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

**Lahaina, Maui**

**3/7/2024 – 3/13/2024**
**[Report Updated: 4/19/2024]**

Due to ongoing debris removal operations in response to the Maui Wildfires, a Community Air Monitoring and Sampling Plan (CAMSP) has been drafted and sampling is being performed at four community locations across Lahaina listed below and shown on **Figure 1**:

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

This approach includes ambient community air monitoring and sampling to monitor conditions and determine whether debris removal activities, managed by the U.S. Army Corps of Engineers (USACE), significantly impact air quality in Lahaina. Data collected is made available to HDOH via online shared site and this weekly report. This approach to air monitoring and sampling will continue until debris removal activities are complete or until HDOH CAB advises otherwise.

Air quality monitoring for particulate matter was collected at all four community locations over a 24-hour period each day in accordance with the draft CAMSP. Additionally, daily air samples were collected at all community locations, as depicted in **Figure 1**. Summary analytical data is presented in **Tables 1 and 2**. **Appendix 1** provides detailed analytical results for all community locations where air sampling was performed. Analytical results were compared to site-specific screening levels for particulate matter, asbestos, and heavy metals as described in the draft CAMSP. A summary of meteorological data is presented in **Table 3.** Overall wind conditions show approximately 1.1 mph in a generally SSE direction.

***Results for Community Locations:***
Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), as this is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "$PM_{10}$". Monitoring for $PM_{10}$ was conducted 24 hours a day, 7 days a week at each of the following locations: Leialii Hawaiian Homelands (March 7-March 13), WW Pump Station #4 (March 7-March 13), Lahaina Intermediate School (March 7-March 13), Lahaina Boys & Girls Club (March 7-March 13).

The $PM_{10}$ monitoring results were not found to have exceeded the screening level during this reporting period, as shown in **Table 2**.

Please note that ambient air monitoring for fine particulate matter, with a particle size diameter of 2.5 micrometers or less (PM2.5) is not included in this report. This monitoring is being performed by the Department of Health/EPA at six locations in Lahaina and can be viewed at: https://fire.airnow.gov/.

There were 28 samples collected for asbestos fibers at community monitoring locations throughout this reporting period. All asbestos results were below the Site Screening Action Level (SSAL) of 0.003 fibers/cc and less than the lab's analytical sensitivity (see Table 1). Notably, the laboratory commented "Numerous gypsum fibers present" on samples collected at all monitoring stations from March 7-March 13, except the samples taken at Leialii Hawaiian Homelands on March 7 and 11, WW Pump Station #4 on March 8, Lahaina Intermediate School on March 7-10 and 12, and at Lahaina Boys & Girls Club on March 7-9 and 12. Gypsum is a common ingredient in drywall, plaster and cement so its presence in the

sample filters is likely due to debris removal operations or other disturbances of built-environment fire debris. The presence of gypsum fibers found in the samples were not sufficient to obscure asbestos analysis; nor are they indicative of a health and safety concern. Occupational health exposure thresholds (National Institute for Occupational Safety and Health [NIOSH] and OSHA) for gypsum are 5 milligrams per cubic meter ($mg/m^3$) for respirable dust, and 10 $mg/m^3$ and 15 $mg/m^3$ respectively for total dust as time-weighted averages. While total dust sampling has not been conducted, the size-discriminated particulate sampling ($PM_{10}$) at these locations indicates these thresholds are not being approached and are orders of magnitude less than occupational gypsum exposure criteria.

Low levels of heavy metals were detected in ambient air samples at all community sampling locations (see Table 1). Although heavy metals were detected, all concentrations were below the SSALs (see Table 1). The laboratory data sheets for the metals and asbestos samples collected from the community locations are found in **Appendix 1.**

***Quality Control:***

This section briefly discusses the quality control efforts made by Tetra Tech throughout the air monitoring and sampling process. All references and SOPs can be found provided with the CAMSP.

Tetra Tech is utilizing Met One Instruments, Inc., environmental beta attenuation mass monitors (E-BAM) to allow for comparison to the National Ambient Air Quality Standards (NAAQS) for particulates. E-BAMs are factory-calibrated annually and do not require daily calibration, except for a leak check and a flow audit, which were performed prior to sampling according to the manufacturer's procedures.

For asbestos sampling, Tetra Tech uses a Casella Vortex 3 or similar air sampling pump. Sampling flow rates will be determined and documented by pre- and post- calibration of each sampling pump using a primary calibration standard. Calibration and sampling are conducted in accordance with Tetra Tech SOPs 064-2, "Calibration of Air Sampling Pump" and 073-3, "Air Quality Monitoring" (Appendix A) and U.S. EPA ERT SOPs No. 2008, "General Air Monitoring and Sampling Guidelines" and 2015 "Asbestos Air Sampling," included in the CAMSP.

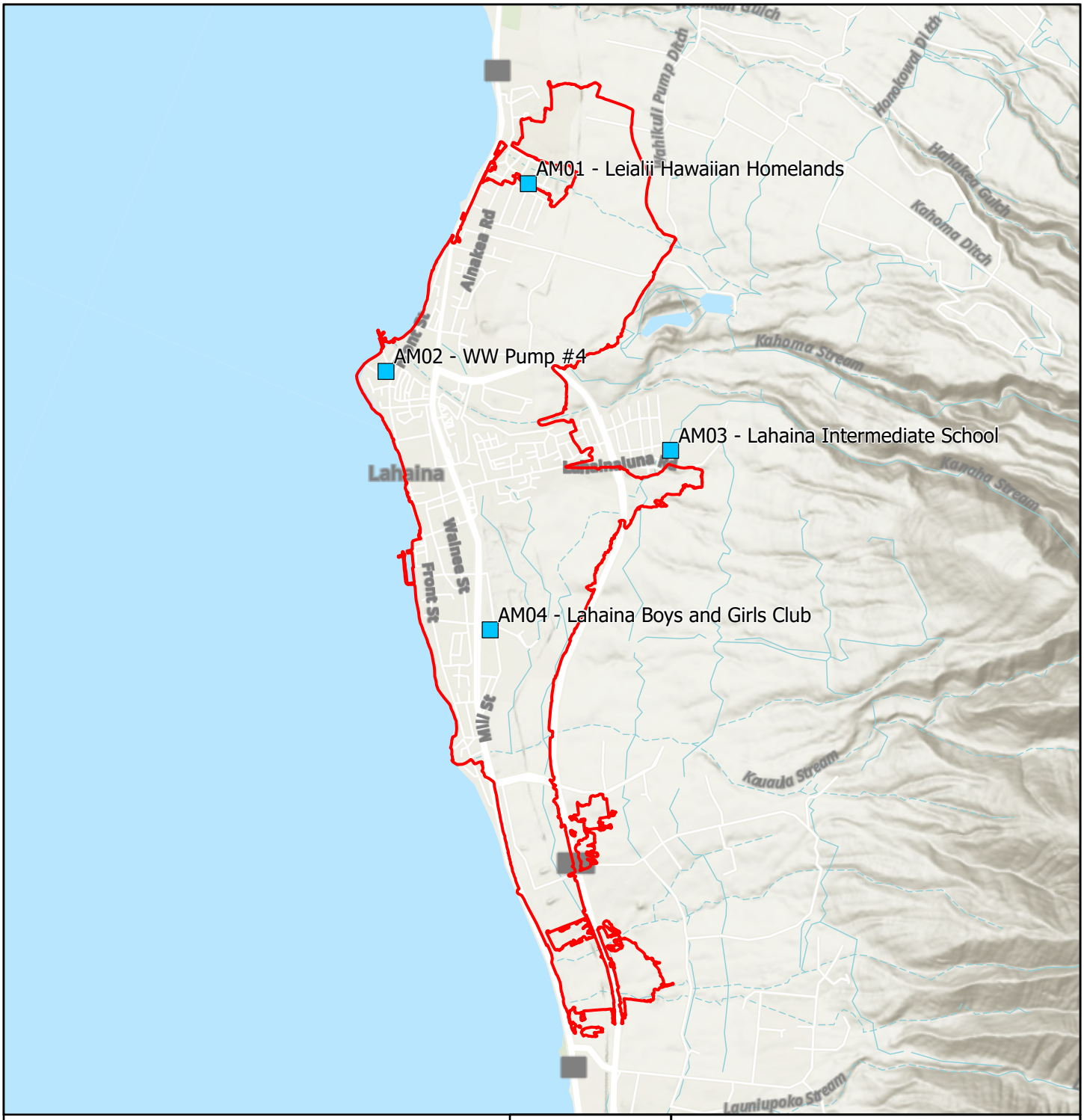
Tetra Tech is using Tisch Environmental High Volume Air Samplers, or equivalent, collocated with the real-time particulate monitors and asbestos samplers described above. Air samples for elemental metals at community locations are collected and analyzed in accordance with the following methods:

- U.S. EPA Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler
- U.S. EPA Compendium Method IO-3.5: Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air: Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). EPA/625/R-96/010a
- U.S. EPA 40 Code of Federal Regulations (CFR) Part 50, Method for the Determination of Lead in Total Suspended Particulate Matter.
- U.S. EPA 40 CFR Part 58, Appendix E: Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring
- Standard Operating Procedures for Lead Monitoring Using a TSP High Volume Sampler

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

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

# Attachments




Basemap: ESRI ArcGIS World Street Map

**Table 1**
**HDOH CAB Ambient Community Monitoring and Sampling**
**Analytical Sampling Results by Date**
**Maui Wildfire, Lahaina**
**3/7/2024-3/13/2024**
**[Report Updated: 4/19/2024]**

| Analyte | | Asbestos | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Manganese | Molybdenum | Nickel | Selenium | Thallium | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | | s/cc | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ | µg/m$^3$ |
| Screening Level* | | 0.003 [1] | 0.7 | 0.05 | 1.2 | 0.05 | 0.02 | 12 | 0.01 | 240 | 1.5 | 0.12 | 4.8 | 0.02 | 48 | 24 | 0.24 | 1200 |
| 3/7/2024 | Leialii Hawaiian Homelands (AM-01) | <0.0026 | 0.0000464 | 0.000448 | 0.00256 | 0.00000696 | ND | 0.00326 | 0.000292 | 0.0399 | 0.000348 | 0.00784 | 0.00150 | 0.00155 | 0.000107 | 0.000000901 | 0.000694 | ND |
| | WW Pump Station #4 (AM-02) | <0.0025 | 0.000102 | 0.00100 | 0.00728 | 0.0000272 | 0.0000607 | 0.00532 | 0.00115 | 0.0477 | 0.00183 | 0.0285 | 0.00176 | 0.00445 | 0.000214 | 0.00000142 | 0.00279 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0025 | 0.0000357 | 0.000224 | 0.00312 | 0.0000351 | ND | 0.00370 | 0.000588 | 0.0454 | 0.000702 | 0.0121 | 0.00229 | 0.00154 | 0.000174 | 0.000000999 | 0.00122 | ND |
| | Lahaina Boys & Girls Club (AM-04) | <0.0025 | 0.0000792 | 0.000345 | 0.00432 | 0.0000134 | ND | 0.00325 | 0.000390 | 0.0288 | 0.00109 | 0.0118 | 0.00151 | 0.00126 | 0.000152 | 0.00000101 | 0.000955 | ND |
| 3/8/2024 | Leialii Hawaiian Homelands (AM-01) | <0.0025 | 0.0000721 | 0.000640 | 0.00287 | 0.00000838 | ND | 0.00391 | 0.000301 | 0.0389 | 0.000459 | 0.00824 | 0.00148 | 0.00165 | 0.000135 | 0.00000107 | 0.000673 | ND |
| | WW Pump Station #4 (AM-02) | <0.0025 | 0.0000921 | 0.000865 | 0.00641 | 0.0000221 | ND | 0.00460 | 0.00100 | 0.0402 | 0.00132 | 0.0238 | 0.00137 | 0.00410 | 0.000205 | 0.00000146 | 0.00218 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0026 | 0.0000450 | 0.000133 | 0.00241 | 0.0000150 | ND | 0.00234 | 0.000275 | 0.0394 | 0.000292 | 0.00670 | 0.00229 | 0.000881 | 0.000142 | 0.000000833 | 0.000627 | ND |
| | Lahaina Boys & Girls Club (AM-04) | <0.0025 | 0.0000535 | 0.000271 | 0.00270 | 0.00000692 | ND | 0.00242 | 0.000209 | 0.0378 | 0.000531 | 0.00575 | 0.00213 | 0.000776 | 0.000133 | 0.000000839 | 0.000474 | ND |
| 3/9/2024 | Leialii Hawaiian Homelands (AM-01) | <0.0025 | 0.0000414 | 0.000267 | 0.00324 | 0.00000947 | ND | 0.00301 | 0.000329 | 0.0377 | 0.000505 | 0.00992 | 0.00185 | 0.00118 | 0.000150 | 0.00000103 | 0.000832 | ND |
| | WW Pump Station #4 (AM-02) | <0.0025 | 0.000102 | 0.000828 | 0.00606 | 0.0000166 | ND | 0.00392 | 0.000672 | 0.0629 | 0.00109 | 0.0168 | 0.00180 | 0.00270 | 0.000201 | 0.00000130 | 0.00162 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0026 | 0.0000587 | 0.000144 | 0.00217 | 0.0000118 | ND | ND | 0.000210 | 0.0443 | 0.000303 | 0.00567 | 0.00234 | 0.000663 | 0.000144 | 0.000000888 | 0.000511 | ND |
| | Lahaina Boys & Girls Club (AM-04) | <0.0026 | 0.0000993 | 0.000384 | 0.00341 | 0.00000961 | ND | 0.00195 | 0.000294 | 0.0532 | 0.000800 | 0.00896 | 0.00252 | 0.00108 | 0.000159 | 0.00000103 | 0.000808 | ND |
| 3/10/2024 | Leialii Hawaiian Homelands (AM-01) | <0.0025 | 0.0000800 | 0.000810 | 0.00425 | 0.0000126 | ND | 0.00331 | 0.000451 | 0.0592 | 0.000647 | 0.0141 | 0.00251 | 0.00154 | 0.000182 | 0.00000148 | 0.00115 | ND |
| | WW Pump Station #4 (AM-02) | <0.0025 | 0.000141 | 0.000280 | 0.00294 | 0.00000811 | ND | ND | 0.000243 | 0.0413 | 0.000732 | 0.00730 | 0.00135 | 0.000903 | 0.000169 | 0.000000909 | 0.000693 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0025 | 0.0000369 | 0.000110 | 0.00159 | 0.00000517 | ND | ND | 0.000118 | 0.0401 | 0.000345 | 0.00321 | 0.00212 | ND | 0.000124 | 0.000000735 | 0.000305 | ND |
| | Lahaina Boys & Girls Club (AM-04) | <0.0025 | 0.0000789 | 0.000157 | 0.00245 | 0.00000551 | ND | ND | 0.000161 | 0.0392 | 0.000589 | 0.00528 | 0.00213 | 0.000592 | 0.000138 | 0.000000714 | 0.000490 | ND |
| 3/11/2024 | Leialii Hawaiian Homelands (AM-01) | <0.0030 | 0.0000944 | 0.00391 | 0.00414 | 0.00000669 | ND | 0.00317 | 0.000252 | 0.0693 | 0.000968 | 0.00780 | 0.00263 | 0.00100 | 0.000162 | 0.00000121 | 0.000713 | ND |
| | WW Pump Station #4 (AM-02) | <0.0025 | 0.000135 | 0.000379 | 0.00427 | 0.0000107 | ND | 0.00178 | 0.000300 | 0.0495 | 0.00119 | 0.00963 | 0.00154 | 0.00102 | 0.000182 | 0.00000118 | 0.000962 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0025 | 0.0000697 | 0.000140 | 0.00203 | 0.0000128 | ND | ND | 0.000208 | 0.0457 | 0.000299 | 0.00555 | 0.00230 | 0.000729 | 0.000146 | 0.00000107 | 0.000553 | ND |
| | Lahaina Boys & Girls Club (AM-04) | <0.0025 | 0.0000785 | 0.000205 | 0.00245 | 0.00000578 | ND | ND | 0.000165 | 0.0525 | 0.000617 | 0.00554 | 0.00262 | 0.000593 | 0.000135 | 0.000000888 | 0.000512 | ND |
| 3/12/2024 | Leialii Hawaiian Homelands (AM-01) | <0.0024 | 0.000110 | 0.00130 | 0.00472 | 0.00000833 | ND | 0.00254 | 0.000335 | 0.0757 | 0.000602 | 0.00968 | 0.00271 | 0.00149 | 0.000176 | 0.000000957 | 0.00103 | ND |
| | WW Pump Station #4 (AM-02) | <0.0025 | 0.000167 | 0.000495 | 0.00502 | 0.0000125 | ND | 0.00175 | 0.000337 | 0.0497 | 0.00108 | 0.0105 | 0.00144 | 0.00122 | 0.000211 | 0.000000854 | 0.00113 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0025 | 0.0000872 | 0.000301 | 0.00435 | 0.0000258 | ND | 0.00216 | 0.000437 | 0.0428 | 0.000574 | 0.0112 | 0.00213 | 0.00128 | 0.000201 | 0.000000931 | 0.00114 | ND |
| | Lahaina Boys & Girls Club (AM-04) | <0.0025 | 0.0000952 | 0.000328 | 0.00354 | 0.00000820 | ND | ND | 0.000235 | 0.0497 | 0.000673 | 0.00795 | 0.00247 | 0.00119 | 0.000163 | 0.000000774 | 0.00078 | ND |
| 3/13/2024 | Leialii Hawaiian Homelands (AM-01) | <0.0027 | 0.0000842 | 0.000335 | 0.00264 | 0.00000409 | ND | ND | 0.000131 | 0.0744 | 0.000310 | 0.00445 | 0.00268 | 0.000972 | 0.000260 | 0.000000720 | 0.000456 | ND |
| | WW Pump Station #4 (AM-02) | <0.0026 | 0.000140 | 0.000262 | 0.00478 | 0.0000120 | ND | 0.00201 | 0.000415 | 0.0478 | 0.000605 | 0.0112 | 0.00134 | 0.00154 | 0.000272 | 0.000000900 | 0.00119 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0025 | 0.0000483 | 0.000117 | 0.00264 | 0.0000113 | ND | ND | 0.000227 | 0.0236 | 0.000209 | 0.00608 | 0.00120 | 0.000722 | 0.000146 | 0.000000578 | 0.000651 | ND |
| | Lahaina Boys & Girls Club (AM-04) | <0.0025 | 0.000142 | 0.000384 | 0.00486 | 0.0000144 | ND | 0.00242 | 0.000437 | 0.0292 | 0.00143 | 0.0134 | 0.00129 | 0.00142 | 0.000288 | 0.00000116 | 0.00124 | ND |
| 95% Upper Confidence Limit[2] | | NA | 0.000100 | 0.000710 | 0.00421 | 0.0000150 | NA | 0.00345 | 0.000440 | 0.0512 | 0.000890 | 0.0119 | 0.00217 | 0.00280 | 0.000190 | 0.00000110 | 0.00113 | NA |

