				Prepared & Analyzed: 06/12/24						
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19700		ng/l	20000		98.5	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4940		ng/l	5000.0		98.7	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	233000		ng/l	240000		97.3	90-110			
Cobalt	49800		ng/l	50000		99.6	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.7	90-110			
Lead	198000		ng/l	200000		98.9	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Selenium	19600		ng/l	20000		97.8	90-110			
Thallium	499		ng/l	500.00		99.8	90-110			
Vanadium	19500		ng/l	20000		97.6	90-110			
Zinc	504000		ng/l	500000		101	90-110			
Calibration Check (2406040-CCV2)				Prepared & Analyzed: 06/12/24						
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19700		ng/l	20000		98.3	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	4840		ng/l	5000.0		96.7	90-110			
Cadmium	19900		ng/l	20000		99.7	90-110			
Chromium	230000		ng/l	240000		95.8	90-110			
Cobalt	49100		ng/l	50000		98.2	90-110			
Copper	1.95E6		ng/l	2.0000E6		97.5	90-110			
Lead	196000		ng/l	200000		98.0	90-110			
Manganese	484000		ng/l	500000		96.7	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	118000		ng/l	120000		98.5	90-110			
Selenium	19700		ng/l	20000		98.6	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	498000		ng/l	500000		99.7	90-110			

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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 2406040 - B4F1206

Calibration Check (2406040-CCV3)				Prepared & Analyzed: 06/12/24						
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	19800		ng/l	20000		99.0	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4880		ng/l	5000.0		97.5	90-110			
Cadmium	19800		ng/l	20000		98.9	90-110			
Chromium	226000		ng/l	240000		94.0	90-110			
Cobalt	48300		ng/l	50000		96.6	90-110			
Copper	1.91E6		ng/l	2.0000E6		95.3	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Manganese	477000		ng/l	500000		95.3	90-110			
Molybdenum	49000		ng/l	50000		98.0	90-110			
Nickel	117000		ng/l	120000		97.2	90-110			
Selenium	19800		ng/l	20000		98.9	90-110			
Thallium	482		ng/l	500.00		96.4	90-110			
Vanadium	19600		ng/l	20000		97.9	90-110			
Zinc	492000		ng/l	500000		98.4	90-110			
Calibration Check (2406040-CCV4)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20100		ng/l	20000		100	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4920		ng/l	5000.0		98.3	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	228000		ng/l	240000		95.0	90-110			
Cobalt	48900		ng/l	50000		97.8	90-110			
Copper	1.93E6		ng/l	2.0000E6		96.3	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Manganese	486000		ng/l	500000		97.1	90-110			
Molybdenum	49800		ng/l	50000		99.5	90-110			
Nickel	117000		ng/l	120000		97.7	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	496000		ng/l	500000		99.2	90-110			
Calibration Check (2406040-CCV5)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	21100		ng/l	20000		105	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			

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REPORTED: 06/19/24 13:12
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Calibration Check (2406040-CCV5) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Cadmium	20200		ng/l	20000		101	90-110			
Chromium	227000		ng/l	240000		94.5	90-110			
Cobalt	48800		ng/l	50000		97.6	90-110			
Copper	1.92E6		ng/l	2.0000E6		96.1	90-110			
Lead	200000		ng/l	200000		100	90-110			
Manganese	483000		ng/l	500000		96.6	90-110			
Molybdenum	50900		ng/l	50000		102	90-110			
Nickel	117000		ng/l	120000		97.7	90-110			
Selenium	19700		ng/l	20000		98.7	90-110			
Thallium	485		ng/l	500.00		96.9	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	498000		ng/l	500000		99.7	90-110			
Calibration Check (2406040-CCV6)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	21000		ng/l	20000		105	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	211000		ng/l	200000		106	90-110			
Beryllium	4980		ng/l	5000.0		99.7	90-110			
Cadmium	20000		ng/l	20000		99.9	90-110			
Chromium	234000		ng/l	240000		97.5	90-110			
Cobalt	49000		ng/l	50000		98.1	90-110			
Copper	1.93E6		ng/l	2.0000E6		96.7	90-110			
Lead	201000		ng/l	200000		101	90-110			
Manganese	489000		ng/l	500000		97.8	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	118000		ng/l	120000		98.1	90-110			
Selenium	19700		ng/l	20000		98.7	90-110			
Thallium	475		ng/l	500.00		95.1	90-110			
Vanadium	19700		ng/l	20000		98.7	90-110			
Zinc	493000		ng/l	500000		98.6	90-110			
Calibration Check (2406040-CCV7)				Prepared: 06/12/24 Analyzed: 06/13/24						
Antimony	21200		ng/l	20000		106	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	5020		ng/l	5000.0		100	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Chromium	239000		ng/l	240000		99.6	90-110			
Cobalt	48400		ng/l	50000		96.8	90-110			
Copper	1.92E6		ng/l	2.0000E6		96.0	90-110			

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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 2406040 - B4F1206										
Calibration Check (2406040-CCV7) Contin				Prepared: 06/12/24 Analyzed: 06/13/24						
Lead	201000		ng/l	200000		101	90-110			
Manganese	484000		ng/l	500000		96.7	90-110			
Molybdenum	51100		ng/l	50000		102	90-110			
Nickel	116000		ng/l	120000		96.8	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Thallium	475		ng/l	500.00		94.9	90-110			
Vanadium	19800		ng/l	20000		98.9	90-110			
Zinc	493000		ng/l	500000		98.5	90-110			
High Cal Check (2406040-HCV1)				Prepared & Analyzed: 06/12/24						
Antimony	40000		ng/l	40000		99.9	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	399000		ng/l	400000		99.8	95-105			
Beryllium	10100		ng/l	10000		101	95-105			
Cadmium	39500		ng/l	40000		98.8	95-105			
Chromium	477000		ng/l	480000		99.3	95-105			
Cobalt	99500		ng/l	100000		99.5	95-105			
Copper	3.94E6		ng/l	4.0000E6		98.4	95-105			
Lead	399000		ng/l	400000		99.7	95-105			
Manganese	1.00E6		ng/l	1.0000E6		100	95-105			
Molybdenum	99900		ng/l	100000		99.9	95-105			
Nickel	238000		ng/l	240000		99.1	95-105			
Selenium	39900		ng/l	40000		99.7	95-105			
Thallium	999		ng/l	1000.0		99.9	95-105			
Vanadium	40000		ng/l	40000		100	95-105			
Zinc	987000		ng/l	1.0000E6		98.7	95-105			
Initial Cal Blank (2406040-ICB1)				Prepared & Analyzed: 06/12/24						
Antimony	0.136		ng/l							
Arsenic	-0.672		ng/l							U
Barium	0.469		ng/l							
Beryllium	-0.0879		ng/l							U
Cadmium	0.0629		ng/l							
Chromium	1.05		ng/l							
Cobalt	0.293		ng/l							
Copper	262		ng/l							
Lead	-2.34		ng/l							U
Manganese	4.08		ng/l							
Molybdenum	7.06		ng/l							
Nickel	0.280		ng/l							

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

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REPORTED: 06/19/24 13:12
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Initial Cal Blank (2406040-ICB1) Continu				Prepared & Analyzed: 06/12/24						
Selenium	4.99		ng/l							
Thallium	0.743		ng/l							
Vanadium	-17.1		ng/l							U
Zinc	301		ng/l							
Initial Cal Check (2406040-ICV1)				Prepared & Analyzed: 06/12/24						
Antimony	19200		ng/l	20000		96.0	90-110			
Arsenic	19100		ng/l	20000		95.3	90-110			
Barium	193000		ng/l	200000		96.6	90-110			
Beryllium	5250		ng/l	5000.0		105	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Chromium	234000		ng/l	240000		97.7	90-110			
Cobalt	47600		ng/l	50000		95.2	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.0	90-110			
Lead	193000		ng/l	200000		96.6	90-110			
Manganese	489000		ng/l	500000		97.9	90-110			
Molybdenum	48400		ng/l	50000		96.7	90-110			
Nickel	118000		ng/l	120000		98.1	90-110			
Selenium	19700		ng/l	20000		98.4	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Vanadium	19600		ng/l	20000		97.8	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Interference Check A (2406040-IFA1)				Prepared & Analyzed: 06/12/24						
Antimony	0.00		ng/l				80-120			U
Arsenic	0.00		ng/l				80-120			U
Barium	0.00		ng/l				80-120			U
Beryllium	0.00		ng/l				80-120			U
Cadmium	0.00		ng/l				80-120			U
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Lead	0.00		ng/l				80-120			U
Manganese	0.00		ng/l				80-120			U
Molybdenum	316000		ng/l	300000		105	80-120			
Nickel	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2406040 - B4F1206										
Interference Check B (2406040-IFB1)					Prepared & Analyzed: 06/12/24					
Antimony	20400		ng/l	20000		102	80-120			
Arsenic	20400		ng/l	20000		102	80-120			
Barium	203000		ng/l	200000		101	80-120			
Beryllium	4550		ng/l	5000.0		90.9	80-120			
Cadmium	19800		ng/l	20000		98.8	80-120			
Chromium	231000		ng/l	240000		96.2	80-120			
Cobalt	49300		ng/l	50000		98.7	80-120			
Copper	1.88E6		ng/l	2.0000E6		93.8	80-120			
Lead	210000		ng/l	200000		105	80-120			
Manganese	503000		ng/l	500000		101	80-120			
Molybdenum	372000		ng/l	350000		106	80-120			
Nickel	115000		ng/l	120000		96.2	80-120			
Selenium	18600		ng/l	20000		92.9	80-120			
Thallium	531		ng/l	500.00		106	80-120			
Vanadium	19500		ng/l	20000		97.7	80-120			
Zinc	463000		ng/l	500000		92.7	80-120			
Batch 2406048 - B4F1206										
Calibration Blank (2406048-CCB1)					Prepared & Analyzed: 06/13/24					
Arsenic	-0.878		ng/l							U
Calibration Blank (2406048-CCB2)					Prepared & Analyzed: 06/13/24					
Arsenic	-0.871		ng/l							U
Calibration Check (2406048-CCV1)					Prepared & Analyzed: 06/13/24					
Arsenic	19900		ng/l	20000		99.6	90-110			
Calibration Check (2406048-CCV2)					Prepared & Analyzed: 06/13/24					
Arsenic	20100		ng/l	20000		101	90-110			
High Cal Check (2406048-HCV1)					Prepared & Analyzed: 06/13/24					
Arsenic	39700		ng/l	40000		99.2	95-105			
Initial Cal Blank (2406048-ICB1)					Prepared & Analyzed: 06/13/24					
Arsenic	0.923		ng/l							
Initial Cal Check (2406048-ICV1)					Prepared & Analyzed: 06/13/24					
Arsenic	19400		ng/l	20000		97.2	90-110			
Interference Check A (2406048-IFA1)					Prepared & Analyzed: 06/13/24					
Arsenic	0.00		ng/l				80-120			U
Interference Check B (2406048-IFB1)					Prepared & Analyzed: 06/13/24					
Arsenic	20200		ng/l	20000		101	80-120			
Batch B4F1206 - ICP-MS Extraction										