**Notes:**

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

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

s/cc = structures per cubic centimeter

ug/m3 = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

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

**Table 2**
**HDOH CAB Ambient Community Monitoring and Sampling**
**Particulate Monitoring Results for $PM_{10}$**
**Maui Wildfire, Lahaina**
**3/7/2024 - 3/13/2024**
**[Report Updated: 4/19/2024]**

| **Screening Level** | | **150 µg/m$^3$** |
|---|---|---|
| 3/7/2024 | Leialii Hawaiian Homelands (AM-01) | 7.5 |
| | WW Pump Station #4 (AM-02) | 9.2 |
| | Lahaina Intermediate School (AM-03) | 8.7 |
| | Lahaina Boys & Girls Club (AM-04) | 7.4 |
| 3/8/2024 | Leialii Hawaiian Homelands (AM-01) | 5.7 |
| | WW Pump Station #4 (AM-02) | 6.7 |
| | Lahaina Intermediate School (AM-03) | 5.5 |
| | Lahaina Boys & Girls Club (AM-04) | 5.2 |
| 3/9/2024 | Leialii Hawaiian Homelands (AM-01) | 8.7 |
| | WW Pump Station #4 (AM-02) | 7 |
| | Lahaina Intermediate School (AM-03) | 7.3 |
| | Lahaina Boys & Girls Club (AM-04) | 6.2 |
| 3/10/2024 | Leialii Hawaiian Homelands (AM-01) | 6.2 |
| | WW Pump Station #4 (AM-02) | 6.9 |
| | Lahaina Intermediate School (AM-03) | 6.3 |
| | Lahaina Boys & Girls Club (AM-04) | 5.0 |
| 3/11/2024 | Leialii Hawaiian Homelands (AM-01) | 6.0 |
| | WW Pump Station #4 (AM-02) | 8.1 |
| | Lahaina Intermediate School (AM-03) | 7.7 |
| | Lahaina Boys & Girls Club (AM-04) | 5.8 |
| 3/12/2024 | Leialii Hawaiian Homelands (AM-01) | 9.8 |
| | WW Pump Station #4 (AM-02) | 13 |
| | Lahaina Intermediate School (AM-03) | 11 |
| | Lahaina Boys & Girls Club (AM-04) | 7.2 |
| 3/13/2024 | Leialii Hawaiian Homelands (AM-01) | 11 |
| | WW Pump Station #4 (AM-02) | 16 |
| | Lahaina Intermediate School (AM-03) | 17 |
| | Lahaina Boys & Girls Club (AM-04) | 11 |

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

**Table 3**
**Maui Wildfire - Lahaina**
**Meteorological Data**
**3/7/2024-3/13/2024**
**[Report Updated: 4/19/2024]**

| Date | Station ID | Weather Station Name | Wind Speed (mph) | Wind Direction (angle) | Temperature (°F) | Rel Humidity (%) | Baro Pressure (mBar) |
|---|---|---|---|---|---|---|---|
| 3/7/2024 | AM-01 | Leialii Hawaiian Homelands | 1.9 | SSE | 77 | 55 | 762.8 |
| 3/7/2024 | AM-02 | WW Pump Station #4 | 1.9 | SSE | 75 | 61 | 764.2 |
| 3/7/2024 | AM-03 | Lahaina Intermediate School | 1.0 | ESE | 76 | 56 | 764.1 |
| 3/7/2024 | AM-04 | Lahaina Boys & Girls Club | 0.9 | SE | 76 | 56 | 762.7 |
| 3/8/2024 | AM-01 | Leialii Hawaiian Homelands | 0.8 | ESE | 75 | 64 | 761.4 |
| 3/8/2024 | AM-02 | WW Pump Station #4 | 0.9 | SSE | 78 | 66 | 760.3 |
| 3/8/2024 | AM-03 | Lahaina Intermediate School | 1.1 | S | 77 | 71 | 760.2 |
| 3/8/2024 | AM-04 | Lahaina Boys & Girls Club | 1.4 | SE | 77 | 57 | 764.8 |
| 3/9/2024 | AM-01 | Leialii Hawaiian Homelands | 1.5 | ESE | 77 | 60 | 766.1 |
| 3/9/2024 | AM-02 | WW Pump Station #4 | 1.0 | SE | 76 | 60 | 766.1 |
| 3/9/2024 | AM-03 | Lahaina Intermediate School | 0.8 | SSE | 76 | 60 | 764.7 |
| 3/9/2024 | AM-04 | Lahaina Boys & Girls Club | 0.8 | SSE | 75 | 66 | 763.5 |
| 3/10/2024 | AM-01 | Leialii Hawaiian Homelands | 0.9 | SSE | 77 | 70 | 762.4 |
| 3/10/2024 | AM-02 | WW Pump Station #4 | 0.7 | S | 77 | 75 | 762.3 |
| 3/10/2024 | AM-03 | Lahaina Intermediate School | 1.3 | SSE | 76 | 61 | 755.3 |
| 3/10/2024 | AM-04 | Lahaina Boys & Girls Club | 1.3 | SE | 77 | 63 | 756.6 |
| 3/11/2024 | AM-01 | Leialii Hawaiian Homelands | 0.9 | ESE | 75 | 62 | 756.6 |
| 3/11/2024 | AM-02 | WW Pump Station #4 | 0.9 | SE | 75 | 62 | 755.2 |
| 3/11/2024 | AM-03 | Lahaina Intermediate School | 0.7 | SE | 75 | 70 | 754.0 |
| 3/11/2024 | AM-04 | Lahaina Boys & Girls Club | 1.1 | SE | 75 | 71 | 753.0 |
| 3/12/2024 | AM-01 | Leialii Hawaiian Homelands | 1.2 | SSE | 74 | 74 | 752.9 |
| 3/12/2024 | AM-02 | WW Pump Station #4 | 1.2 | S | 77 | 59 | 764.4 |
| 3/12/2024 | AM-03 | Lahaina Intermediate School | 1.1 | SSE | 77 | 61 | 765.7 |
| 3/12/2024 | AM-04 | Lahaina Boys & Girls Club | 0.9 | S | 76 | 61 | 765.7 |
| 3/13/2024 | AM-01 | Leialii Hawaiian Homelands | 0.9 | S | 76 | 61 | 764.3 |
| 3/13/2024 | AM-02 | WW Pump Station #4 | 0.8 | SSE | 76 | 67 | 763.0 |
| 3/13/2024 | AM-03 | Lahaina Intermediate School | 1.1 | S | 76 | 69 | 761.9 |
| 3/13/2024 | AM-04 | Lahaina Boys & Girls Club | 1.2 | SSW | 75 | 72 | 762.1 |

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

# Appendix 1

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

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

| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM01-030724-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0001 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7050.4 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 2 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | | **Limit of Detection (Structures/cc):** | **0.0026** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

**Comment**


*Approved Signatory*

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

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

| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0001 **Customer Sample:** MFL-AM01-030724-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| B2 | A8 | None Detected | | | | | | | | | |
| B2 | D10 | None Detected | | | | | | | | | |
| B2 | F8 | None Detected | | | | | | | | | |
| B3 | H4 | None Detected | | | | | | | | | |
| B3 | D3 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM02-030724-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0002 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7287.6 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0002 **Customer Sample:** MFL-AM02-030724-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| B5 | J3 | None Detected | | | | | | | | | |
| B5 | G1 | None Detected | | | | | | | | | |
| B5 | D5 | None Detected | | | | | | | | | |
| B6 | C9 | None Detected | | | | | | | | | |
| B6 | F7 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-030724-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0003 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7090.4 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 2 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0003 **Customer Sample:** MFL-AM03-030724-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| C2 | A7 | None Detected | | | | | | | | | |
| C2 | D9 | None Detected | | | | | | | | | |
| C2 | G10 | None Detected | | | | | | | | | |
| C3 | A9 | None Detected | | | | | | | | | |
| C3 | H7 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM04-030724-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0004 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7193.2 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0004 **Customer Sample:** MFL-AM04-030724-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| C5 | A5 | None Detected | | | | | | | | | |
| C5 | D8 | None Detected | | | | | | | | | |
| C5 | G9 | None Detected | | | | | | | | | |
| C6 | H2 | None Detected | | | | | | | | | |
| C6 | B1 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-030724-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0005 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0005 **Customer Sample:** MFL-FB01-030724-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| D2 | J2 | None Detected | | | | | | | | | |
| D2 | H5 | None Detected | | | | | | | | | |
| D2 | F8 | None Detected | | | | | | | | | |
| D2 | D9 | None Detected | | | | | | | | | |
| D2 | B10 | None Detected | | | | | | | | | |
| D3 | J10 | None Detected | | | | | | | | | |
| D3 | H6 | None Detected | | | | | | | | | |
| D3 | F4 | None Detected | | | | | | | | | |
| D3 | D3 | None Detected | | | | | | | | | |
| D3 | B4 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM01-030824-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0006 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7323.4 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 2 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0006 **Customer Sample:** MFL-AM01-030824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| D5 | J5 | None Detected | | | | | | | | | |
| D5 | G4 | None Detected | | | | | | | | | |
| D5 | D2 | None Detected | | | | | | | | | |
| D6 | I2 | None Detected | | | | | | | | | |
| D6 | C1 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM02-030824-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0007 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7213.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**


*Approved Signatory*

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

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0007 **Customer Sample:** MFL-AM02-030824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| E2 | J2 | None Detected | | | | | | | | | |
| E2 | G3 | None Detected | | | | | | | | | |
| E2 | D2 | None Detected | | | | | | | | | |
| E3 | C10 | None Detected | | | | | | | | | |
| E3 | I8 | None Detected | | | | | | | | | |

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

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|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

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|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-030824-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0008 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7012.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | | **Limit of Detection (Structures/cc):** | **0.0026** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

**Comment**


*Approved Signatory*

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

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0008 **Customer Sample:** MFL-AM03-030824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| E6 | I2 | None Detected | | | | | | | | | |
| E6 | F1 | None Detected | | | | | | | | | |
| E6 | D4 | None Detected | | | | | | | | | |
| E7 | C7 | None Detected | | | | | | | | | |
| E7 | H9 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM04-030824-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0009 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7111.4 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0009 **Customer Sample:** MFL-AM04-030824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| F2 | A8 | None Detected | | | | | | | | | |
| F2 | C9 | None Detected | | | | | | | | | |
| F2 | H7 | None Detected | | | | | | | | | |
| F3 | C8 | None Detected | | | | | | | | | |
| F3 | H9 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

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|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-030824-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0010 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**


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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0010 **Customer Sample:** MFL-FB01-030824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| F5 | J4 | None Detected | | | | | | | | | |
| F5 | H3 | None Detected | | | | | | | | | |
| F5 | F2 | None Detected | | | | | | | | | |
| F5 | D1 | None Detected | | | | | | | | | |
| F5 | B3 | None Detected | | | | | | | | | |
| F8 | J3 | None Detected | | | | | | | | | |
| F8 | H2 | None Detected | | | | | | | | | |
| F8 | F1 | None Detected | | | | | | | | | |
| F8 | D1 | None Detected | | | | | | | | | |
| F8 | B6 | None Detected | | | | | | | | | |

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

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|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

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| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM01-030924-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0011 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7246.7 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0011 **Customer Sample:** MFL-AM01-030924-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| G2 | J3 | None Detected | | | | | | | | | |
| G2 | G2 | None Detected | | | | | | | | | |
| G2 | C1 | None Detected | | | | | | | | | |
| G3 | G1 | None Detected | | | | | | | | | |
| G3 | D4 | None Detected | | | | | | | | | |

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

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|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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**Project:** **Maui Fires - Lahaina / 103S9230**

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| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM02-030924-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0012 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7207.8 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0012 **Customer Sample:** MFL-AM02-030924-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| G5 | J4 | None Detected | | | | | | | | | |
| G5 | F2 | None Detected | | | | | | | | | |
| G5 | C1 | None Detected | | | | | | | | | |
| G6 | G1 | None Detected | | | | | | | | | |
| G6 | B2 | None Detected | | | | | | | | | |

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

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|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

**Attn:** **Chelsea Saber**
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**Project:** **Maui Fires - Lahaina / 103S9230**

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| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-030924-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0013 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7027.7 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 2 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | | **Limit of Detection (Structures/cc):** | **0.0026** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

**Comment**


*Approved Signatory*

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

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0013 **Customer Sample:** MFL-AM03-030924-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| H2 | A5 | None Detected | | | | | | | | | |
| H2 | D6 | None Detected | | | | | | | | | |
| H2 | I8 | None Detected | | | | | | | | | |
| H3 | B6 | None Detected | | | | | | | | | |
| H3 | H4 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM04-030924-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0014 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7029.7 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | | **Limit of Detection (Structures/cc):** | **0.0026** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

**Comment**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0014 **Customer Sample:** MFL-AM04-030924-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| H5 | J6 | None Detected | | | | | | | | | |
| H5 | H5 | None Detected | | | | | | | | | |
| H5 | A5 | None Detected | | | | | | | | | |
| H6 | B4 | None Detected | | | | | | | | | |
| H6 | H4 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-FB01-030924-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0015 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0015 **Customer Sample:** MFL-FB01-030924-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| I2 | J7 | None Detected | | | | | | | | | |
| I2 | H4 | None Detected | | | | | | | | | |
| I2 | F4 | None Detected | | | | | | | | | |
| I2 | D3 | None Detected | | | | | | | | | |
| I2 | B5 | None Detected | | | | | | | | | |
| I4 | J7 | None Detected | | | | | | | | | |
| I4 | J5 | None Detected | | | | | | | | | |
| I4 | J3 | None Detected | | | | | | | | | |
| I4 | J1 | None Detected | | | | | | | | | |
| I4 | H1 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM01-031024-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0016 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7287.4 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 5 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0016 **Customer Sample:** MFL-AM01-031024-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| I5 | A8 | None Detected | | | | | | | | | |
| I5 | D9 | None Detected | | | | | | | | | |
| I5 | G7 | None Detected | | | | | | | | | |
| I6 | C7 | None Detected | | | | | | | | | |
| I6 | H8 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM02-031024-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0017 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7303.1 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0017 **Customer Sample:** MFL-AM02-031024-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| J2 | J3 | None Detected | | | | | | | | | |
| J2 | G6 | None Detected | | | | | | | | | |
| J2 | B7 | None Detected | | | | | | | | | |
| J3 | B4 | None Detected | | | | | | | | | |
| J3 | H6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/19/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM03-031024-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0018 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7225.9 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0018 **Customer Sample:** MFL-AM03-031024-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| J2 | H4 | None Detected | | | | | | | | | |
| J2 | F3 | None Detected | | | | | | | | | |
| J2 | C4 | None Detected | | | | | | | | | |
| J3 | H4 | None Detected | | | | | | | | | |
| J3 | B6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

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|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| **Customer Sample Number:** | **MFL-AM04-031024-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405485-0019 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7169.3 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 2 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 46.72 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 46.72** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0019 **Customer Sample:** MFL-AM04-031024-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| K2 | A8 | None Detected | | | | | | | | | |
| K2 | C6 | None Detected | | | | | | | | | |
| K2 | H4 | None Detected | | | | | | | | | |
| K3 | A4 | None Detected | | | | | | | | | |
| K3 | G3 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

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|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/19/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-031024-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405485-0020 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**

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|---|---|
| **EMSL Order ID:** | **042405485** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0020 **Customer Sample:** MFL-FB01-031024-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| J5 | A5 | None Detected | | | | | | | | | |
| J5 | C7 | None Detected | | | | | | | | | |
| J5 | E8 | None Detected | | | | | | | | | |
| J5 | G9 | None Detected | | | | | | | | | |
| J5 | I10 | None Detected | | | | | | | | | |
| J6 | A10 | None Detected | | | | | | | | | |
| J6 | C6 | None Detected | | | | | | | | | |
| J6 | E8 | None Detected | | | | | | | | | |
| J6 | G6 | None Detected | | | | | | | | | |
| J6 | I5 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405485 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/15/2024 09:30 AM |
| **Analysis Date:** | 03/18/2024 |
| **Report Date:** | 03/19/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **Lab Blank** | | **Sample Description:** | **Lab Blank** |
| EMSL Sample Number: | 042405485-0021 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0128 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.36 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.36** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**


Approved Signatory

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

**EMSL Order ID:** 042405485
**Client:** Tetra Tech
**Project ID:** Maui Fires - Lahaina / 103S9230

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405485-0021 **Customer Sample:** Lab Blank

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| A1 | J3 | None Detected | | | | | | | | | |
| A1 | H2 | None Detected | | | | | | | | | |
| A1 | F4 | None Detected | | | | | | | | | |
| A1 | D5 | None Detected | | | | | | | | | |
| A1 | B6 | None Detected | | | | | | | | | |
| A2 | A6 | None Detected | | | | | | | | | |
| A2 | C9 | None Detected | | | | | | | | | |
| A2 | E7 | None Detected | | | | | | | | | |
| A2 | G10 | None Detected | | | | | | | | | |
| A2 | I7 | None Detected | | | | | | | | | |

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

OrderID: 042405485

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

# Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405485

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

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

| Customer Information | | Billing Information | |
|---|---|---|---|
| Customer ID: | | Billing ID: | |
| Company Name: | TETRA TECH | Company Name: | |
| Contact Name: | CHELSEA SABER | Billing Contact: | |
| Street Address: | 1560 BROADWAY STE 1400 | Street Address: | |
| City, State, Zip: | DENVER CO 80202 | City, State, Zip: | Country: |
| Country: | USA | | |
| Phone: | 703-489-2674 | Phone: | |
| Email(s) for Report: | CHELSEA.SABER@TETRATECH.COM | Email(s) for Invoice: | |

**Project Information**

| | | | |
|---|---|---|---|
| Project Name/No: | MAUI FIRES-LAHAINA / 10359230 | Purchase Order: | |
| EMSL LIMS Project ID: (If applicable, EMSL will provide) | | US State where samples collected: | HI |
| State of Connecticut (CT) must select project location: | ☐ Commercial (Taxable) ☐ Residential (Non-Taxable) | | |
| Sampled By Name: | MITCH PETERS | Sampled By Signature: | Mitch Peters |
| No. of Samples in Shipment | | | |

**Turn-Around-Time (TAT)**

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

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

**Test Selection**

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

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

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

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

**Other Test (please specify)**

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

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

*Please call with your project-specific requirements.

RECEIVED MAR 11 2024 10:45 CINNAMINSON, NJ

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

| Sample Number | Sample Location / Description | Volume, Area or Homogeneous Area | Date / Time Sampled (Air Monitoring Only) |
|---|---|---|---|
| MFL-AM01-030724-AB | | 7050.394 | 03/07/24 1058 |
| MFL-AM02-030724-AB | | 7287.556 | 03/07/24 1119 |
| MFL-AM03-030724-AB | | 7090.416 | 03/07/24 1314 |
| MFL-AM04-030724-AB | | 7193.232 | 03/07/24 1330 |
| MFL-FB01-030724-AB | | 0 | 03/07/24 1200 |
| MFL-AM01-030824-AB | | 7323.379 | 03/08/24 1059 |
| MFL-AM02-030824-AB | | 7212.960 | 03/08/24 1122 |
| MFL-AM03-030824-AB | | 7011.985 | 03/08/24 1316 |

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

All samples received acceptable for analysis.

| | | | | | |
|---|---|---|---|---|---|
| Method of Shipment: | FED EX | | Sample Condition Upon Receipt: | | |
| Relinquished by: | Mitch Peters | Date/Time: 03/11/24 1100 | Received by: | DA | Date/Time 3/15/24 9:30 |
| Relinquished by: | | Date/Time: | Received by: | | Date/Time |

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

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

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

OrderID: 042405485

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

# Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405485

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

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

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

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

| Sample Number | Sample Location / Description | Volume, Area or Homogeneous Area | Date / Time Sampled (Air Monitoring Only) |
|---|---|---|---|
| MFL-AM04-030824-AB | | 7111.440 | 03/08/24 1340 |
| MFL-FB01-030824-AB | | 0 | 03/08/24 1200 |
| MFL-AM01-030924-AB | | 7246.657 | 03/09/24 1100 |
| MFL-AM02-030924-AB | | 7207.829 | 03/09/24 1119 |
| MFL-AM03-030924-AB | | 7027.739 | 03/09/24 1300 |
| MFL-AM04-030924-AB | | 7029.726 | 03/09/24 1324 |
| MFL-FB01-030924-AB | | 0 | 03/09/24 1200 |
| MFL-AM01-031024-AB | | 7287.413 | 03/10/24 1100 |
| MFL-AM02-031024-AB | | 7303.104 | 03/10/24 1122 |
| MFL-AM03-031024-AB | | 7225.92 | 03/10/24 1305 |
| MFL-AM04-031024-AB | | 7169.328 | 03/10/24 1328 |
| MFL-FB01-031024-AB | | 0 | 03/10/24 1200 |

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EMSL
CINNAMINSON, NJ
2024 MAR 15 A 10:45

| | | | |
|---|---|---|---|
| Method of Shipment: FEDEX | | Sample Condition Upon Receipt: | |
| Relinquished by: | Date/Time: 03/11/24 1100 | Received by: | Date/Time |
| Relinquished by: | Date/Time: | Received by: | Date/Time |

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

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

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

**Stage 1 Data Verification Checklist – Asbestos**

**HDOH CAB – Ambient Community Air Sampling – Lahaina**

**Task Order No. 23141**

Reviewed by:
Kierra Johnson 3/22/2024 and Shanna Vasser 3/26/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/7/2024 - 3/10/2024
Report No: 42405485

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

Discrepancies: None.

Notes: None.

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

| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/19/2024 |
| **Report Date:** | 03/21/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM01-031124-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405592-0001 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7611.8 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 4 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0010** | | **Limit of Detection (Structures/cc):** | **0.0030** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 58.86** | **< 0.0030** | **Not Applicable** | **- 0.0030** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 58.86** | **< 0.0030** | **Not Applicable** | **- 0.0030** |
| Actinolite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| Amosite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| Anthophyllite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| Crocidolite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| Tremolite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 58.86** | **< 0.0030** | **Not Applicable** | **- 0.0030** |
| Other Minerals | - | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| **Total All Structures** | **-** | **0** | **0** | **< 58.86** | **< 0.0030** | **Not Applicable** | **- 0.0030** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 58.86** | **< 0.0030** | **Not Applicable** | **- 0.0030** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 58.86** | **< 0.0030** | **Not Applicable** | **- 0.0030** |
| Actinolite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| Amosite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| Anthophyllite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| Crocidolite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| Tremolite | ADX | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 58.86** | **< 0.0030** | **Not Applicable** | **- 0.0030** |
| Other Minerals | - | 0 | 0 | < 58.86 | < 0.0030 | Not Applicable | - 0.0030 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 58.86** | **< 0.0030** | **Not Applicable** | **- 0.0030** |

**Comment**


Approved Signatory

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

| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0001 **Customer Sample:** MFL-AM01-031124-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| A5 | A3 | None Detected | | | | | | | | | |
| A5 | D5 | None Detected | | | | | | | | | |
| A6 | I6 | None Detected | | | | | | | | | |
| A6 | D4 | None Detected | | | | | | | | | |

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

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

| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/19/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM02-031124-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0002 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7216.8 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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

| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0002 **Customer Sample:** MFL-AM02-031124-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| B2 | A8 | None Detected | | | | | | | | | |
| B2 | D7 | None Detected | | | | | | | | | |
| B2 | I9 | None Detected | | | | | | | | | |
| B3 | C9 | None Detected | | | | | | | | | |
| B3 | I7 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM03-031124-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0003 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7238.9 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 2 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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

**EMSL Order ID:** 042405592
**Client:** Tetra Tech
**Project ID:** Maui Fires - Lahaina / 103S9230

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0003 **Customer Sample:** MFL-AM03-031124-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| B5 | J5 | None Detected | | | | | | | | | |
| B5 | G4 | None Detected | | | | | | | | | |
| B5 | B6 | None Detected | | | | | | | | | |
| B6 | I8 | None Detected | | | | | | | | | |
| B6 | C10 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM04-031124-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0004 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7244.1 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0004 **Customer Sample:** MFL-AM04-031124-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| C2 | B4 | None Detected | | | | | | | | | |
| C2 | E7 | None Detected | | | | | | | | | |
| C2 | I10 | None Detected | | | | | | | | | |
| C3 | D9 | None Detected | | | | | | | | | |
| C3 | I6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-FB01-031124-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0005 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**


*Approved Signatory*

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

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| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0005 **Customer Sample:** MFL-FB01-031124-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| C5 | J5 | None Detected | | | | | | | | | |
| C5 | H4 | None Detected | | | | | | | | | |
| C5 | F3 | None Detected | | | | | | | | | |
| C5 | D5 | None Detected | | | | | | | | | |
| C5 | B1 | None Detected | | | | | | | | | |
| C6 | F10 | None Detected | | | | | | | | | |
| C6 | E7 | None Detected | | | | | | | | | |
| C6 | D2 | None Detected | | | | | | | | | |
| C6 | C5 | None Detected | | | | | | | | | |
| C6 | B7 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM01-031224-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0006 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7531.8 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0024** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0024** | **Not Applicable** | **- 0.0024** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0024** | **Not Applicable** | **- 0.0024** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0024** | **Not Applicable** | **- 0.0024** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0024** | **Not Applicable** | **- 0.0024** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0024** | **Not Applicable** | **- 0.0024** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0024** | **Not Applicable** | **- 0.0024** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0024** | **Not Applicable** | **- 0.0024** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0024 | Not Applicable | - 0.0024 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0024** | **Not Applicable** | **- 0.0024** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0006 **Customer Sample:** MFL-AM01-031224-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| D2 | J5 | None Detected | | | | | | | | | |
| D2 | H4 | None Detected | | | | | | | | | |
| D2 | F3 | None Detected | | | | | | | | | |
| D3 | E7 | None Detected | | | | | | | | | |
| D3 | H8 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM02-031224-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0007 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7379.5 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0007 **Customer Sample:** MFL-AM02-031224-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| D5 | A8 | None Detected | | | | | | | | | |
| D5 | D9 | None Detected | | | | | | | | | |
| D5 | G7 | None Detected | | | | | | | | | |
| D6 | E7 | None Detected | | | | | | | | | |
| D6 | H5 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM03-031224-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0008 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7349.9 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 5 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**


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| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0008 **Customer Sample:** MFL-AM03-031224-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| E2 | B7 | None Detected | | | | | | | | | |
| E2 | D9 | None Detected | | | | | | | | | |
| E2 | G7 | None Detected | | | | | | | | | |
| E3 | I3 | None Detected | | | | | | | | | |
| E3 | C5 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM04-031224-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0009 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7232.8 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**


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| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0009 **Customer Sample:** MFL-AM04-031224-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| E5 | B5 | None Detected | | | | | | | | | |
| E5 | E7 | None Detected | | | | | | | | | |
| E5 | H9 | None Detected | | | | | | | | | |
| E6 | C9 | None Detected | | | | | | | | | |
| E6 | H6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-031224-AB** | | **Sample Description:** | |
| EMSL Sample Number: | 042405592-0010 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**


*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0010 **Customer Sample:** MFL-FB01-031224-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| F2 | J5 | None Detected | | | | | | | | | |
| F2 | H4 | None Detected | | | | | | | | | |
| F2 | F3 | None Detected | | | | | | | | | |
| F2 | D2 | None Detected | | | | | | | | | |
| F2 | B1 | None Detected | | | | | | | | | |
| F3 | A6 | None Detected | | | | | | | | | |
| F3 | C9 | None Detected | | | | | | | | | |
| F3 | F8 | None Detected | | | | | | | | | |
| F3 | H10 | None Detected | | | | | | | | | |
| F3 | J10 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
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| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM01-031324-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0011 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 6648.6 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | | **Limit of Detection (Structures/cc):** | **0.0027** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0027** | **Not Applicable** | **- 0.0027** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0027** | **Not Applicable** | **- 0.0027** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0027** | **Not Applicable** | **- 0.0027** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0027** | **Not Applicable** | **- 0.0027** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0027** | **Not Applicable** | **- 0.0027** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0027** | **Not Applicable** | **- 0.0027** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0027** | **Not Applicable** | **- 0.0027** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0027 | Not Applicable | - 0.0027 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0027** | **Not Applicable** | **- 0.0027** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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

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| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0011 **Customer Sample:** MFL-AM01-031324-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| F5 | I3 | None Detected | | | | | | | | | |
| F5 | F1 | None Detected | | | | | | | | | |
| F5 | B4 | None Detected | | | | | | | | | |
| F6 | C5 | None Detected | | | | | | | | | |
| F6 | H8 | None Detected | | | | | | | | | |

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

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|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
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| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM02-031324-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0012 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7094.4 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | | **Limit of Detection (Structures/cc):** | **0.0026** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0026** | **Not Applicable** | **- 0.0026** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0026 | Not Applicable | - 0.0026 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0026** | **Not Applicable** | **- 0.0026** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0012 **Customer Sample:** MFL-AM02-031324-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| G2 | A9 | None Detected | | | | | | | | | |
| G2 | D7 | None Detected | | | | | | | | | |
| G2 | H4 | None Detected | | | | | | | | | |
| G3 | G6 | None Detected | | | | | | | | | |
| G3 | C4 | None Detected | | | | | | | | | |

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

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|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

**Attn:** **Chelsea Saber**
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1560 Broadway, Suite 1400
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**Project:** **Maui Fires - Lahaina / 103S9230**

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| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM03-031324-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0013 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7146.8 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 2 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0013 **Customer Sample:** MFL-AM03-031324-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| G5 | J6 | None Detected | | | | | | | | | |
| G5 | H5 | None Detected | | | | | | | | | |
| G5 | C3 | None Detected | | | | | | | | | |
| G6 | G2 | None Detected | | | | | | | | | |
| G6 | A4 | None Detected | | | | | | | | | |

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

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|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-AM04-031324-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0014 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7243.7 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 5 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0025** |

## TOTAL STRUCTURES (All Sizes)

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

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

| | Minimum ID Level | Structures Detected | | Density | Concentration | 95 % Confidence Interval (S/cc) | |
|---|---|---|---|---|---|---|---|
| | | Primary | Total | (S/mm²) | (S/cc) | Lower | Upper |
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Actinolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Amosite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Anthophyllite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Crocidolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| Tremolite | ADX | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |
| Other Minerals | - | 0 | 0 | < 47.09 | < 0.0025 | Not Applicable | - 0.0025 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 47.09** | **< 0.0025** | **Not Applicable** | **- 0.0025** |

**Comment**
**Numerous gypsum fibers present.**


*Approved Signatory*

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

| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0014 **Customer Sample:** MFL-AM04-031324-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| H2 | I3 | None Detected | | | | | | | | | |
| H2 | E2 | None Detected | | | | | | | | | |
| H2 | A5 | None Detected | | | | | | | | | |
| H3 | C7 | None Detected | | | | | | | | | |
| H3 | H6 | None Detected | | | | | | | | | |

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

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

| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/21/2024 |
| **Report Date:** | 03/21/2024 |

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

| **Customer Sample Number:** | **MFL-FB01-031324-AB** | | **Sample Description:** | |
|---|---|---|---|---|
| EMSL Sample Number: | 042405592-0015 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**


*Approved Signatory*

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

| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0015 **Customer Sample:** MFL-FB01-031324-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| H5 | A6 | None Detected | | | | | | | | | |
| H5 | C7 | None Detected | | | | | | | | | |
| H5 | E8 | None Detected | | | | | | | | | |
| H5 | G10 | None Detected | | | | | | | | | |
| H5 | I10 | None Detected | | | | | | | | | |
| H6 | A5 | None Detected | | | | | | | | | |
| H6 | C6 | None Detected | | | | | | | | | |
| H6 | E8 | None Detected | | | | | | | | | |
| H6 | G4 | None Detected | | | | | | | | | |
| H6 | I5 | None Detected | | | | | | | | | |

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

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

| | |
|---|---|
| **EMSL Order:** | 042405592 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | |

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

**Project:** **Maui Fires - Lahaina / 103S9230**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | |
| **Received Date:** | 03/18/2024 09:00 AM |
| **Analysis Date:** | 03/19/2024 |
| **Report Date:** | 03/21/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **Lab Blank** | | **Sample Description:** | **Lab Blank** |
| EMSL Sample Number: | 042405592-0016 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter (mm²): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area (mm²): | 0.0127 |
| Chi² Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

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

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density (S/mm²) | Concentration S / mm² | 95 % Confidence Interval (S/cc) Lower | | Upper |
|---|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Actinolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Amosite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Anthophyllite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Crocidolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| Tremolite | ADX | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |
| Other Minerals | - | 0 | 0 | < 23.54 | < N/A | Not Applicable | - | Not Applicable |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 23.54** | **< N/A** | **Not Applicable** | **-** | **Not Applicable** |

**Comment**

*Approved Signatory*

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

| | |
|---|---|
| **EMSL Order ID:** | **042405592** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires - Lahaina / 103S9230** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042405592-0016 **Customer Sample:** Lab Blank

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| A2 | A1 | None Detected | | | | | | | | | |
| A2 | B3 | None Detected | | | | | | | | | |
| A2 | D3 | None Detected | | | | | | | | | |
| A2 | F4 | None Detected | | | | | | | | | |
| A2 | H5 | None Detected | | | | | | | | | |
| A3 | A4 | None Detected | | | | | | | | | |
| A3 | B1 | None Detected | | | | | | | | | |
| A3 | C3 | None Detected | | | | | | | | | |
| A3 | D1 | None Detected | | | | | | | | | |
| A3 | E4 | None Detected | | | | | | | | | |

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

OrderID: 042405592

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

# Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405592

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

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

| Customer Information | | Billing Information | |
|---|---|---|---|
| Customer ID: | | Billing ID: | |
| Company Name: | TETRA TECH | Company Name: | |
| Contact Name: | CHELSEA SABER | Billing Contact: | |
| Street Address: | 1560 BROADWAY STE 1400 | Street Address: | |
| City, State, Zip: | DENVER CO 80202 | City, State, Zip: | Country: |
| Country: | USA | | |
| Phone: | 703-489-2674 | Phone: | |
| Email(s) for Report: | CHELSEA.SABER@TETRATECH.COM | Email(s) for Invoice: | |

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**Project Information**

Project Name/No: MAUI FIRES-LAHAINA /10359230

Purchase Order: 1207085

EMSL LIMS Project ID: (If applicable, EMSL will provide)

US State where samples collected: HI

State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)

Sampled By Name: MITCH PETERS

Sampled By Signature: M Peters.