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1206 - ICP-MS Extraction										
Blank (B4F1206-BLK1)				Prepared & Analyzed: 06/12/24						
Antimony	ND	0.0386	ng/m³ Air							SL, U
Arsenic	ND	0.00937	ng/m³ Air							U
Barium	ND	1.07	ng/m³ Air							QB-01, U
Beryllium	ND	0.00320	ng/m³ Air							U
Cadmium	ND	0.0741	ng/m³ Air							U
Chromium	ND	2.21	ng/m³ Air							U
Cobalt	ND	0.0436	ng/m³ Air							U
Copper	ND	2.63	ng/m³ Air							U
Lead	ND	0.214	ng/m³ Air							U
Manganese	ND	1.89	ng/m³ Air							U
Molybdenum	ND	0.359	ng/m³ Air							U
Nickel	ND	0.652	ng/m³ Air							U
Selenium	ND	0.00896	ng/m³ Air							U
Thallium	ND	5.89E-4	ng/m³ Air							U
Vanadium	ND	0.0529	ng/m³ Air							U
Zinc	ND	76.8	ng/m³ Air							U
LCS (B4F1206-BS1)				Prepared & Analyzed: 06/12/24						
Antimony	0.778	0.0386	ng/m³ Air	1.3829		56.2	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.8	80-120			
Barium	29.3	1.07	ng/m³ Air	27.658		106	80-120			QB-01
Beryllium	1.33	0.00320	ng/m³ Air	1.3829		96.0	80-120			
Cadmium	1.33	0.0741	ng/m³ Air	1.3829		96.3	80-120			
Chromium	15.1	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.38	0.0436	ng/m³ Air	1.3829		99.7	80-120			
Copper	29.4	2.63	ng/m³ Air	27.658		106	80-120			
Lead	13.9	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.48	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.53	0.359	ng/m³ Air	1.3829		111	80-120			
Nickel	3.21	0.652	ng/m³ Air	2.7658		116	80-120			
Selenium	2.71	0.00896	ng/m³ Air	2.7658		97.9	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.2	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.8	80-120			
Zinc	128	76.8	ng/m³ Air	82.975		154	80-120			
LCS (B4F1206-BS2)				Prepared & Analyzed: 06/12/24						
Antimony	0.795	0.0386	ng/m³ Air	1.3829		57.5	80-120			SL
Arsenic	2.70	0.00937	ng/m³ Air	2.7658		97.7	80-120			
Barium	29.1	1.07	ng/m³ Air	27.658		105	80-120			QB-01
Beryllium	1.34	0.00320	ng/m³ Air	1.3829		97.1	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1206 - ICP-MS Extraction										
LCS (B4F1206-BS2) Continued					Prepared & Analyzed: 06/12/24					
Cadmium	1.32	0.0741	ng/m³ Air	1.3829		95.4	80-120			
Chromium	15.0	2.21	ng/m³ Air	13.829		109	80-120			
Cobalt	1.35	0.0436	ng/m³ Air	1.3829		97.9	80-120			
Copper	28.6	2.63	ng/m³ Air	27.658		103	80-120			
Lead	14.0	0.214	ng/m³ Air	13.829		101	80-120			
Manganese	8.46	1.89	ng/m³ Air	8.2975		102	80-120			
Molybdenum	1.50	0.359	ng/m³ Air	1.3829		108	80-120			
Nickel	3.14	0.652	ng/m³ Air	2.7658		114	80-120			
Selenium	2.72	0.00896	ng/m³ Air	2.7658		98.5	80-120			
Thallium	0.136	5.89E-4	ng/m³ Air	0.13829		98.2	80-120			
Vanadium	2.73	0.0529	ng/m³ Air	2.7658		98.6	80-120			
Zinc	136	76.8	ng/m³ Air	82.975		164	80-120			
Duplicate (B4F1206-DUP1)			**Source: 4061041-12**		Prepared & Analyzed: 06/12/24					
Antimony	0.0641	0.0337	ng/m³ Air		0.0562			13.1	10	SL
Arsenic	0.184	0.00819	ng/m³ Air		0.187			1.38	10	
Barium	3.11	0.935	ng/m³ Air		3.23			3.69	10	QB-01
Beryllium	0.0315	0.00280	ng/m³ Air		0.0321			1.73	10	
Cadmium	ND	0.0647	ng/m³ Air		ND				10	U
Chromium	2.43	1.93	ng/m³ Air		2.50			3.19	10	
Cobalt	0.409	0.0381	ng/m³ Air		0.436			6.41	10	
Copper	39.3	2.30	ng/m³ Air		41.4			5.08	10	
Lead	0.394	0.187	ng/m³ Air		0.402			2.00	10	
Manganese	10.2	1.65	ng/m³ Air		10.7			5.03	10	
Molybdenum	2.17	0.314	ng/m³ Air		2.19			0.827	10	
Nickel	1.29	0.570	ng/m³ Air		1.31			1.66	10	
Selenium	0.162	0.00783	ng/m³ Air		0.172			5.90	10	
Thallium	0.00131	5.15E-4	ng/m³ Air		0.00138			5.54	10	
Vanadium	0.946	0.0462	ng/m³ Air		1.00			5.97	10	
Zinc	ND	67.1	ng/m³ Air		ND				10	U
Duplicate (B4F1206-DUP2)			**Source: 4061041-05**		Prepared & Analyzed: 06/12/24					
Antimony	0.354	0.0330	ng/m³ Air		0.389			9.42	10	SL
Arsenic	11.8	0.00801	ng/m³ Air		12.3			4.08	10	
Barium	13.2	0.915	ng/m³ Air		13.8			3.79	10	QB-01
Beryllium	0.0312	0.00274	ng/m³ Air		0.0301			3.86	10	
Cadmium	ND	0.0634	ng/m³ Air		ND				10	U
Chromium	8.30	1.89	ng/m³ Air		8.71			4.82	10	
Cobalt	1.40	0.0373	ng/m³ Air		1.43			2.39	10	
Copper	248	2.25	ng/m³ Air		239			3.72	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1206 - ICP-MS Extraction										
Duplicate (B4F1206-DUP2) Continued			**Source: 4061041-05**		Prepared & Analyzed: 06/12/24					
Lead	2.02	0.183	ng/m³ Air		2.08			3.18	10	
Manganese	42.7	1.62	ng/m³ Air		43.7			2.42	10	
Molybdenum	10.6	0.307	ng/m³ Air		10.3			3.29	10	
Nickel	3.37	0.558	ng/m³ Air		3.53			4.61	10	
Selenium	0.271	0.00766	ng/m³ Air		0.281			3.41	10	
Thallium	0.00325	5.04E-4	ng/m³ Air		0.00341			4.81	10	
Vanadium	4.60	0.0452	ng/m³ Air		4.76			3.40	10	
Zinc	ND	65.7	ng/m³ Air		ND				10	U
Duplicate (B4F1206-DUP3)			**Source: 4061041-20**		Prepared: 06/12/24 Analyzed: 06/13/24					
Antimony	0.323	0.0314	ng/m³ Air		0.323			0.0831	10	SL
Arsenic	1.22	0.00761	ng/m³ Air		1.22			0.269	10	
Barium	8.78	0.870	ng/m³ Air		8.71			0.833	10	QB-01
Beryllium	0.0190	0.00260	ng/m³ Air		0.0201			5.45	10	
Cadmium	ND	0.0602	ng/m³ Air		ND				10	U
Chromium	3.15	1.80	ng/m³ Air		3.14			0.423	10	
Cobalt	0.681	0.0354	ng/m³ Air		0.681			0.0298	10	
Copper	53.6	2.14	ng/m³ Air		53.4			0.353	10	
Lead	1.71	0.174	ng/m³ Air		1.70			0.762	10	
Manganese	19.0	1.54	ng/m³ Air		19.0			0.349	10	
Molybdenum	2.31	0.292	ng/m³ Air		2.30			0.528	10	
Nickel	2.84	0.530	ng/m³ Air		2.84			0.115	10	
Selenium	0.258	0.00728	ng/m³ Air		0.249			3.44	10	
Thallium	0.00280	4.79E-4	ng/m³ Air		0.00281			0.366	10	
Vanadium	1.95	0.0430	ng/m³ Air		1.95			0.346	10	
Zinc	ND	62.4	ng/m³ Air		ND				10	U
Duplicate (B4F1206-DUP4)			**Source: 4061041-26**		Prepared: 06/12/24 Analyzed: 06/13/24					
Antimony	0.124	0.0359	ng/m³ Air		0.125			0.982	10	SL
Arsenic	0.612	0.00871	ng/m³ Air		0.613			0.309	10	
Barium	5.66	0.995	ng/m³ Air		5.67			0.146	10	QB-01
Beryllium	0.0176	0.00297	ng/m³ Air		0.0169			4.28	10	
Cadmium	ND	0.0689	ng/m³ Air		ND				10	U
Chromium	2.89	2.05	ng/m³ Air		2.93			1.19	10	
Cobalt	0.506	0.0405	ng/m³ Air		0.510			0.816	10	
Copper	28.0	2.44	ng/m³ Air		28.1			0.330	10	
Lead	1.18	0.199	ng/m³ Air		1.20			1.15	10	
Manganese	18.5	1.76	ng/m³ Air		18.6			0.764	10	
Molybdenum	1.48	0.334	ng/m³ Air		1.49			0.806	10	
Nickel	1.63	0.606	ng/m³ Air		1.64			0.695	10	