No. of Samples in Shipment: 15

**Turn-Around-Time (TAT)**

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

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

**Test Selection**

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

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

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

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

**Other Test (please specify)**

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

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

*Please call with your project-specific requirements.

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

| Sample Number | Sample Location / Description | Volume, Area or Homogeneous Area | Date / Time Sampled (Air Monitoring Only) |
|---|---|---|---|
| MFL-AM01-031124-AB | | 7611.765 | 03/11/24 1101 |
| MFL-AM02-031124-AB | | 7216.848 | 03/11/24 1125 |
| MFL-AM03-031124-AB | | 7238.880 | 03/11/24 1309 |
| MFL-AM04-031124-AB | | 7244.064 | 03/11/24 1331 |
| MFL-FB01-031124-AB | | 0 | 03/11/24 1200 |
| MFL-AM01-031224-AB | | 7531.776 | 03/12/24 1107 |
| MFL-AM02-031224-AB | | 7379.460 | 03/12/24 1126 |
| MFL-AM03-031224-AB | | 7349.906 | 03/12/24 1316 |

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

All samples received acceptable for analysis.

15

| Method of Shipment: FEDEX | | Sample Condition Upon Receipt: | |
|---|---|---|---|
| Relinquished by: MPB | Date/Time: 03/14/24 1100 | Received by: FedEx | Date/Time 3/18/24 9AM |
| Relinquished by: | Date/Time: | Received by: | Date/Time |

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

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

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

OrderID: 042405592

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

# Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

#042405592

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

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

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

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

| Sample Number | Sample Location / Description | Volume, Area or Homogeneous Area | Date / Time Sampled (Air Monitoring Only) |
|---|---|---|---|
| MFL-AM04-031224-AB | | 7232.845 | 03/12/24 1339 |
| MFL-FB01-031224-AB | | 0 | 03/12/24 1200 |
| MFL-AM01-031324-AB | | 6648.604 | 03/13/24 1109 |
| MFL-AM02-031324-AB | | 7094.448 | 03/13/24 1131 |
| MFL-AM03-031324-AB | | 7146.773 | 03/13/24 1308 |
| MFL-AM04-031324-AB | | 7243.665 | 03/13/24 1341 |
| MFL-FB01-031324-AB | | 0 | 03/13/24 1200 |
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| | | | |
|---|---|---|---|
| Method of Shipment: FED Ex | | Sample Condition Upon Receipt: | |
| Relinquished by: | Date/Time: 03/14/24 1100 | Received by: | Date/Time |
| Relinquished by: | Date/Time: | Received by: | Date/Time |

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

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

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

**Stage 1 Data Verification Checklist – Asbestos**

**HDOH CAB – Ambient Community Air Sampling – Lahaina**

**Task Order No. 23141**

Reviewed by:
Kierra Johnson 3/25/2024 and Shanna Vasser 3/26/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 3/11/2024 - 3/13/2024
Report No: 42405592

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

Discrepancies: None

Notes: None

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

March 26, 2024

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

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 03/18/24 14:42.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**ANALYTICAL REPORT FOR SAMPLES**

| SampleName | LabNumber | Matrix | Sampled | Received |
|---|---|---|---|---|
| MFL-AM01-030724-HM | 4031840-01 | Air | 03/07/24 23:59 | 03/18/24 14:42 |
| MFL-AM02-030724-HM | 4031840-02 | Air | 03/07/24 23:59 | 03/18/24 14:42 |
| MFL-AM03-030724-HM | 4031840-03 | Air | 03/07/24 23:59 | 03/18/24 14:42 |
| MFL-AM04-030724-HM | 4031840-04 | Air | 03/07/24 23:59 | 03/18/24 14:42 |
| MFL-AM01-030824-HM/MS/I | 4031840-05 | Air | 03/08/24 23:59 | 03/18/24 14:42 |
| MFL-AM02-030824-HM | 4031840-06 | Air | 03/08/24 23:59 | 03/18/24 14:42 |
| MFL-AM03-030824-HM | 4031840-07 | Air | 03/08/24 23:59 | 03/18/24 14:42 |
| MFL-AM04-030824-HM | 4031840-08 | Air | 03/08/24 23:59 | 03/18/24 14:42 |
| MFL-FB01-030824-HM | 4031840-09 | Air | 03/08/24 00:00 | 03/18/24 14:42 |
| MFL-AM01-030924-HM | 4031840-10 | Air | 03/09/24 23:59 | 03/18/24 14:42 |
| MFL-AM02-030924-HM | 4031840-11 | Air | 03/09/24 23:59 | 03/18/24 14:42 |
| MFL-AM03-030924-HM | 4031840-12 | Air | 03/09/24 23:59 | 03/18/24 14:42 |
| MFL-AM04-030924-HM | 4031840-13 | Air | 03/09/24 23:59 | 03/18/24 14:42 |
| MFL-AM01-031024-HM | 4031840-14 | Air | 03/10/24 23:59 | 03/18/24 14:42 |
| MFL-AM02-031024-HM | 4031840-15 | Air | 03/10/24 23:59 | 03/18/24 14:42 |
| MFL-AM03-031024-HM | 4031840-16 | Air | 03/10/24 23:59 | 03/18/24 14:42 |
| MFL-AM04-031024-HM | 4031840-17 | Air | 03/10/24 23:59 | 03/18/24 14:42 |
| MFL-FB01-031024-HM | 4031840-18 | Air | 03/10/24 00:00 | 03/18/24 14:42 |
| MFL-AM01-031124-HM | 4031840-19 | Air | 03/11/24 23:59 | 03/18/24 14:42 |
| MFL-AM02-031124-HM | 4031840-20 | Air | 03/11/24 23:59 | 03/18/24 14:42 |
| MFL-AM03-031124-HM | 4031840-21 | Air | 03/11/24 23:59 | 03/18/24 14:42 |

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| | | | | |
|---|---|---|---|---|
| MFL-AM04-031124-HM | 4031840-22 | Air | 03/11/24 23:59 | 03/18/24 14:42 |
| MFL-AM01-031224-HM | 4031840-23 | Air | 03/12/24 23:59 | 03/18/24 14:42 |
| MFL-AM02-031224-HM | 4031840-24 | Air | 03/12/24 23:59 | 03/18/24 14:42 |
| MFL-AM03-031224-HM/MS/I | 4031840-25 | Air | 03/12/24 23:59 | 03/18/24 14:42 |
| MFL-AM04-031224-HM | 4031840-26 | Air | 03/12/24 23:59 | 03/18/24 14:42 |
| MFL-FB01-031224-HM | 4031840-27 | Air | 03/12/24 00:00 | 03/18/24 14:42 |
| MFL-AM01-031324-HM | 4031840-28 | Air | 03/13/24 23:59 | 03/18/24 14:42 |
| MFL-AM02-031324-HM | 4031840-29 | Air | 03/13/24 23:59 | 03/18/24 14:42 |
| MFL-AM03-031324-HM | 4031840-30 | Air | 03/13/24 23:59 | 03/18/24 14:42 |
| MFL-AM04-031324-HM | 4031840-31 | Air | 03/13/24 23:59 | 03/18/24 14:42 |

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**ATTN:** Ms. Chelsea Saber
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**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM01-030724-HM
**Matrix:** Air
**Lab ID:** 4031840-01
**Sample Volume:** 2002.509 m³
**Filter ID:**
**Sampled:** 03/07/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 00:46

**Comments:** Q9537222 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0464** | SL | **0.0314** |
| **Arsenic** | **7440-38-2** | **0.448** | | **0.00761** |
| **Barium** | **7440-39-3** | **2.56** | QB-01 | **0.869** |
| **Beryllium** | **7440-41-7** | **0.00696** | | **0.00260** |
| Cadmium | 7440-43-9 | 0.0133 | U | 0.0602 |
| **Chromium** | **7440-47-3** | **3.26** | | **1.80** |
| **Cobalt** | **7440-48-4** | **0.292** | | **0.0354** |
| **Copper** | **7440-50-8** | **39.9** | | **2.14** |
| **Lead** | **7439-92-1** | **0.348** | | **0.174** |
| **Manganese** | **7439-96-5** | **7.84** | | **1.54** |
| **Molybdenum** | **7439-98-7** | **1.50** | | **0.292** |
| **Nickel** | **7440-02-0** | **1.55** | | **0.530** |
| **Selenium** | **7782-49-2** | **0.107** | | **0.00728** |
| **Thallium** | **7440-28-0** | **9.01E-4** | | **4.79E-4** |
| **Vanadium** | **7440-62-2** | **0.694** | | **0.0430** |
| Zinc | 7440-66-6 | 19.2 | U | 62.4 |

# 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:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-030724-HM
**Matrix:** Air
**Lab ID:** 4031840-02
**Sample Volume:** 2067.07 m³
**Filter ID:**
**Sampled:** 03/07/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 01:01

**Comments:** Q9537248 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.102** | SL | **0.0304** |
| **Arsenic** | **7440-38-2** | **1.00** | | **0.00738** |
| **Barium** | **7440-39-3** | **7.28** | QB-01 | **0.842** |
| **Beryllium** | **7440-41-7** | **0.0272** | | **0.00252** |
| **Cadmium** | **7440-43-9** | **0.0607** | | **0.0583** |
| **Chromium** | **7440-47-3** | **5.32** | | **1.74** |
| **Cobalt** | **7440-48-4** | **1.15** | | **0.0343** |
| **Copper** | **7440-50-8** | **47.7** | | **2.07** |
| **Lead** | **7439-92-1** | **1.83** | | **0.168** |
| **Manganese** | **7439-96-5** | **28.5** | | **1.49** |
| **Molybdenum** | **7439-98-7** | **1.76** | | **0.283** |
| **Nickel** | **7440-02-0** | **4.45** | | **0.513** |
| **Selenium** | **7782-49-2** | **0.214** | | **0.00705** |
| **Thallium** | **7440-28-0** | **0.00142** | | **4.64E-4** |
| **Vanadium** | **7440-62-2** | **2.79** | | **0.0416** |
| Zinc | 7440-66-6 | 35.0 | U | 60.4 |

# 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:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-030724-HM
**Matrix:** Air
**Lab ID:** 4031840-03
**Sample Volume:** 2188.323 m³
**Filter ID:**
**Sampled:** 03/07/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 01:17

**Comments:** Q9537247 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0357** | SL | **0.0287** |
| **Arsenic** | **7440-38-2** | **0.224** | | **0.00697** |
| **Barium** | **7440-39-3** | **3.12** | QB-01 | **0.796** |
| **Beryllium** | **7440-41-7** | **0.0351** | | **0.00238** |
| Cadmium | 7440-43-9 | 0.0101 | U | 0.0551 |
| **Chromium** | **7440-47-3** | **3.70** | | **1.64** |
| **Cobalt** | **7440-48-4** | **0.588** | | **0.0324** |
| **Copper** | **7440-50-8** | **45.4** | | **1.96** |
| **Lead** | **7439-92-1** | **0.702** | | **0.159** |
| **Manganese** | **7439-96-5** | **12.1** | | **1.41** |
| **Molybdenum** | **7439-98-7** | **2.29** | | **0.267** |
| **Nickel** | **7440-02-0** | **1.54** | | **0.485** |
| **Selenium** | **7782-49-2** | **0.174** | | **0.00666** |
| **Thallium** | **7440-28-0** | **9.99E-4** | | **4.38E-4** |
| **Vanadium** | **7440-62-2** | **1.22** | | **0.0393** |
| Zinc | 7440-66-6 | 22.2 | U | 57.1 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM04-030724-HM
**Matrix:** Air
**Lab ID:** 4031840-04
**Sample Volume:** 1876.182 m³
**Filter ID:**
**Sampled:** 03/07/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 01:31

**Comments:** Q9537246 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0792** | SL | **0.0335** |
| **Arsenic** | **7440-38-2** | **0.345** | | **0.00813** |
| **Barium** | **7440-39-3** | **4.32** | QB-01 | **0.928** |
| **Beryllium** | **7440-41-7** | **0.0134** | | **0.00277** |
| Cadmium | 7440-43-9 | 0.0372 | U | 0.0643 |
| **Chromium** | **7440-47-3** | **3.25** | | **1.92** |
| **Cobalt** | **7440-48-4** | **0.390** | | **0.0378** |
| **Copper** | **7440-50-8** | **28.8** | | **2.28** |
| **Lead** | **7439-92-1** | **1.09** | | **0.186** |
| **Manganese** | **7439-96-5** | **11.8** | | **1.64** |
| **Molybdenum** | **7439-98-7** | **1.51** | | **0.311** |
| **Nickel** | **7440-02-0** | **1.26** | | **0.565** |
| **Selenium** | **7782-49-2** | **0.152** | | **0.00777** |
| **Thallium** | **7440-28-0** | **0.00101** | | **5.11E-4** |
| **Vanadium** | **7440-62-2** | **0.955** | | **0.0459** |
| Zinc | 7440-66-6 | 25.1 | U | 66.6 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM01-030824-HM/MS/MS **Lab ID:** 4031840-05 **Sampled:** 03/08/24 23:59
**Matrix:** Air **Sample Volume:** 2011.162 m³ **Received:** 03/18/24 14:42
**Filter ID:** **Analysis Date:** 03/22/24 18:55

**Comments:** Q9537243 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0721** | SL | **0.0312** |
| **Arsenic** | **7440-38-2** | **0.640** | | **0.00758** |
| **Barium** | **7440-39-3** | **2.87** | QB-01 | **0.866** |
| **Beryllium** | **7440-41-7** | **0.00838** | | **0.00259** |
| Cadmium | 7440-43-9 | 0.0158 | U | 0.0599 |
| **Chromium** | **7440-47-3** | **3.91** | | **1.79** |
| **Cobalt** | **7440-48-4** | **0.301** | D-F | **0.0353** |
| **Copper** | **7440-50-8** | **38.9** | QM-07 | **2.13** |
| **Lead** | **7439-92-1** | **0.459** | | **0.173** |
| **Manganese** | **7439-96-5** | **8.24** | | **1.53** |
| **Molybdenum** | **7439-98-7** | **1.48** | | **0.290** |
| **Nickel** | **7440-02-0** | **1.65** | | **0.527** |
| **Selenium** | **7782-49-2** | **0.135** | | **0.00725** |
| **Thallium** | **7440-28-0** | **0.00107** | | **4.76E-4** |
| **Vanadium** | **7440-62-2** | **0.673** | | **0.0428** |
| Zinc | 7440-66-6 | 17.4 | U | 62.1 |

# 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:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-030824-HM
**Matrix:** Air
**Lab ID:** 4031840-06
**Sample Volume:** 2085.401 m³
**Filter ID:**
**Sampled:** 03/08/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 01:48

**Comments:** Q9537242 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0921** | SL | **0.0301** |
| **Arsenic** | **7440-38-2** | **0.865** | | **0.00731** |
| **Barium** | **7440-39-3** | **6.41** | QB-01 | **0.835** |
| **Beryllium** | **7440-41-7** | **0.0221** | | **0.00250** |
| Cadmium | 7440-43-9 | 0.0576 | U | 0.0578 |
| **Chromium** | **7440-47-3** | **4.60** | | **1.72** |
| **Cobalt** | **7440-48-4** | **1.00** | | **0.0340** |
| **Copper** | **7440-50-8** | **40.2** | | **2.05** |
| **Lead** | **7439-92-1** | **1.32** | | **0.167** |
| **Manganese** | **7439-96-5** | **23.8** | | **1.47** |
| **Molybdenum** | **7439-98-7** | **1.37** | | **0.280** |
| **Nickel** | **7440-02-0** | **4.10** | | **0.509** |
| **Selenium** | **7782-49-2** | **0.205** | | **0.00699** |
| **Thallium** | **7440-28-0** | **0.00146** | | **4.60E-4** |
| **Vanadium** | **7440-62-2** | **2.18** | | **0.0413** |
| Zinc | 7440-66-6 | 27.8 | U | 59.9 |

# 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:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-030824-HM
**Matrix:** Air
**Lab ID:** 4031840-07
**Sample Volume:** 2197.153 m³
**Filter ID:**
**Sampled:** 03/08/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 02:04

**Comments:** Q9537240 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0450** | SL | **0.0286** |
| **Arsenic** | **7440-38-2** | **0.133** | | **0.00694** |
| **Barium** | **7440-39-3** | **2.41** | QB-01 | **0.792** |
| **Beryllium** | **7440-41-7** | **0.0150** | | **0.00237** |
| Cadmium | 7440-43-9 | 0.00829 | U | 0.0549 |
| **Chromium** | **7440-47-3** | **2.34** | | **1.64** |
| **Cobalt** | **7440-48-4** | **0.275** | | **0.0323** |
| **Copper** | **7440-50-8** | **39.4** | | **1.95** |
| **Lead** | **7439-92-1** | **0.292** | | **0.158** |
| **Manganese** | **7439-96-5** | **6.70** | | **1.40** |
| **Molybdenum** | **7439-98-7** | **2.29** | | **0.266** |
| **Nickel** | **7440-02-0** | **0.881** | | **0.483** |
| **Selenium** | **7782-49-2** | **0.142** | | **0.00663** |
| **Thallium** | **7440-28-0** | **8.33E-4** | | **4.36E-4** |
| **Vanadium** | **7440-62-2** | **0.627** | | **0.0392** |
| Zinc | 7440-66-6 | 14.1 | U | 56.9 |

# CERTIFICATE OF ANALYSIS

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Blue Bell, PA 19422
**ATTN:** Ms. Chelsea Saber
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**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM04-030824-HM
**Matrix:** Air
**Lab ID:** 4031840-08
**Sample Volume:** 1866.036 m³
**Filter ID:**
**Sampled:** 03/08/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 02:18

**Comments:** Q9537239 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0535** | SL | **0.0337** |
| **Arsenic** | **7440-38-2** | **0.271** | | **0.00817** |
| **Barium** | **7440-39-3** | **2.70** | QB-01 | **0.933** |
| **Beryllium** | **7440-41-7** | **0.00692** | | **0.00279** |
| Cadmium | 7440-43-9 | 0.0104 | U | 0.0646 |
| **Chromium** | **7440-47-3** | **2.42** | | **1.93** |
| **Cobalt** | **7440-48-4** | **0.209** | | **0.0380** |
| **Copper** | **7440-50-8** | **37.8** | | **2.29** |
| **Lead** | **7439-92-1** | **0.531** | | **0.187** |
| **Manganese** | **7439-96-5** | **5.75** | | **1.65** |
| **Molybdenum** | **7439-98-7** | **2.13** | | **0.313** |
| **Nickel** | **7440-02-0** | **0.776** | | **0.568** |
| **Selenium** | **7782-49-2** | **0.133** | | **0.00781** |
| **Thallium** | **7440-28-0** | **8.39E-4** | | **5.14E-4** |
| **Vanadium** | **7440-62-2** | **0.474** | | **0.0461** |
| Zinc | 7440-66-6 | 16.6 | U | 67.0 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-FB01-030824-HM
**Matrix:** Air
**Lab ID:** 4031840-09
**Sample Volume:** 2011.162 m³
**Filter ID:**
**Sampled:** 03/08/24 00:00
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 02:33

**Comments:** Q9516965 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| Antimony | 7440-36-0 | 0.0159 | SL, U | 0.0312 |
| Arsenic | 7440-38-2 | 0.00686 | U | 0.00758 |
| Barium | 7440-39-3 | 0.586 | QB-01, U | 0.866 |
| Beryllium | 7440-41-7 | 6.02E-4 | U | 0.00259 |
| Cadmium | 7440-43-9 | 8.65E-4 | U | 0.0599 |
| Chromium | 7440-47-3 | 0.782 | U | 1.79 |
| Cobalt | 7440-48-4 | 0.0193 | U | 0.0353 |
| Copper | 7440-50-8 | 0.713 | U | 2.13 |
| Lead | 7439-92-1 | 0.0458 | U | 0.173 |
| Manganese | 7439-96-5 | 0.224 | U | 1.53 |
| Molybdenum | 7439-98-7 | 0.115 | U | 0.290 |
| Nickel | 7440-02-0 | 0.199 | U | 0.527 |
| Selenium | 7782-49-2 | 0.00597 | U | 0.00725 |
| Thallium | 7440-28-0 | 1.80E-4 | U | 4.76E-4 |
| Vanadium | 7440-62-2 | 0.0243 | U | 0.0428 |
| Zinc | 7440-66-6 | 10.6 | U | 62.1 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM01-030924-HM
**Matrix:** Air
**Lab ID:** 4031840-10
**Sample Volume:** 2017.928 m³
**Filter ID:**
**Sampled:** 03/09/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 02:47

**Comments:** Q9537238 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0414** | SL | **0.0311** |
| **Arsenic** | **7440-38-2** | **0.267** | | **0.00755** |
| **Barium** | **7440-39-3** | **3.24** | QB-01 | **0.863** |
| **Beryllium** | **7440-41-7** | **0.00947** | | **0.00258** |
| Cadmium | 7440-43-9 | 0.0128 | U | 0.0597 |
| **Chromium** | **7440-47-3** | **3.01** | | **1.78** |
| **Cobalt** | **7440-48-4** | **0.329** | | **0.0352** |
| **Copper** | **7440-50-8** | **37.7** | | **2.12** |
| **Lead** | **7439-92-1** | **0.505** | | **0.173** |
| **Manganese** | **7439-96-5** | **9.92** | | **1.52** |
| **Molybdenum** | **7439-98-7** | **1.85** | | **0.289** |
| **Nickel** | **7440-02-0** | **1.18** | | **0.526** |
| **Selenium** | **7782-49-2** | **0.150** | | **0.00722** |
| **Thallium** | **7440-28-0** | **0.00103** | | **4.75E-4** |
| **Vanadium** | **7440-62-2** | **0.832** | | **0.0427** |
| Zinc | 7440-66-6 | 18.1 | U | 61.9 |

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-030924-HM
**Matrix:** Air
**Lab ID:** 4031840-11
**Sample Volume:** 2090.991 m³
**Filter ID:**
**Sampled:** 03/09/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 03:42

**Comments:** Q9537236 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.102** | SL | **0.0300** |
| **Arsenic** | **7440-38-2** | **0.828** | | **0.00729** |
| **Barium** | **7440-39-3** | **6.06** | QB-01 | **0.833** |
| **Beryllium** | **7440-41-7** | **0.0166** | | **0.00249** |
| Cadmium | 7440-43-9 | 0.0243 | U | 0.0577 |
| **Chromium** | **7440-47-3** | **3.92** | | **1.72** |
| **Cobalt** | **7440-48-4** | **0.672** | | **0.0339** |
| **Copper** | **7440-50-8** | **62.9** | | **2.05** |
| **Lead** | **7439-92-1** | **1.09** | | **0.167** |
| **Manganese** | **7439-96-5** | **16.8** | | **1.47** |
| **Molybdenum** | **7439-98-7** | **1.80** | | **0.279** |
| **Nickel** | **7440-02-0** | **2.70** | | **0.507** |
| **Selenium** | **7782-49-2** | **0.201** | | **0.00697** |
| **Thallium** | **7440-28-0** | **0.00130** | | **4.58E-4** |
| **Vanadium** | **7440-62-2** | **1.62** | | **0.0412** |
| Zinc | 7440-66-6 | 24.4 | U | 59.8 |

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-030924-HM
**Matrix:** Air
**Lab ID:** 4031840-12
**Sample Volume:** 2240.6 m³
**Filter ID:**
**Sampled:** 03/09/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 04:14

**Comments:** Q9516955 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0587** | SL | **0.0280** |
| **Arsenic** | **7440-38-2** | **0.144** | | **0.00680** |
| **Barium** | **7440-39-3** | **2.17** | QB-01 | **0.777** |
| **Beryllium** | **7440-41-7** | **0.0118** | | **0.00232** |
| Cadmium | 7440-43-9 | 0.00714 | U | 0.0538 |
| Chromium | 7440-47-3 | 1.43 | U | 1.60 |
| **Cobalt** | **7440-48-4** | **0.210** | | **0.0317** |
| **Copper** | **7440-50-8** | **44.3** | | **1.91** |
| **Lead** | **7439-92-1** | **0.303** | | **0.155** |
| **Manganese** | **7439-96-5** | **5.67** | | **1.37** |
| **Molybdenum** | **7439-98-7** | **2.34** | | **0.261** |
| **Nickel** | **7440-02-0** | **0.663** | | **0.473** |
| **Selenium** | **7782-49-2** | **0.144** | | **0.00651** |
| **Thallium** | **7440-28-0** | **8.88E-4** | | **4.28E-4** |
| **Vanadium** | **7440-62-2** | **0.511** | | **0.0384** |
| Zinc | 7440-66-6 | 12.7 | U | 55.8 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM04-030924-HM
**Matrix:** Air
**Lab ID:** 4031840-13
**Sample Volume:** 1895.668 m³
**Filter ID:**
**Sampled:** 03/09/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 04:29

**Comments:** Q9516964 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0993** | SL | **0.0331** |
| **Arsenic** | **7440-38-2** | **0.384** | | **0.00804** |
| **Barium** | **7440-39-3** | **3.41** | QB-01 | **0.918** |
| **Beryllium** | **7440-41-7** | **0.00961** | | **0.00275** |
| Cadmium | 7440-43-9 | 0.0109 | U | 0.0636 |
| **Chromium** | **7440-47-3** | **1.95** | | **1.90** |
| **Cobalt** | **7440-48-4** | **0.294** | | **0.0374** |
| **Copper** | **7440-50-8** | **53.2** | | **2.26** |
| **Lead** | **7439-92-1** | **0.800** | | **0.184** |
| **Manganese** | **7439-96-5** | **8.96** | | **1.62** |
| **Molybdenum** | **7439-98-7** | **2.52** | | **0.308** |
| **Nickel** | **7440-02-0** | **1.08** | | **0.560** |
| **Selenium** | **7782-49-2** | **0.159** | | **0.00769** |
| **Thallium** | **7440-28-0** | **0.00103** | | **5.06E-4** |
| **Vanadium** | **7440-62-2** | **0.808** | | **0.0454** |
| Zinc | 7440-66-6 | 19.5 | U | 65.9 |

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Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
**ATTN:** Ms. Chelsea Saber
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**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM01-031024-HM
**Matrix:** Air
**Lab ID:** 4031840-14
**Sample Volume:** 2052.979 m³
**Filter ID:**
**Sampled:** 03/10/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 04:44

**Comments:** Q9516963 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0800** | SL | **0.0306** |
| **Arsenic** | **7440-38-2** | **0.810** | | **0.00743** |
| **Barium** | **7440-39-3** | **4.25** | QB-01 | **0.848** |
| **Beryllium** | **7440-41-7** | **0.0126** | | **0.00254** |
| Cadmium | 7440-43-9 | 0.0255 | U | 0.0587 |
| **Chromium** | **7440-47-3** | **3.31** | | **1.75** |
| **Cobalt** | **7440-48-4** | **0.451** | | **0.0346** |
| **Copper** | **7440-50-8** | **59.2** | | **2.08** |
| **Lead** | **7439-92-1** | **0.647** | | **0.170** |
| **Manganese** | **7439-96-5** | **14.1** | | **1.50** |
| **Molybdenum** | **7439-98-7** | **2.51** | | **0.285** |
| **Nickel** | **7440-02-0** | **1.54** | | **0.517** |
| **Selenium** | **7782-49-2** | **0.182** | | **0.00710** |
| **Thallium** | **7440-28-0** | **0.00148** | | **4.67E-4** |
| **Vanadium** | **7440-62-2** | **1.15** | | **0.0419** |
| Zinc | 7440-66-6 | 15.1 | U | 60.9 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-031024-HM
**Matrix:** Air
**Lab ID:** 4031840-15
**Sample Volume:** 2194.407 m³
**Filter ID:**
**Sampled:** 03/10/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 04:59

**Comments:** Q9516962 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.141** | SL | **0.0286** |
| **Arsenic** | **7440-38-2** | **0.280** | | **0.00695** |
| **Barium** | **7440-39-3** | **2.94** | QB-01 | **0.793** |
| **Beryllium** | **7440-41-7** | **0.00811** | | **0.00237** |
| Cadmium | 7440-43-9 | 0.0106 | U | 0.0549 |
| Chromium | 7440-47-3 | 1.44 | U | 1.64 |
| **Cobalt** | **7440-48-4** | **0.243** | | **0.0323** |
| **Copper** | **7440-50-8** | **41.3** | | **1.95** |
| **Lead** | **7439-92-1** | **0.732** | | **0.159** |
| **Manganese** | **7439-96-5** | **7.30** | | **1.40** |
| **Molybdenum** | **7439-98-7** | **1.35** | | **0.266** |
| **Nickel** | **7440-02-0** | **0.903** | | **0.483** |
| **Selenium** | **7782-49-2** | **0.169** | | **0.00664** |
| **Thallium** | **7440-28-0** | **9.09E-4** | | **4.37E-4** |
| **Vanadium** | **7440-62-2** | **0.693** | | **0.0392** |
| Zinc | 7440-66-6 | 14.6 | U | 56.9 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-031024-HM
**Matrix:** Air
**Lab ID:** 4031840-16
**Sample Volume:** 2277.721 m³
**Filter ID:**
**Sampled:** 03/10/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 05:14

**Comments:** Q9516961 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0369** | SL | **0.0276** |
| **Arsenic** | **7440-38-2** | **0.110** | | **0.00669** |
| **Barium** | **7440-39-3** | **1.59** | QB-01 | **0.764** |
| **Beryllium** | **7440-41-7** | **0.00517** | | **0.00229** |
| Cadmium | 7440-43-9 | 0.00952 | U | 0.0529 |
| Chromium | 7440-47-3 | 0.980 | U | 1.58 |
| **Cobalt** | **7440-48-4** | **0.118** | | **0.0311** |
| **Copper** | **7440-50-8** | **40.1** | | **1.88** |
| **Lead** | **7439-92-1** | **0.345** | | **0.153** |
| **Manganese** | **7439-96-5** | **3.21** | | **1.35** |
| **Molybdenum** | **7439-98-7** | **2.12** | | **0.256** |
| Nickel | 7440-02-0 | 0.446 | U | 0.466 |
| **Selenium** | **7782-49-2** | **0.124** | | **0.00640** |
| **Thallium** | **7440-28-0** | **7.35E-4** | | **4.21E-4** |
| **Vanadium** | **7440-62-2** | **0.305** | | **0.0378** |
| Zinc | 7440-66-6 | 11.5 | U | 54.9 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM04-031024-HM
**Matrix:** Air
**Lab ID:** 4031840-17
**Sample Volume:** 1930.355 m³
**Filter ID:**
**Sampled:** 03/10/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 05:29

**Comments:** Q9516960 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0789** | SL | **0.0325** |
| **Arsenic** | **7440-38-2** | **0.157** | | **0.00790** |
| **Barium** | **7440-39-3** | **2.45** | QB-01 | **0.902** |
| **Beryllium** | **7440-41-7** | **0.00551** | | **0.00270** |
| Cadmium | 7440-43-9 | 0.0135 | U | 0.0625 |
| Chromium | 7440-47-3 | 1.32 | U | 1.86 |
| **Cobalt** | **7440-48-4** | **0.161** | | **0.0367** |
| **Copper** | **7440-50-8** | **39.2** | | **2.22** |
| **Lead** | **7439-92-1** | **0.589** | | **0.180** |
| **Manganese** | **7439-96-5** | **5.28** | | **1.59** |
| **Molybdenum** | **7439-98-7** | **2.13** | | **0.303** |
| **Nickel** | **7440-02-0** | **0.592** | | **0.550** |
| **Selenium** | **7782-49-2** | **0.138** | | **0.00755** |
| **Thallium** | **7440-28-0** | **7.14E-4** | | **4.96E-4** |
| **Vanadium** | **7440-62-2** | **0.490** | | **0.0446** |
| Zinc | 7440-66-6 | 15.6 | U | 64.7 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-FB01-031024-HM
**Matrix:** Air
**Lab ID:** 4031840-18
**Sample Volume:** 2052.979 m³
**Filter ID:**
**Sampled:** 03/10/24 00:00
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 05:43