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1206 - ICP-MS Extraction										
Duplicate (B4F1206-DUP4) Continued		**Source: 4061041-26**		Prepared: 06/12/24 Analyzed: 06/13/24						
Selenium	0.310	0.00833	ng/m³ Air		0.314			1.29	10	
Thallium	0.00362	5.48E-4	ng/m³ Air		0.00375			3.73	10	
Vanadium	1.73	0.0492	ng/m³ Air		1.75			0.788	10	
Zinc	ND	71.4	ng/m³ Air		ND				10	U
Duplicate (B4F1206-DUP5)		**Source: 4061041-05R**		Prepared: 06/12/24 Analyzed: 06/13/24						
Arsenic	11.6	0.0160	ng/m³ Air		12.0			3.82	10	D
Matrix Spike (B4F1206-MS1)		**Source: 4061041-12**		Prepared & Analyzed: 06/12/24						
Antimony	0.655	0.0337	ng/m³ Air	1.2084	0.0562	49.5	80-120			SL
Arsenic	2.41	0.00819	ng/m³ Air	2.4168	0.187	91.8	80-120			
Barium	26.9	0.935	ng/m³ Air	24.168	3.23	98.0	80-120			QB-01
Beryllium	1.10	0.00280	ng/m³ Air	1.2084	0.0321	88.7	80-120			
Cadmium	1.11	0.0647	ng/m³ Air	1.2084	ND	92.2	80-120			
Chromium	14.1	1.93	ng/m³ Air	12.084	2.50	96.3	80-120			
Cobalt	1.56	0.0381	ng/m³ Air	1.2084	0.436	93.4	80-120			
Copper	64.2	2.30	ng/m³ Air	24.168	41.4	94.4	80-120			
Lead	12.2	0.187	ng/m³ Air	12.084	0.402	97.8	80-120			
Manganese	17.6	1.65	ng/m³ Air	7.2504	10.7	95.3	80-120			
Molybdenum	3.31	0.314	ng/m³ Air	1.2084	2.19	92.4	80-120			
Nickel	3.65	0.570	ng/m³ Air	2.4168	1.31	96.5	80-120			
Selenium	2.40	0.00783	ng/m³ Air	2.4168	0.172	92.2	80-120			
Thallium	0.113	5.15E-4	ng/m³ Air	0.12084	0.00138	92.4	80-120			
Vanadium	3.24	0.0462	ng/m³ Air	2.4168	1.00	92.6	80-120			
Zinc	103	67.1	ng/m³ Air	72.504	ND	142	80-120			
Matrix Spike (B4F1206-MS2)		**Source: 4061041-05**		Prepared & Analyzed: 06/12/24						
Antimony	0.944	0.0330	ng/m³ Air	1.1826	0.389	46.9	80-120			SL
Arsenic	14.4	0.00801	ng/m³ Air	2.3652	12.3	92.6	80-120			
Barium	36.8	0.915	ng/m³ Air	23.652	13.8	97.3	80-120			QB-01
Beryllium	1.12	0.00274	ng/m³ Air	1.1826	0.0301	92.0	80-120			
Cadmium	1.11	0.0634	ng/m³ Air	1.1826	ND	93.8	80-120			
Chromium	19.5	1.89	ng/m³ Air	11.826	8.71	91.3	80-120			
Cobalt	2.54	0.0373	ng/m³ Air	1.1826	1.43	93.5	80-120			
Copper	263	2.25	ng/m³ Air	23.652	239	98.7	80-120			
Lead	13.7	0.183	ng/m³ Air	11.826	2.08	98.3	80-120			
Manganese	50.5	1.62	ng/m³ Air	7.0955	43.7	96.0	80-120			
Molybdenum	11.3	0.307	ng/m³ Air	1.1826	10.3	87.9	80-120			
Nickel	5.62	0.558	ng/m³ Air	2.3652	3.53	88.7	80-120			
Selenium	2.41	0.00766	ng/m³ Air	2.3652	0.281	90.0	80-120			
Thallium	0.109	5.04E-4	ng/m³ Air	0.11826	0.00341	89.4	80-120			

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1206 - ICP-MS Extraction										
Matrix Spike (B4F1206-MS2) Continued Source: 4061041-05 Prepared & Analyzed: 06/12/24										
Vanadium	6.98	0.0452	ng/m³ Air	2.3652	4.76	94.2	80-120			
Zinc	128	65.7	ng/m³ Air	70.955	ND	180	80-120			
Matrix Spike (B4F1206-MS3) Source: 4061041-05R Prepared: 06/12/24 Analyzed: 06/13/24										
Arsenic	14.0	0.0160	ng/m³ Air	2.3652	12.0	84.2	80-120			D
Matrix Spike Dup (B4F1206-MSD1) Source: 4061041-12 Prepared & Analyzed: 06/12/24										
Antimony	0.664	0.0337	ng/m³ Air	1.2084	0.0562	50.3	80-120	1.40	20	SL
Arsenic	2.48	0.00819	ng/m³ Air	2.4168	0.187	94.9	80-120	3.00	20	
Barium	27.9	0.935	ng/m³ Air	24.168	3.23	102	80-120	3.49	20	QB-01
Beryllium	1.18	0.00280	ng/m³ Air	1.2084	0.0321	94.8	80-120	6.43	20	
Cadmium	1.14	0.0647	ng/m³ Air	1.2084	ND	94.5	80-120	2.42	20	
Chromium	14.6	1.93	ng/m³ Air	12.084	2.50	99.7	80-120	2.86	20	
Cobalt	1.62	0.0381	ng/m³ Air	1.2084	0.436	97.9	80-120	3.47	20	
Copper	64.5	2.30	ng/m³ Air	24.168	41.4	95.9	80-120	0.551	20	
Lead	12.7	0.187	ng/m³ Air	12.084	0.402	101	80-120	3.46	20	
Manganese	18.4	1.65	ng/m³ Air	7.2504	10.7	106	80-120	4.15	20	
Molybdenum	3.42	0.314	ng/m³ Air	1.2084	2.19	102	80-120	3.37	20	
Nickel	3.72	0.570	ng/m³ Air	2.4168	1.31	99.6	80-120	2.01	20	
Selenium	2.44	0.00783	ng/m³ Air	2.4168	0.172	93.9	80-120	1.68	20	
Thallium	0.118	5.15E-4	ng/m³ Air	0.12084	0.00138	96.4	80-120	4.25	20	
Vanadium	3.36	0.0462	ng/m³ Air	2.4168	1.00	97.3	80-120	3.42	20	
Zinc	101	67.1	ng/m³ Air	72.504	ND	139	80-120	1.68	20	
Matrix Spike Dup (B4F1206-MSD2) Source: 4061041-05 Prepared & Analyzed: 06/12/24										
Antimony	1.01	0.0330	ng/m³ Air	1.1826	0.389	52.2	80-120	6.44	20	SL
Arsenic	14.4	0.00801	ng/m³ Air	2.3652	12.3	92.2	80-120	0.0577	20	
Barium	37.3	0.915	ng/m³ Air	23.652	13.8	99.7	80-120	1.48	20	QB-01
Beryllium	1.18	0.00274	ng/m³ Air	1.1826	0.0301	97.3	80-120	5.42	20	
Cadmium	1.11	0.0634	ng/m³ Air	1.1826	ND	93.7	80-120	0.0818	20	
Chromium	19.6	1.89	ng/m³ Air	11.826	8.71	92.0	80-120	0.469	20	
Cobalt	2.56	0.0373	ng/m³ Air	1.1826	1.43	95.5	80-120	0.944	20	
Copper	268	2.25	ng/m³ Air	23.652	239	121	80-120	2.02	20	QM-4X
Lead	13.7	0.183	ng/m³ Air	11.826	2.08	97.9	80-120	0.328	20	
Manganese	51.2	1.62	ng/m³ Air	7.0955	43.7	105	80-120	1.27	20	
Molybdenum	11.7	0.307	ng/m³ Air	1.1826	10.3	117	80-120	2.96	20	
Nickel	5.64	0.558	ng/m³ Air	2.3652	3.53	89.5	80-120	0.316	20	
Selenium	2.44	0.00766	ng/m³ Air	2.3652	0.281	91.1	80-120	1.04	20	
Thallium	0.110	5.04E-4	ng/m³ Air	0.11826	0.00341	90.4	80-120	1.07	20	
Vanadium	7.00	0.0452	ng/m³ Air	2.3652	4.76	94.9	80-120	0.252	20	
Zinc	123	65.7	ng/m³ Air	70.955	ND	173	80-120	4.08	20	