**Comments:** Q9516959 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| Antimony | 7440-36-0 | 0.0149 | SL, U | 0.0306 |
| **Arsenic** | **7440-38-2** | **0.00836** | FB-01 | **0.00743** |
| Barium | 7440-39-3 | 0.542 | QB-01, U | 0.848 |
| Beryllium | 7440-41-7 | 4.94E-4 | U | 0.00254 |
| Cadmium | 7440-43-9 | 0.00336 | U | 0.0587 |
| Chromium | 7440-47-3 | 0.772 | U | 1.75 |
| Cobalt | 7440-48-4 | 0.0123 | U | 0.0346 |
| **Copper** | **7440-50-8** | **3.98** | FB-01 | **2.08** |
| Lead | 7439-92-1 | 0.0506 | U | 0.170 |
| Manganese | 7439-96-5 | 0.242 | U | 1.50 |
| Molybdenum | 7439-98-7 | 0.231 | U | 0.285 |
| Nickel | 7440-02-0 | 0.232 | U | 0.517 |
| Selenium | 7782-49-2 | 0.00545 | U | 0.00710 |
| Thallium | 7440-28-0 | 1.46E-4 | U | 4.67E-4 |
| Vanadium | 7440-62-2 | 0.0236 | U | 0.0419 |
| Zinc | 7440-66-6 | 8.13 | U | 60.9 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM01-031124-HM
**Matrix:** Air
**Lab ID:** 4031840-19
**Sample Volume:** 2070.082 m³
**Filter ID:**
**Sampled:** 03/11/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 05:57

**Comments:** Q9516958 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0944** | SL | **0.0303** |
| **Arsenic** | **7440-38-2** | **3.91** | | **0.00736** |
| **Barium** | **7440-39-3** | **4.14** | QB-01 | **0.841** |
| **Beryllium** | **7440-41-7** | **0.00669** | | **0.00252** |
| Cadmium | 7440-43-9 | 0.0372 | U | 0.0582 |
| **Chromium** | **7440-47-3** | **3.17** | | **1.74** |
| **Cobalt** | **7440-48-4** | **0.252** | | **0.0343** |
| **Copper** | **7440-50-8** | **69.3** | | **2.07** |
| **Lead** | **7439-92-1** | **0.968** | | **0.168** |
| **Manganese** | **7439-96-5** | **7.80** | | **1.49** |
| **Molybdenum** | **7439-98-7** | **2.63** | | **0.282** |
| **Nickel** | **7440-02-0** | **1.00** | | **0.512** |
| **Selenium** | **7782-49-2** | **0.162** | | **0.00704** |
| **Thallium** | **7440-28-0** | **0.00121** | | **4.63E-4** |
| **Vanadium** | **7440-62-2** | **0.713** | | **0.0416** |
| Zinc | 7440-66-6 | 20.0 | U | 60.4 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-031124-HM
**Matrix:** Air
**Lab ID:** 4031840-20
**Sample Volume:** 2179.301 m³
**Filter ID:**
**Sampled:** 03/11/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 06:47

**Comments:** Q9516957 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.135** | SL | **0.0288** |
| **Arsenic** | **7440-38-2** | **0.379** | | **0.00700** |
| **Barium** | **7440-39-3** | **4.27** | QB-01 | **0.799** |
| **Beryllium** | **7440-41-7** | **0.0107** | | **0.00239** |
| Cadmium | 7440-43-9 | 0.0114 | U | 0.0553 |
| **Chromium** | **7440-47-3** | **1.78** | | **1.65** |
| **Cobalt** | **7440-48-4** | **0.300** | | **0.0326** |
| **Copper** | **7440-50-8** | **49.5** | | **1.96** |
| **Lead** | **7439-92-1** | **1.19** | | **0.160** |
| **Manganese** | **7439-96-5** | **9.63** | | **1.41** |
| **Molybdenum** | **7439-98-7** | **1.54** | | **0.268** |
| **Nickel** | **7440-02-0** | **1.02** | | **0.487** |
| **Selenium** | **7782-49-2** | **0.182** | | **0.00669** |
| **Thallium** | **7440-28-0** | **0.00118** | | **4.40E-4** |
| **Vanadium** | **7440-62-2** | **0.962** | | **0.0395** |
| Zinc | 7440-66-6 | 16.3 | U | 57.3 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-031124-HM
**Matrix:** Air
**Lab ID:** 4031840-21
**Sample Volume:** 2288.191 m³
**Filter ID:**
**Sampled:** 03/11/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 07:04

**Comments:** Q9516945 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0697** | SL | **0.0274** |
| **Arsenic** | **7440-38-2** | **0.140** | | **0.00666** |
| **Barium** | **7440-39-3** | **2.03** | QB-01 | **0.761** |
| **Beryllium** | **7440-41-7** | **0.0128** | | **0.00228** |
| Cadmium | 7440-43-9 | 0.00648 | U | 0.0527 |
| Chromium | 7440-47-3 | 1.44 | U | 1.57 |
| **Cobalt** | **7440-48-4** | **0.208** | | **0.0310** |
| **Copper** | **7440-50-8** | **45.7** | | **1.87** |
| **Lead** | **7439-92-1** | **0.299** | | **0.152** |
| **Manganese** | **7439-96-5** | **5.55** | | **1.34** |
| **Molybdenum** | **7439-98-7** | **2.30** | | **0.255** |
| **Nickel** | **7440-02-0** | **0.729** | | **0.464** |
| **Selenium** | **7782-49-2** | **0.146** | | **0.00637** |
| **Thallium** | **7440-28-0** | **0.00107** | | **4.19E-4** |
| **Vanadium** | **7440-62-2** | **0.553** | | **0.0376** |
| Zinc | 7440-66-6 | 9.88 | U | 54.6 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM04-031124-HM
**Matrix:** Air
**Lab ID:** 4031840-22
**Sample Volume:** 1942.455 m³
**Filter ID:**
**Sampled:** 03/11/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 07:19

**Comments:** Q9516954 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0785** | SL | **0.0323** |
| **Arsenic** | **7440-38-2** | **0.205** | | **0.00785** |
| **Barium** | **7440-39-3** | **2.45** | QB-01 | **0.896** |
| **Beryllium** | **7440-41-7** | **0.00578** | | **0.00268** |
| Cadmium | 7440-43-9 | 0.00972 | U | 0.0621 |
| Chromium | 7440-47-3 | 1.33 | U | 1.85 |
| **Cobalt** | **7440-48-4** | **0.165** | | **0.0365** |
| **Copper** | **7440-50-8** | **52.5** | | **2.20** |
| **Lead** | **7439-92-1** | **0.617** | | **0.179** |
| **Manganese** | **7439-96-5** | **5.54** | | **1.58** |
| **Molybdenum** | **7439-98-7** | **2.62** | | **0.301** |
| **Nickel** | **7440-02-0** | **0.593** | | **0.546** |
| **Selenium** | **7782-49-2** | **0.135** | | **0.00750** |
| **Thallium** | **7440-28-0** | **8.88E-4** | | **4.93E-4** |
| **Vanadium** | **7440-62-2** | **0.512** | | **0.0443** |
| Zinc | 7440-66-6 | 15.1 | U | 64.3 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM01-031224-HM
**Matrix:** Air
**Lab ID:** 4031840-23
**Sample Volume:** 2054.699 m³
**Filter ID:**
**Sampled:** 03/12/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 07:47

**Comments:** Q9516953 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.110** | SL | **0.0306** |
| **Arsenic** | **7440-38-2** | **1.30** | | **0.00742** |
| **Barium** | **7440-39-3** | **4.72** | QB-01 | **0.847** |
| **Beryllium** | **7440-41-7** | **0.00833** | | **0.00253** |
| Cadmium | 7440-43-9 | 0.0149 | U | 0.0587 |
| **Chromium** | **7440-47-3** | **2.54** | | **1.75** |
| **Cobalt** | **7440-48-4** | **0.335** | | **0.0345** |
| **Copper** | **7440-50-8** | **75.7** | | **2.08** |
| **Lead** | **7439-92-1** | **0.602** | | **0.169** |
| **Manganese** | **7439-96-5** | **9.68** | | **1.50** |
| **Molybdenum** | **7439-98-7** | **2.71** | | **0.284** |
| **Nickel** | **7440-02-0** | **1.49** | | **0.516** |
| **Selenium** | **7782-49-2** | **0.176** | | **0.00709** |
| **Thallium** | **7440-28-0** | **9.57E-4** | | **4.66E-4** |
| **Vanadium** | **7440-62-2** | **1.03** | | **0.0419** |
| Zinc | 7440-66-6 | 21.6 | U | 60.8 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-031224-HM
**Matrix:** Air
**Lab ID:** 4031840-24
**Sample Volume:** 2157.445 m³
**Filter ID:**
**Sampled:** 03/12/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 08:02

**Comments:** Q9516952 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.167** | SL | **0.0291** |
| **Arsenic** | **7440-38-2** | **0.495** | | **0.00707** |
| **Barium** | **7440-39-3** | **5.02** | QB-01 | **0.807** |
| **Beryllium** | **7440-41-7** | **0.0125** | | **0.00241** |
| Cadmium | 7440-43-9 | 0.0124 | U | 0.0559 |
| **Chromium** | **7440-47-3** | **1.75** | | **1.67** |
| **Cobalt** | **7440-48-4** | **0.337** | | **0.0329** |
| **Copper** | **7440-50-8** | **49.7** | | **1.98** |
| **Lead** | **7439-92-1** | **1.08** | | **0.161** |
| **Manganese** | **7439-96-5** | **10.5** | | **1.43** |
| **Molybdenum** | **7439-98-7** | **1.44** | | **0.271** |
| **Nickel** | **7440-02-0** | **1.22** | | **0.492** |
| **Selenium** | **7782-49-2** | **0.211** | | **0.00676** |
| **Thallium** | **7440-28-0** | **8.54E-4** | | **4.44E-4** |
| **Vanadium** | **7440-62-2** | **1.13** | | **0.0399** |
| Zinc | 7440-66-6 | 18.4 | U | 57.9 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-031224-HM/MS/MS **Lab ID:** 4031840-25 **Sampled:** 03/12/24 23:59
**Matrix:** Air **Sample Volume:** 2302.121 m³ **Received:** 03/18/24 14:42
**Filter ID:** **Analysis Date:** 03/22/24 22:26

**Comments:** Q9516951 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0872** | SL | **0.0273** |
| **Arsenic** | **7440-38-2** | **0.301** | | **0.00662** |
| **Barium** | **7440-39-3** | **4.35** | QB-01 | **0.756** |
| **Beryllium** | **7440-41-7** | **0.0258** | | **0.00226** |
| Cadmium | 7440-43-9 | 0.0101 | U | 0.0524 |
| **Chromium** | **7440-47-3** | **2.16** | | **1.56** |
| **Cobalt** | **7440-48-4** | **0.437** | | **0.0308** |
| **Copper** | **7440-50-8** | **42.8** | | **1.86** |
| **Lead** | **7439-92-1** | **0.574** | | **0.151** |
| **Manganese** | **7439-96-5** | **11.2** | | **1.34** |
| **Molybdenum** | **7439-98-7** | **2.13** | | **0.254** |
| **Nickel** | **7440-02-0** | **1.28** | | **0.461** |
| **Selenium** | **7782-49-2** | **0.201** | | **0.00633** |
| **Thallium** | **7440-28-0** | **9.31E-4** | | **4.16E-4** |
| **Vanadium** | **7440-62-2** | **1.14** | | **0.0374** |
| Zinc | 7440-66-6 | 17.5 | U | 54.3 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM04-031224-HM
**Matrix:** Air
**Lab ID:** 4031840-26
**Sample Volume:** 1942.305 m³
**Filter ID:**
**Sampled:** 03/12/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 08:18

**Comments:** Q9516950 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0952** | SL | **0.0323** |
| **Arsenic** | **7440-38-2** | **0.328** | | **0.00785** |
| **Barium** | **7440-39-3** | **3.54** | QB-01 | **0.896** |
| **Beryllium** | **7440-41-7** | **0.00820** | | **0.00268** |
| Cadmium | 7440-43-9 | 0.00864 | U | 0.0621 |
| Chromium | 7440-47-3 | 1.66 | U | 1.85 |
| **Cobalt** | **7440-48-4** | **0.235** | | **0.0365** |
| **Copper** | **7440-50-8** | **49.7** | | **2.20** |
| **Lead** | **7439-92-1** | **0.673** | | **0.179** |
| **Manganese** | **7439-96-5** | **7.95** | | **1.58** |
| **Molybdenum** | **7439-98-7** | **2.47** | | **0.301** |
| **Nickel** | **7440-02-0** | **1.19** | | **0.546** |
| **Selenium** | **7782-49-2** | **0.163** | | **0.00751** |
| **Thallium** | **7440-28-0** | **7.74E-4** | | **4.93E-4** |
| **Vanadium** | **7440-62-2** | **0.780** | | **0.0443** |
| Zinc | 7440-66-6 | 13.8 | U | 64.3 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-FB01-031224-HM
**Matrix:** Air
**Lab ID:** 4031840-27
**Sample Volume:** 2054.699 m³
**Filter ID:**
**Sampled:** 03/12/24 00:00
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 08:32

**Comments:** Q9516947 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| Antimony | 7440-36-0 | 0.0150 | SL, U | 0.0306 |
| **Arsenic** | **7440-38-2** | **0.00975** | FB-01 | **0.00742** |
| Barium | 7440-39-3 | 0.702 | QB-01, U | 0.847 |
| Beryllium | 7440-41-7 | 5.79E-4 | U | 0.00253 |
| Cadmium | 7440-43-9 | 0.00127 | U | 0.0587 |
| Chromium | 7440-47-3 | 0.669 | U | 1.75 |
| Cobalt | 7440-48-4 | 0.0117 | U | 0.0345 |
| Copper | 7440-50-8 | 1.90 | U | 2.08 |
| Lead | 7439-92-1 | 0.0651 | U | 0.169 |
| Manganese | 7439-96-5 | 0.291 | U | 1.50 |
| Molybdenum | 7439-98-7 | 0.187 | U | 0.284 |
| Nickel | 7440-02-0 | 0.279 | U | 0.516 |
| Selenium | 7782-49-2 | 0.00291 | U | 0.00709 |
| Thallium | 7440-28-0 | 1.41E-4 | U | 4.66E-4 |
| Vanadium | 7440-62-2 | 0.0283 | U | 0.0419 |
| Zinc | 7440-66-6 | 10.3 | U | 60.8 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM01-031324-HM
**Matrix:** Air
**Lab ID:** 4031840-28
**Sample Volume:** 2078.754 m³
**Filter ID:**
**Sampled:** 03/13/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 08:46

**Comments:** Q9516949 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0842** | SL | **0.0302** |
| **Arsenic** | **7440-38-2** | **0.335** | | **0.00733** |
| **Barium** | **7440-39-3** | **2.64** | QB-01 | **0.837** |
| **Beryllium** | **7440-41-7** | **0.00409** | | **0.00250** |
| Cadmium | 7440-43-9 | 0.00722 | U | 0.0580 |
| Chromium | 7440-47-3 | 1.36 | U | 1.73 |
| **Cobalt** | **7440-48-4** | **0.131** | | **0.0341** |
| **Copper** | **7440-50-8** | **74.4** | | **2.06** |
| **Lead** | **7439-92-1** | **0.310** | | **0.167** |
| **Manganese** | **7439-96-5** | **4.45** | | **1.48** |
| **Molybdenum** | **7439-98-7** | **2.68** | | **0.281** |
| **Nickel** | **7440-02-0** | **0.972** | | **0.510** |
| **Selenium** | **7782-49-2** | **0.260** | | **0.00701** |
| **Thallium** | **7440-28-0** | **7.20E-4** | | **4.61E-4** |
| **Vanadium** | **7440-62-2** | **0.456** | | **0.0414** |
| Zinc | 7440-66-6 | 11.5 | U | 60.1 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-031324-HM
**Matrix:** Air
**Lab ID:** 4031840-29
**Sample Volume:** 2087.206 m³
**Filter ID:**
**Sampled:** 03/13/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 09:00

**Comments:** Q9516948 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.140** | SL | **0.0301** |
| **Arsenic** | **7440-38-2** | **0.262** | | **0.00730** |
| **Barium** | **7440-39-3** | **4.78** | QB-01 | **0.834** |
| **Beryllium** | **7440-41-7** | **0.0120** | | **0.00249** |
| Cadmium | 7440-43-9 | 0.0140 | U | 0.0578 |
| **Chromium** | **7440-47-3** | **2.01** | | **1.72** |
| **Cobalt** | **7440-48-4** | **0.415** | | **0.0340** |
| **Copper** | **7440-50-8** | **47.8** | | **2.05** |
| **Lead** | **7439-92-1** | **0.605** | | **0.167** |
| **Manganese** | **7439-96-5** | **11.2** | | **1.47** |
| **Molybdenum** | **7439-98-7** | **1.34** | | **0.280** |
| **Nickel** | **7440-02-0** | **1.54** | | **0.508** |
| **Selenium** | **7782-49-2** | **0.272** | | **0.00698** |
| **Thallium** | **7440-28-0** | **9.00E-4** | | **4.59E-4** |
| **Vanadium** | **7440-62-2** | **1.19** | | **0.0412** |
| Zinc | 7440-66-6 | 14.9 | U | 59.9 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-031324-HM
**Matrix:** Air
**Lab ID:** 4031840-30
**Sample Volume:** 2594.139 m³
**Filter ID:**
**Sampled:** 03/13/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 09:48