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FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1206 - ICP-MS Extraction										
Matrix Spike Dup (B4F1206-MSD3)		**Source: 4061041-05R**		Prepared: 06/12/24 Analyzed: 06/13/24						
Arsenic	14.0	0.0160	ng/m³ Air	2.3652	12.0	85.7	80-120	0.252	20	D
Post Spike (B4F1206-PS1)		**Source: 4061041-12**		Prepared & Analyzed: 06/12/24						
Antimony	0.294	0.0337	ng/m³ Air	0.24168	0.0562	98.4	75-125			SL
Arsenic	1.33	0.00819	ng/m³ Air	1.2084	0.187	94.6	75-125			
Barium	5.64	0.935	ng/m³ Air	2.4168	3.23	100	75-125			QB-01
Beryllium	0.264	0.00280	ng/m³ Air	0.24168	0.0321	96.0	75-125			
Cadmium	0.128	0.0647	ng/m³ Air	0.12084	ND	106	75-125			
Chromium	3.64	1.93	ng/m³ Air	1.2084	2.50	94.2	75-125			
Cobalt	0.659	0.0381	ng/m³ Air	0.24168	0.436	92.5	75-125			
Copper	52.7	2.30	ng/m³ Air	12.084	41.4	94.2	75-125			
Lead	24.3	0.187	ng/m³ Air	24.168	0.402	98.7	75-125			
Manganese	13.0	1.65	ng/m³ Air	2.4168	10.7	93.9	75-125			
Molybdenum	3.33	0.314	ng/m³ Air	1.2084	2.19	93.7	75-125			
Nickel	3.67	0.570	ng/m³ Air	2.4168	1.31	97.5	75-125			
Selenium	1.30	0.00783	ng/m³ Air	1.2084	0.172	93.2	75-125			
Thallium	0.0613	5.15E-4	ng/m³ Air	6.0420E-2	0.00138	99.1	75-125			
Vanadium	2.16	0.0462	ng/m³ Air	1.2084	1.00	95.6	75-125			
Zinc	ND	67.1	ng/m³ Air	24.168	ND		75-125			U
Post Spike (B4F1206-PS2)		**Source: 4061041-05**		Prepared & Analyzed: 06/12/24						
Antimony	0.628	0.0330	ng/m³ Air	0.23652	0.389	101	75-125			SL
Arsenic	13.3	0.00801	ng/m³ Air	1.1826	12.3	88.8	75-125			
Barium	16.0	0.915	ng/m³ Air	2.3652	13.8	93.0	75-125			QB-01
Beryllium	0.259	0.00274	ng/m³ Air	0.23652	0.0301	96.9	75-125			
Cadmium	0.165	0.0634	ng/m³ Air	0.11826	ND	139	75-125			
Chromium	9.62	1.89	ng/m³ Air	1.1826	8.71	77.4	75-125			
Cobalt	1.62	0.0373	ng/m³ Air	0.23652	1.43	80.6	75-125			
Copper	246	2.25	ng/m³ Air	11.826	239	54.5	75-125			A-01, PS-01
Lead	25.4	0.183	ng/m³ Air	23.652	2.08	98.7	75-125			
Manganese	45.3	1.62	ng/m³ Air	2.3652	43.7	65.9	75-125			A-01, PS-01
Molybdenum	11.2	0.307	ng/m³ Air	1.1826	10.3	79.6	75-125			
Nickel	5.71	0.558	ng/m³ Air	2.3652	3.53	92.4	75-125			
Selenium	1.35	0.00766	ng/m³ Air	1.1826	0.281	90.1	75-125			
Thallium	0.0602	5.04E-4	ng/m³ Air	5.9129E-2	0.00341	96.0	75-125			
Vanadium	5.79	0.0452	ng/m³ Air	1.1826	4.76	87.4	75-125			
Zinc	80.7	65.7	ng/m³ Air	23.652	ND	341	75-125			
Post Spike (B4F1206-PS3)		**Source: 4061041-05R**		Prepared: 06/12/24 Analyzed: 06/13/24						
Arsenic	13.0	0.0160	ng/m³ Air	1.1826	12.0	80.2	75-125			D
Dilution Check (B4F1206-SRL1)		**Source: 4061041-12**		Prepared & Analyzed: 06/12/24						

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

FILE #: 4205.00.003.001
REPORTED: 06/19/24 13:12
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4F1206 - ICP-MS Extraction										
Dilution Check (B4F1206-SRL1) Continue				**Source: 4061041-12**		Prepared & Analyzed: 06/12/24				
Antimony	ND	0.169	ng/m³ Air		ND				10	SL, U
Arsenic	0.193	0.0409	ng/m³ Air		0.187			3.16	10	
Barium	ND	4.67	ng/m³ Air		ND				10	QB-01, U
Beryllium	0.0343	0.0140	ng/m³ Air		0.0321			6.51	10	
Cadmium	ND	0.324	ng/m³ Air		ND				10	U
Chromium	ND	9.66	ng/m³ Air		ND				10	U
Cobalt	0.441	0.190	ng/m³ Air		0.436			1.14	10	
Copper	42.3	11.5	ng/m³ Air		41.4			2.35	10	
Lead	ND	0.935	ng/m³ Air		ND				10	U
Manganese	10.9	8.26	ng/m³ Air		10.7			1.74	10	
Molybdenum	2.24	1.57	ng/m³ Air		2.19			2.33	10	
Nickel	ND	2.85	ng/m³ Air		ND				10	U
Selenium	0.168	0.0391	ng/m³ Air		0.172			2.48	10	
Thallium	0.00272	0.00257	ng/m³ Air		ND			65.4	10	
Vanadium	1.04	0.231	ng/m³ Air		1.00			3.03	10	
Zinc	ND	336	ng/m³ Air		ND				10	U
Dilution Check (B4F1206-SRL2)				**Source: 4061041-05**		Prepared & Analyzed: 06/12/24				
Antimony	0.377	0.165	ng/m³ Air		0.389			3.24	10	SL
Arsenic	12.3	0.0401	ng/m³ Air		12.3			0.375	10	
Barium	13.6	4.57	ng/m³ Air		13.8			0.999	10	QB-01
Beryllium	0.0329	0.0137	ng/m³ Air		0.0301			9.12	10	
Cadmium	ND	0.317	ng/m³ Air		ND				10	U
Chromium	ND	9.45	ng/m³ Air		ND				10	U
Cobalt	1.44	0.186	ng/m³ Air		1.43			0.274	10	
Copper	248	11.2	ng/m³ Air		239			3.56	10	
Lead	2.02	0.915	ng/m³ Air		2.08			3.30	10	
Manganese	43.7	8.08	ng/m³ Air		43.7			0.0685	10	
Molybdenum	10.6	1.53	ng/m³ Air		10.3			2.87	10	
Nickel	3.56	2.79	ng/m³ Air		3.53			0.914	10	
Selenium	0.309	0.0383	ng/m³ Air		0.281			9.72	10	SRD-01
Thallium	0.00616	0.00252	ng/m³ Air		0.00341			57.4	10	
Vanadium	4.76	0.226	ng/m³ Air		4.76			0.0513	10	
Zinc	ND	328	ng/m³ Air		ND				10	U
Dilution Check (B4F1206-SRL3)				**Source: 4061041-05R**		Prepared: 06/12/24 Analyzed: 06/13/24				
Arsenic	12.3	0.0801	ng/m³ Air		12.0			2.47	10	D

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REPORTED: 06/19/24 13:12
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AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QB-01	Analyte exceeds method blank criteria
PS-01	Post Spike exceeds DQO criteria.
FB-01	Analyte exceeds Field Blank criteria.
D	This result obtained by dilution.
A-01	Parent sample >4x spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 06/20/2024 and Shanna Vasser 6/21/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/30/2024 – 06/05/2024
Report No: 4061041

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic and barium in MFL-FB01-060224-HM and for arsenic MFL-FB01-060424-HM.

Notes:

1. Laboratory report was revised on June 19, 2024, to correct a typographical error in the sample ID for MFL-AM04-053024-HM, which originally was reported as a duplicate MFL-AM0**3**-053024-HM.

2. MFL-AM01-053124-HM was analyzed at a two-fold dilution for arsenic. MFL-AM01-060424-HM was analyzed at a five-fold dilution for antimony, barium, chromium, zinc and a 100-fold dilution for arsenic. MFL-AM01-060524-HM was analyzed at an eight-fold dilution for arsenic.

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

July 09, 2024

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

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 06/10/24 15:50.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
MFL-AM01-053124-HM	4061041-05	Air	05/31/24 23:59	06/10/24 15:50
MFL-AM01-060424-HM	4061041-23	Air	06/04/24 23:59	06/10/24 15:50
MFL-AM01-060524-HM	4061041-28	Air	06/05/24 23:59	06/10/24 15:50