**Comments:** Q9516946 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0483** | SL | **0.0242** |
| **Arsenic** | **7440-38-2** | **0.117** | | **0.00588** |
| **Barium** | **7440-39-3** | **2.64** | QB-01 | **0.671** |
| **Beryllium** | **7440-41-7** | **0.0113** | | **0.00201** |
| Cadmium | 7440-43-9 | 0.00500 | U | 0.0465 |
| Chromium | 7440-47-3 | 1.31 | U | 1.39 |
| **Cobalt** | **7440-48-4** | **0.227** | | **0.0273** |
| **Copper** | **7440-50-8** | **23.6** | | **1.65** |
| **Lead** | **7439-92-1** | **0.209** | | **0.134** |
| **Manganese** | **7439-96-5** | **6.08** | | **1.19** |
| **Molybdenum** | **7439-98-7** | **1.20** | | **0.225** |
| **Nickel** | **7440-02-0** | **0.722** | | **0.409** |
| **Selenium** | **7782-49-2** | **0.146** | | **0.00562** |
| **Thallium** | **7440-28-0** | **5.78E-4** | | **3.69E-4** |
| **Vanadium** | **7440-62-2** | **0.651** | | **0.0332** |
| Zinc | 7440-66-6 | 10.1 | U | 48.2 |

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**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM04-031324-HM
**Matrix:** Air
**Lab ID:** 4031840-31
**Sample Volume:** 1534.411 m³
**Filter ID:**
**Sampled:** 03/13/24 23:59
**Received:** 03/18/24 14:42
**Analysis Date:** 03/23/24 10:02

**Comments:** Q9516944 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.142** | SL | **0.0409** |
| **Arsenic** | **7440-38-2** | **0.384** | | **0.00994** |
| **Barium** | **7440-39-3** | **4.86** | QB-01 | **1.13** |
| **Beryllium** | **7440-41-7** | **0.0144** | | **0.00339** |
| Cadmium | 7440-43-9 | 0.0153 | U | 0.0786 |
| **Chromium** | **7440-47-3** | **2.42** | | **2.34** |
| **Cobalt** | **7440-48-4** | **0.437** | | **0.0462** |
| **Copper** | **7440-50-8** | **29.2** | | **2.79** |
| **Lead** | **7439-92-1** | **1.43** | | **0.227** |
| **Manganese** | **7439-96-5** | **13.4** | | **2.00** |
| **Molybdenum** | **7439-98-7** | **1.29** | | **0.381** |
| **Nickel** | **7440-02-0** | **1.42** | | **0.691** |
| **Selenium** | **7782-49-2** | **0.288** | | **0.00950** |
| **Thallium** | **7440-28-0** | **0.00116** | | **6.25E-4** |
| **Vanadium** | **7440-62-2** | **1.24** | | **0.0561** |
| Zinc | 7440-66-6 | 27.3 | U | 81.4 |

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**FILE #:** 4205.00.003.001
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**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Calibration Blank (2403068-CCB1)** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Antimony | 3.13 | | ng/l | | | | | | | |
| Arsenic | 5.54 | | ng/l | | | | | | | |
| Barium | -1.21 | | ng/l | | | | | | | U |
| Beryllium | 0.189 | | ng/l | | | | | | | |
| Cadmium | 0.390 | | ng/l | | | | | | | |
| Chromium | 4.12 | | ng/l | | | | | | | |
| Cobalt | 0.692 | | ng/l | | | | | | | |
| Copper | 90.0 | | ng/l | | | | | | | |
| Lead | 13.3 | | ng/l | | | | | | | |
| Manganese | 9.62 | | ng/l | | | | | | | |
| Molybdenum | 8.16 | | ng/l | | | | | | | |
| Nickel | 2.01 | | ng/l | | | | | | | |
| Selenium | 5.03 | | ng/l | | | | | | | |
| Thallium | 0.861 | | ng/l | | | | | | | |
| Vanadium | -17.8 | | ng/l | | | | | | | U |
| Zinc | 8.24 | | ng/l | | | | | | | |
| **Calibration Blank (2403068-CCB2)** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Antimony | 3.10 | | ng/l | | | | | | | |
| Arsenic | 6.76 | | ng/l | | | | | | | |
| Barium | -0.396 | | ng/l | | | | | | | U |
| Beryllium | 0.125 | | ng/l | | | | | | | |
| Cadmium | 0.674 | | ng/l | | | | | | | |
| Chromium | 5.29 | | ng/l | | | | | | | |
| Cobalt | 0.676 | | ng/l | | | | | | | |
| Copper | 103 | | ng/l | | | | | | | |
| Lead | 8.08 | | ng/l | | | | | | | |
| Manganese | 9.76 | | ng/l | | | | | | | |
| Molybdenum | 4.87 | | ng/l | | | | | | | |
| Nickel | 2.23 | | ng/l | | | | | | | |
| Selenium | 19.5 | | ng/l | | | | | | | |
| Thallium | 0.415 | | ng/l | | | | | | | |
| Vanadium | -23.0 | | ng/l | | | | | | | U |
| Zinc | 0.677 | | ng/l | | | | | | | |
| **Calibration Blank (2403068-CCB3)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 4.12 | | ng/l | | | | | | | |
| Arsenic | 4.95 | | ng/l | | | | | | | |
| Barium | -0.353 | | ng/l | | | | | | | U |
| Beryllium | 1.61 | | ng/l | | | | | | | |

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**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Calibration Blank (2403068-CCB3) Contin** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Cadmium | 0.664 | | ng/l | | | | | | | |
| Chromium | 6.71 | | ng/l | | | | | | | |
| Cobalt | 1.08 | | ng/l | | | | | | | |
| Copper | 114 | | ng/l | | | | | | | |
| Lead | 10.8 | | ng/l | | | | | | | |
| Manganese | 13.3 | | ng/l | | | | | | | |
| Molybdenum | 6.52 | | ng/l | | | | | | | |
| Nickel | 3.31 | | ng/l | | | | | | | |
| Selenium | 7.57 | | ng/l | | | | | | | |
| Thallium | 0.567 | | ng/l | | | | | | | |
| Vanadium | -26.7 | | ng/l | | | | | | | U |
| Zinc | 14.6 | | ng/l | | | | | | | |
| **Calibration Blank (2403068-CCB4)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 4.69 | | ng/l | | | | | | | |
| Arsenic | 7.25 | | ng/l | | | | | | | |
| Barium | 8.42 | | ng/l | | | | | | | |
| Beryllium | 0.800 | | ng/l | | | | | | | |
| Cadmium | 1.01 | | ng/l | | | | | | | |
| Chromium | 13.5 | | ng/l | | | | | | | |
| Cobalt | 2.20 | | ng/l | | | | | | | |
| Copper | 161 | | ng/l | | | | | | | |
| Lead | 13.7 | | ng/l | | | | | | | |
| Manganese | 25.8 | | ng/l | | | | | | | |
| Molybdenum | 8.10 | | ng/l | | | | | | | |
| Nickel | 7.09 | | ng/l | | | | | | | |
| Selenium | 18.5 | | ng/l | | | | | | | |
| Thallium | 0.396 | | ng/l | | | | | | | |
| Vanadium | -25.4 | | ng/l | | | | | | | U |
| Zinc | -4.77 | | ng/l | | | | | | | U |
| **Calibration Blank (2403068-CCB5)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 1.82 | | ng/l | | | | | | | |
| Arsenic | 5.71 | | ng/l | | | | | | | |
| Barium | -2.02 | | ng/l | | | | | | | U |
| Beryllium | -0.120 | | ng/l | | | | | | | U |
| Cadmium | 0.297 | | ng/l | | | | | | | |
| Chromium | 3.91 | | ng/l | | | | | | | |
| Cobalt | 0.440 | | ng/l | | | | | | | |
| Copper | 73.6 | | ng/l | | | | | | | |

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**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Calibration Blank (2403068-CCB5) Contin** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Lead | 6.79 | | ng/l | | | | | | | |
| Manganese | 6.25 | | ng/l | | | | | | | |
| Molybdenum | 4.50 | | ng/l | | | | | | | |
| Nickel | 1.40 | | ng/l | | | | | | | |
| Selenium | 2.03 | | ng/l | | | | | | | |
| Thallium | 0.423 | | ng/l | | | | | | | |
| Vanadium | -26.7 | | ng/l | | | | | | | U |
| Zinc | -14.0 | | ng/l | | | | | | | U |
| **Calibration Blank (2403068-CCB6)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 2.35 | | ng/l | | | | | | | |
| Arsenic | 6.20 | | ng/l | | | | | | | |
| Barium | -0.673 | | ng/l | | | | | | | U |
| Beryllium | 1.16 | | ng/l | | | | | | | |
| Cadmium | 0.385 | | ng/l | | | | | | | |
| Chromium | 6.70 | | ng/l | | | | | | | |
| Cobalt | 0.960 | | ng/l | | | | | | | |
| Copper | 93.8 | | ng/l | | | | | | | |
| Lead | 8.13 | | ng/l | | | | | | | |
| Manganese | 14.8 | | ng/l | | | | | | | |
| Molybdenum | 5.64 | | ng/l | | | | | | | |
| Nickel | 2.62 | | ng/l | | | | | | | |
| Selenium | 15.5 | | ng/l | | | | | | | |
| Thallium | 0.713 | | ng/l | | | | | | | |
| Vanadium | -25.2 | | ng/l | | | | | | | U |
| Zinc | -23.8 | | ng/l | | | | | | | U |
| **Calibration Blank (2403068-CCB7)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 3.00 | | ng/l | | | | | | | |
| Arsenic | 5.98 | | ng/l | | | | | | | |
| Barium | 5.58 | | ng/l | | | | | | | |
| Beryllium | 2.96 | | ng/l | | | | | | | |
| Cadmium | 0.663 | | ng/l | | | | | | | |
| Chromium | 13.0 | | ng/l | | | | | | | |
| Cobalt | 2.13 | | ng/l | | | | | | | |
| Copper | 152 | | ng/l | | | | | | | |
| Lead | 13.0 | | ng/l | | | | | | | |
| Manganese | 25.5 | | ng/l | | | | | | | |
| Molybdenum | 8.24 | | ng/l | | | | | | | |
| Nickel | 6.02 | | ng/l | | | | | | | |

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**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
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**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Calibration Blank (2403068-CCB7) Contin** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Selenium | 24.4 | | ng/l | | | | | | | |
| Thallium | 0.674 | | ng/l | | | | | | | |
| Vanadium | -28.3 | | ng/l | | | | | | | U |
| Zinc | -10.8 | | ng/l | | | | | | | U |
| **Calibration Check (2403068-CCV1)** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Antimony | 19600 | | ng/l | 20000 | | 98.0 | 90-110 | | | |
| Arsenic | 19800 | | ng/l | 20000 | | 99.1 | 90-110 | | | |
| Barium | 200000 | | ng/l | 200000 | | 100 | 90-110 | | | |
| Beryllium | 5030 | | ng/l | 5000.0 | | 101 | 90-110 | | | |
| Cadmium | 19600 | | ng/l | 20000 | | 98.0 | 90-110 | | | |
| Chromium | 250000 | | ng/l | 240000 | | 104 | 90-110 | | | |
| Cobalt | 50200 | | ng/l | 50000 | | 100 | 90-110 | | | |
| Copper | 2.03E6 | | ng/l | 2.0000E6 | | 102 | 90-110 | | | |
| Lead | 198000 | | ng/l | 200000 | | 98.9 | 90-110 | | | |
| Manganese | 494000 | | ng/l | 500000 | | 98.9 | 90-110 | | | |
| Molybdenum | 48400 | | ng/l | 50000 | | 96.8 | 90-110 | | | |
| Nickel | 121000 | | ng/l | 120000 | | 101 | 90-110 | | | |
| Selenium | 19800 | | ng/l | 20000 | | 98.9 | 90-110 | | | |
| Thallium | 496 | | ng/l | 500.00 | | 99.3 | 90-110 | | | |
| Vanadium | 19400 | | ng/l | 20000 | | 96.8 | 90-110 | | | |
| Zinc | 509000 | | ng/l | 500000 | | 102 | 90-110 | | | |
| **Calibration Check (2403068-CCV2)** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Antimony | 19500 | | ng/l | 20000 | | 97.7 | 90-110 | | | |
| Arsenic | 19800 | | ng/l | 20000 | | 99.0 | 90-110 | | | |
| Barium | 195000 | | ng/l | 200000 | | 97.4 | 90-110 | | | |
| Beryllium | 4990 | | ng/l | 5000.0 | | 99.8 | 90-110 | | | |
| Cadmium | 19600 | | ng/l | 20000 | | 98.2 | 90-110 | | | |
| Chromium | 251000 | | ng/l | 240000 | | 105 | 90-110 | | | |
| Cobalt | 49700 | | ng/l | 50000 | | 99.5 | 90-110 | | | |
| Copper | 2.05E6 | | ng/l | 2.0000E6 | | 102 | 90-110 | | | |
| Lead | 197000 | | ng/l | 200000 | | 98.3 | 90-110 | | | |
| Manganese | 489000 | | ng/l | 500000 | | 97.8 | 90-110 | | | |
| Molybdenum | 48400 | | ng/l | 50000 | | 96.8 | 90-110 | | | |
| Nickel | 120000 | | ng/l | 120000 | | 100 | 90-110 | | | |
| Selenium | 19900 | | ng/l | 20000 | | 99.6 | 90-110 | | | |
| Thallium | 487 | | ng/l | 500.00 | | 97.5 | 90-110 | | | |
| Vanadium | 19500 | | ng/l | 20000 | | 97.7 | 90-110 | | | |
| Zinc | 511000 | | ng/l | 500000 | | 102 | 90-110 | | | |

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

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Calibration Check (2403068-CCV3)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 19800 | | ng/l | 20000 | | 98.8 | 90-110 | | | |
| Arsenic | 20100 | | ng/l | 20000 | | 100 | 90-110 | | | |
| Barium | 202000 | | ng/l | 200000 | | 101 | 90-110 | | | |
| Beryllium | 4860 | | ng/l | 5000.0 | | 97.2 | 90-110 | | | |
| Cadmium | 20000 | | ng/l | 20000 | | 100 | 90-110 | | | |
| Chromium | 255000 | | ng/l | 240000 | | 106 | 90-110 | | | |
| Cobalt | 50200 | | ng/l | 50000 | | 100 | 90-110 | | | |
| Copper | 2.07E6 | | ng/l | 2.0000E6 | | 103 | 90-110 | | | |
| Lead | 199000 | | ng/l | 200000 | | 99.5 | 90-110 | | | |
| Manganese | 500000 | | ng/l | 500000 | | 99.9 | 90-110 | | | |
| Molybdenum | 50000 | | ng/l | 50000 | | 100 | 90-110 | | | |
| Nickel | 122000 | | ng/l | 120000 | | 102 | 90-110 | | | |
| Selenium | 19900 | | ng/l | 20000 | | 99.3 | 90-110 | | | |
| Thallium | 495 | | ng/l | 500.00 | | 99.0 | 90-110 | | | |
| Vanadium | 20000 | | ng/l | 20000 | | 99.8 | 90-110 | | | |
| Zinc | 517000 | | ng/l | 500000 | | 103 | 90-110 | | | |
| **Calibration Check (2403068-CCV4)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 20200 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Arsenic | 20400 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Barium | 207000 | | ng/l | 200000 | | 103 | 90-110 | | | |
| Beryllium | 4850 | | ng/l | 5000.0 | | 97.0 | 90-110 | | | |
| Cadmium | 20500 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Chromium | 261000 | | ng/l | 240000 | | 109 | 90-110 | | | |
| Cobalt | 51700 | | ng/l | 50000 | | 103 | 90-110 | | | |
| Copper | 2.13E6 | | ng/l | 2.0000E6 | | 106 | 90-110 | | | |
| Lead | 203000 | | ng/l | 200000 | | 101 | 90-110 | | | |
| Manganese | 513000 | | ng/l | 500000 | | 103 | 90-110 | | | |
| Molybdenum | 51600 | | ng/l | 50000 | | 103 | 90-110 | | | |
| Nickel | 124000 | | ng/l | 120000 | | 104 | 90-110 | | | |
| Selenium | 20900 | | ng/l | 20000 | | 105 | 90-110 | | | |
| Thallium | 499 | | ng/l | 500.00 | | 99.7 | 90-110 | | | |
| Vanadium | 20400 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Zinc | 514000 | | ng/l | 500000 | | 103 | 90-110 | | | |
| **Calibration Check (2403068-CCV5)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 19800 | | ng/l | 20000 | | 99.0 | 90-110 | | | |
| Arsenic | 20300 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Barium | 203000 | | ng/l | 200000 | | 102 | 90-110 | | | |
| Beryllium | 4930 | | ng/l | 5000.0 | | 98.6 | 90-110 | | | |