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/12/24 21:53

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	**7440-36-0**	**0.389**	SL	**0.0330**
Barium	**7440-39-3**	**13.8**	QB-01	**0.915**
Beryllium	**7440-41-7**	**0.0301**		**0.00274**
Cadmium	7440-43-9	0.0481	U	0.0634
Chromium	**7440-47-3**	**8.71**		**1.89**
Cobalt	**7440-48-4**	**1.43**		**0.0373**
Copper	**7440-50-8**	**239**	A-01, PS-01, QM-4X	**2.25**
Lead	**7439-92-1**	**2.08**		**0.183**
Manganese	**7439-96-5**	**43.7**	A-01, PS-01	**1.62**
Molybdenum	**7439-98-7**	**10.3**		**0.307**
Nickel	**7440-02-0**	**3.53**		**0.558**
Selenium	**7782-49-2**	**0.281**	SRD-01	**0.00766**
Thallium	**7440-28-0**	**0.00341**		**5.04E-4**
Vanadium	**7440-62-2**	**4.76**		**0.0452**
Zinc	7440-66-6	57.9	U	65.7

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REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05RE1
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 18:41

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**12.0**	D	**0.0160**

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-053124-HM
Matrix: Air
Lab ID: 4061041-05RE2
Sample Volume: 1902.618 m³
Filter ID:
Sampled: 05/31/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/26/24 11:30

Comments: Q8505816 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**12.4**	D	**0.0160**

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 08:04

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Beryllium	7440-41-7	0.0721		0.00272
Cadmium	7440-43-9	1.24		0.0629
Cobalt	7440-48-4	4.69		0.0370
Copper	7440-50-8	624		2.23
Lead	7439-92-1	5.98		0.182
Manganese	7439-96-5	96.5		1.60
Molybdenum	7439-98-7	12.9		0.305
Nickel	7440-02-0	11.5		0.553
Selenium	7782-49-2	0.538		0.00761
Thallium	7440-28-0	0.00833		5.00E-4
Vanadium	7440-62-2	7.94		0.0449

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE1
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:22

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	9.37	D, SL	0.164
Barium	7440-39-3	327	D, QB-01	4.54
Chromium	7440-47-3	130	D	9.38
Zinc	7440-66-6	994	D	326

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE2
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:42

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**537**	D	**0.795**

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060424-HM
Matrix: Air
Lab ID: 4061041-23RE3
Sample Volume: 1916.783 m³
Filter ID:
Sampled: 06/04/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/26/24 11:48

Comments: Q8505844 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**499**	D	**0.795**

CERTIFICATE OF ANALYSIS

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM **Lab ID:** 4061041-28 **Sampled:** 06/05/24 23:59
Matrix: Air **Sample Volume:** 1880.978 m³ **Received:** 06/10/24 15:50
Filter ID: **Analysis Date:** 06/13/24 09:49

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Antimony	7440-36-0	1.20	SL	0.0334
Barium	7440-39-3	44.5	QB-01	0.926
Beryllium	7440-41-7	0.0630		0.00277
Cadmium	7440-43-9	0.208		0.0641
Chromium	7440-47-3	19.3		1.91
Cobalt	7440-48-4	2.67		0.0377
Copper	7440-50-8	366		2.27
Lead	7439-92-1	2.97		0.185
Manganese	7439-96-5	85.1		1.63
Molybdenum	7439-98-7	11.4		0.311
Nickel	7440-02-0	6.67		0.564
Selenium	7782-49-2	0.528		0.00775
Thallium	7440-28-0	0.00795		5.09E-4
Vanadium	7440-62-2	7.51		0.0458
Zinc	7440-66-6	106		66.4

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28RE1
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/13/24 12:56

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**42.3**	D	**0.0648**

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Description: MFL-AM01-060524-HM
Matrix: Air
Lab ID: 4061041-28RE2
Sample Volume: 1880.978 m³
Filter ID:
Sampled: 06/05/24 23:59
Received: 06/10/24 15:50
Analysis Date: 06/26/24 12:03

Comments: Q8508517 - Received in good condition

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**47.5**	D	**0.0648**

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FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

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

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

FILE #: 4205.00.003.001
REPORTED: 07/09/24 15:30
SUBMITTED: 06/10/24
AQS SITE CODE:
SITE CODE: Lahaina fires

Notes and Definitions

U	Under Detection Limit
SRD-01	Serial dilution exceeds the control limits.
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration.
QB-01	Analyte exceeds method blank criteria
PS-01	Post Spike exceeds DQO criteria.
D	This result obtained by dilution.
A-01	Parent sample >4x spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

Stage 1 Data Verification Checklist – Metals

HDOH CAB – Ambient Community Air Sampling – Lahaina

Task Order No. 23141

Reviewed by:
Kierra Johnson 08/02/2024 and Shanna Vasser 08/02/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 05/30/2024 – 06/05/2024
Report No: 4061041

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic and barium in MFL-FB01-060224-HM and for arsenic MFL-FB01-060424-HM.

Notes:

1. Laboratory report was revised on June 19, 2024, to correct a typographical error in the sample ID for MFL-AM04-053024-HM, which originally was reported as a duplicate MFL-AM0**3**-053024-HM.

1. A second report was provided on July 9, 2024 including reanalysis data for MFL-AM01-053124-HM, MFL-AM01-060424-HM, and MFL-AM01-060524-HM. These sample were re-analyzed by the lab due to elevated and/or exceeded arsenic values. During reanalysis, MFL-AM01-053124-HM was analyzed at a two-fold dilution for arsenic, MFL-AM01-060424-HM was analyzed at a

100-fold dilution for arsenic, and MFL-AM01-060524-HM was analyzed at an eight-fold dilution for arsenic.

2. In the original lab report dated June 19, 2024, MFL-AM01-053124-HM was analyzed at a two-fold dilution for arsenic. MFL-AM01-060424-HM was analyzed at a five-fold dilution for antimony, barium, chromium, zinc and a 100-fold dilution for arsenic. MFL-AM01-060524-HM was analyzed at an eight-fold dilution for arsenic.