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**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Calibration Check (2403068-CCV5) Contin** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Cadmium | 20100 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Chromium | 256000 | | ng/l | 240000 | | 107 | 90-110 | | | |
| Cobalt | 50900 | | ng/l | 50000 | | 102 | 90-110 | | | |
| Copper | 2.10E6 | | ng/l | 2.0000E6 | | 105 | 90-110 | | | |
| Lead | 202000 | | ng/l | 200000 | | 101 | 90-110 | | | |
| Manganese | 504000 | | ng/l | 500000 | | 101 | 90-110 | | | |
| Molybdenum | 50100 | | ng/l | 50000 | | 100 | 90-110 | | | |
| Nickel | 123000 | | ng/l | 120000 | | 103 | 90-110 | | | |
| Selenium | 20400 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Thallium | 493 | | ng/l | 500.00 | | 98.6 | 90-110 | | | |
| Vanadium | 19900 | | ng/l | 20000 | | 99.6 | 90-110 | | | |
| Zinc | 504000 | | ng/l | 500000 | | 101 | 90-110 | | | |
| **Calibration Check (2403068-CCV6)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 20300 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Arsenic | 20800 | | ng/l | 20000 | | 104 | 90-110 | | | |
| Barium | 201000 | | ng/l | 200000 | | 100 | 90-110 | | | |
| Beryllium | 4850 | | ng/l | 5000.0 | | 97.0 | 90-110 | | | |
| Cadmium | 20500 | | ng/l | 20000 | | 103 | 90-110 | | | |
| Chromium | 261000 | | ng/l | 240000 | | 109 | 90-110 | | | |
| Cobalt | 52300 | | ng/l | 50000 | | 105 | 90-110 | | | |
| Copper | 2.16E6 | | ng/l | 2.0000E6 | | 108 | 90-110 | | | |
| Lead | 207000 | | ng/l | 200000 | | 103 | 90-110 | | | |
| Manganese | 521000 | | ng/l | 500000 | | 104 | 90-110 | | | |
| Molybdenum | 50300 | | ng/l | 50000 | | 101 | 90-110 | | | |
| Nickel | 126000 | | ng/l | 120000 | | 105 | 90-110 | | | |
| Selenium | 20900 | | ng/l | 20000 | | 104 | 90-110 | | | |
| Thallium | 504 | | ng/l | 500.00 | | 101 | 90-110 | | | |
| Vanadium | 20300 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Zinc | 519000 | | ng/l | 500000 | | 104 | 90-110 | | | |
| **Calibration Check (2403068-CCV7)** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Antimony | 20000 | | ng/l | 20000 | | 100 | 90-110 | | | |
| Arsenic | 20000 | | ng/l | 20000 | | 100 | 90-110 | | | |
| Barium | 202000 | | ng/l | 200000 | | 101 | 90-110 | | | |
| Beryllium | 4940 | | ng/l | 5000.0 | | 98.7 | 90-110 | | | |
| Cadmium | 19800 | | ng/l | 20000 | | 98.8 | 90-110 | | | |
| Chromium | 253000 | | ng/l | 240000 | | 105 | 90-110 | | | |
| Cobalt | 50000 | | ng/l | 50000 | | 99.9 | 90-110 | | | |
| Copper | 2.07E6 | | ng/l | 2.0000E6 | | 103 | 90-110 | | | |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Calibration Check (2403068-CCV7) Contin** | | | | Prepared: 03/22/24 Analyzed: 03/23/24 | | | | | | |
| Lead | 200000 | | ng/l | 200000 | | 100 | 90-110 | | | |
| Manganese | 504000 | | ng/l | 500000 | | 101 | 90-110 | | | |
| Molybdenum | 48600 | | ng/l | 50000 | | 97.2 | 90-110 | | | |
| Nickel | 121000 | | ng/l | 120000 | | 101 | 90-110 | | | |
| Selenium | 20400 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Thallium | 487 | | ng/l | 500.00 | | 97.4 | 90-110 | | | |
| Vanadium | 19800 | | ng/l | 20000 | | 98.8 | 90-110 | | | |
| Zinc | 502000 | | ng/l | 500000 | | 100 | 90-110 | | | |
| **High Cal Check (2403068-HCV1)** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Antimony | 39700 | | ng/l | 40000 | | 99.3 | 95-105 | | | |
| Arsenic | 40200 | | ng/l | 40000 | | 100 | 95-105 | | | |
| Barium | 393000 | | ng/l | 400000 | | 98.1 | 95-105 | | | |
| Beryllium | 9860 | | ng/l | 10000 | | 98.6 | 95-105 | | | |
| Cadmium | 39600 | | ng/l | 40000 | | 99.0 | 95-105 | | | |
| Chromium | 465000 | | ng/l | 480000 | | 96.9 | 95-105 | | | |
| Cobalt | 99200 | | ng/l | 100000 | | 99.2 | 95-105 | | | |
| Copper | 3.99E6 | | ng/l | 4.0000E6 | | 99.9 | 95-105 | | | |
| Lead | 400000 | | ng/l | 400000 | | 100 | 95-105 | | | |
| Manganese | 1.00E6 | | ng/l | 1.0000E6 | | 100 | 95-105 | | | |
| Molybdenum | 98600 | | ng/l | 100000 | | 98.6 | 95-105 | | | |
| Nickel | 238000 | | ng/l | 240000 | | 99.3 | 95-105 | | | |
| Selenium | 39700 | | ng/l | 40000 | | 99.3 | 95-105 | | | |
| Thallium | 996 | | ng/l | 1000.0 | | 99.6 | 95-105 | | | |
| Vanadium | 40000 | | ng/l | 40000 | | 99.9 | 95-105 | | | |
| Zinc | 991000 | | ng/l | 1.0000E6 | | 99.1 | 95-105 | | | |
| **Initial Cal Blank (2403068-ICB1)** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Antimony | 2.77 | | ng/l | | | | | | | |
| Arsenic | 4.48 | | ng/l | | | | | | | |
| Barium | -1.88 | | ng/l | | | | | | | U |
| Beryllium | -0.0991 | | ng/l | | | | | | | U |
| Cadmium | 0.208 | | ng/l | | | | | | | |
| Chromium | 1.61 | | ng/l | | | | | | | |
| Cobalt | 0.439 | | ng/l | | | | | | | |
| Copper | 49.7 | | ng/l | | | | | | | |
| Lead | 13.3 | | ng/l | | | | | | | |
| Manganese | 6.20 | | ng/l | | | | | | | |
| Molybdenum | 3.13 | | ng/l | | | | | | | |
| Nickel | 0.811 | | ng/l | | | | | | | |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Initial Cal Blank (2403068-ICB1) Continu** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Selenium | 16.2 | | ng/l | | | | | | | |
| Thallium | 1.08 | | ng/l | | | | | | | |
| Vanadium | -21.1 | | ng/l | | | | | | | U |
| Zinc | -18.6 | | ng/l | | | | | | | U |
| **Initial Cal Check (2403068-ICV1)** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Antimony | 19700 | | ng/l | 20000 | | 98.4 | 90-110 | | | |
| Arsenic | 20100 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Barium | 201000 | | ng/l | 200000 | | 100 | 90-110 | | | |
| Beryllium | 4980 | | ng/l | 5000.0 | | 99.6 | 90-110 | | | |
| Cadmium | 20500 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Chromium | 255000 | | ng/l | 240000 | | 106 | 90-110 | | | |
| Cobalt | 49700 | | ng/l | 50000 | | 99.4 | 90-110 | | | |
| Copper | 2.04E6 | | ng/l | 2.0000E6 | | 102 | 90-110 | | | |
| Lead | 195000 | | ng/l | 200000 | | 97.6 | 90-110 | | | |
| Manganese | 492000 | | ng/l | 500000 | | 98.4 | 90-110 | | | |
| Molybdenum | 49500 | | ng/l | 50000 | | 99.0 | 90-110 | | | |
| Nickel | 121000 | | ng/l | 120000 | | 101 | 90-110 | | | |
| Selenium | 20700 | | ng/l | 20000 | | 103 | 90-110 | | | |
| Thallium | 481 | | ng/l | 500.00 | | 96.3 | 90-110 | | | |
| Vanadium | 20200 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Zinc | 504000 | | ng/l | 500000 | | 101 | 90-110 | | | |
| **Interference Check A (2403068-IFA1)** | | | | Prepared & Analyzed: 03/22/24 | | | | | | |
| Antimony | 0.00 | | ng/l | | | | 80-120 | | | U |
| Arsenic | 0.00 | | ng/l | | | | 80-120 | | | U |
| Barium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Beryllium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Cadmium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Chromium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Cobalt | 0.00 | | ng/l | | | | 80-120 | | | U |
| Copper | 0.00 | | ng/l | | | | 80-120 | | | U |
| Lead | 0.00 | | ng/l | | | | 80-120 | | | U |
| Manganese | 0.00 | | ng/l | | | | 80-120 | | | U |
| Molybdenum | 304000 | | ng/l | 300000 | | 101 | 80-120 | | | |
| Nickel | 0.00 | | ng/l | | | | 80-120 | | | U |
| Selenium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Thallium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Vanadium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Zinc | 0.00 | | ng/l | | | | 80-120 | | | U |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2403068 - B4C1905* | | | | | | | | | | |
| **Interference Check B (2403068-IFB1)** | | | | | Prepared & Analyzed: 03/22/24 | | | | | |
| Antimony | 20500 | | ng/l | 20000 | | 102 | 80-120 | | | |
| Arsenic | 20600 | | ng/l | 20000 | | 103 | 80-120 | | | |
| Barium | 203000 | | ng/l | 200000 | | 102 | 80-120 | | | |
| Beryllium | 4860 | | ng/l | 5000.0 | | 97.3 | 80-120 | | | |
| Cadmium | 19600 | | ng/l | 20000 | | 98.0 | 80-120 | | | |
| Chromium | 246000 | | ng/l | 240000 | | 103 | 80-120 | | | |
| Cobalt | 50300 | | ng/l | 50000 | | 101 | 80-120 | | | |
| Copper | 1.95E6 | | ng/l | 2.0000E6 | | 97.5 | 80-120 | | | |
| Lead | 208000 | | ng/l | 200000 | | 104 | 80-120 | | | |
| Manganese | 523000 | | ng/l | 500000 | | 105 | 80-120 | | | |
| Molybdenum | 346000 | | ng/l | 350000 | | 98.8 | 80-120 | | | |
| Nickel | 118000 | | ng/l | 120000 | | 98.7 | 80-120 | | | |
| Selenium | 19400 | | ng/l | 20000 | | 97.0 | 80-120 | | | |
| Thallium | 500 | | ng/l | 500.00 | | 100 | 80-120 | | | |
| Vanadium | 18800 | | ng/l | 20000 | | 94.2 | 80-120 | | | |
| Zinc | 467000 | | ng/l | 500000 | | 93.5 | 80-120 | | | |
| *Batch B4C1905 - ICP-MS Extraction* | | | | | | | | | | |
| **Blank (B4C1905-BLK1)** | | | | | Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | |
| Antimony | ND | 0.0386 | ng/m³ Air | | | | | | | SL, U |
| Arsenic | ND | 0.00937 | ng/m³ Air | | | | | | | U |
| Barium | ND | 1.07 | ng/m³ Air | | | | | | | QB-01, U |
| Beryllium | ND | 0.00320 | ng/m³ Air | | | | | | | U |
| Cadmium | ND | 0.0741 | ng/m³ Air | | | | | | | U |
| Chromium | ND | 2.21 | ng/m³ Air | | | | | | | U |
| Cobalt | ND | 0.0436 | ng/m³ Air | | | | | | | U |
| Copper | ND | 2.63 | ng/m³ Air | | | | | | | U |
| Lead | ND | 0.214 | ng/m³ Air | | | | | | | U |
| Manganese | ND | 1.89 | ng/m³ Air | | | | | | | U |
| Molybdenum | ND | 0.359 | ng/m³ Air | | | | | | | U |
| Nickel | ND | 0.652 | ng/m³ Air | | | | | | | U |
| Selenium | ND | 0.00896 | ng/m³ Air | | | | | | | U |
| Thallium | ND | 5.89E-4 | ng/m³ Air | | | | | | | U |
| Vanadium | ND | 0.0529 | ng/m³ Air | | | | | | | U |
| Zinc | ND | 76.8 | ng/m³ Air | | | | | | | U |
| **LCS (B4C1905-BS1)** | | | | | Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | |
| Antimony | 0.716 | 0.0386 | ng/m³ Air | 1.3829 | | 51.8 | 80-120 | | | SL |
| Arsenic | 2.72 | 0.00937 | ng/m³ Air | 2.7658 | | 98.4 | 80-120 | | | |
| Barium | 28.3 | 1.07 | ng/m³ Air | 27.658 | | 102 | 80-120 | | | QB-01 |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4C1905 - ICP-MS Extraction* | | | | | | | | | | |
| **LCS (B4C1905-BS1) Continued** | | | | | Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | |
| Beryllium | 1.38 | 0.00320 | ng/m³ Air | 1.3829 | | 99.6 | 80-120 | | | |
| Cadmium | 1.40 | 0.0741 | ng/m³ Air | 1.3829 | | 101 | 80-120 | | | |
| Chromium | 16.0 | 2.21 | ng/m³ Air | 13.829 | | 115 | 80-120 | | | |
| Cobalt | 1.40 | 0.0436 | ng/m³ Air | 1.3829 | | 101 | 80-120 | | | |
| Copper | 31.6 | 2.63 | ng/m³ Air | 27.658 | | 114 | 80-120 | | | |
| Lead | 13.7 | 0.214 | ng/m³ Air | 13.829 | | 98.8 | 80-120 | | | |
| Manganese | 9.06 | 1.89 | ng/m³ Air | 8.2975 | | 109 | 80-120 | | | |
| Molybdenum | 1.49 | 0.359 | ng/m³ Air | 1.3829 | | 108 | 80-120 | | | |
| Nickel | 3.29 | 0.652 | ng/m³ Air | 2.7658 | | 119 | 80-120 | | | |
| Selenium | 2.76 | 0.00896 | ng/m³ Air | 2.7658 | | 99.9 | 80-120 | | | |
| Thallium | 0.131 | 5.89E-4 | ng/m³ Air | 0.13829 | | 94.6 | 80-120 | | | |
| Vanadium | 2.77 | 0.0529 | ng/m³ Air | 2.7658 | | 100 | 80-120 | | | |
| Zinc | 120 | 76.8 | ng/m³ Air | 82.975 | | 145 | 80-120 | | | |
| **LCS (B4C1905-BS2)** | | | | | Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | |
| Antimony | 0.707 | 0.0386 | ng/m³ Air | 1.3829 | | 51.1 | 80-120 | | | SL |
| Arsenic | 2.69 | 0.00937 | ng/m³ Air | 2.7658 | | 97.2 | 80-120 | | | |
| Barium | 28.1 | 1.07 | ng/m³ Air | 27.658 | | 102 | 80-120 | | | QB-01 |
| Beryllium | 1.34 | 0.00320 | ng/m³ Air | 1.3829 | | 97.2 | 80-120 | | | |
| Cadmium | 1.38 | 0.0741 | ng/m³ Air | 1.3829 | | 100 | 80-120 | | | |
| Chromium | 15.7 | 2.21 | ng/m³ Air | 13.829 | | 114 | 80-120 | | | |
| Cobalt | 1.37 | 0.0436 | ng/m³ Air | 1.3829 | | 99.1 | 80-120 | | | |
| Copper | 31.2 | 2.63 | ng/m³ Air | 27.658 | | 113 | 80-120 | | | |
| Lead | 13.6 | 0.214 | ng/m³ Air | 13.829 | | 98.1 | 80-120 | | | |
| Manganese | 8.78 | 1.89 | ng/m³ Air | 8.2975 | | 106 | 80-120 | | | |
| Molybdenum | 1.48 | 0.359 | ng/m³ Air | 1.3829 | | 107 | 80-120 | | | |
| Nickel | 3.21 | 0.652 | ng/m³ Air | 2.7658 | | 116 | 80-120 | | | |
| Selenium | 2.73 | 0.00896 | ng/m³ Air | 2.7658 | | 98.9 | 80-120 | | | |
| Thallium | 0.131 | 5.89E-4 | ng/m³ Air | 0.13829 | | 94.4 | 80-120 | | | |
| Vanadium | 2.76 | 0.0529 | ng/m³ Air | 2.7658 | | 99.8 | 80-120 | | | |
| Zinc | 111 | 76.8 | ng/m³ Air | 82.975 | | 133 | 80-120 | | | |
| **Duplicate (B4C1905-DUP1)** | | **Source: 4031840-05** | | | Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | |
| Antimony | 0.0600 | 0.0312 | ng/m³ Air | | 0.0721 | | | 18.3 | 10 | SL |
| Arsenic | 0.768 | 0.00758 | ng/m³ Air | | 0.640 | | | 18.2 | 10 | |
| Barium | 2.99 | 0.866 | ng/m³ Air | | 2.87 | | | 3.96 | 10 | QB-01 |
| Beryllium | 0.00831 | 0.00259 | ng/m³ Air | | 0.00838 | | | 0.783 | 10 | |
| Cadmium | ND | 0.0599 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | 3.91 | 1.79 | ng/m³ Air | | 3.91 | | | 0.0996 | 10 | |
| Cobalt | 0.385 | 0.0353 | ng/m³ Air | | 0.301 | | | 24.6 | 10 | D-F |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4C1905 - ICP-MS Extraction* | | | | | | | | | | |
| **Duplicate (B4C1905-DUP1) Continued** | | | **Source: 4031840-05** | | Prepared: 03/19/24 | | Analyzed: 03/22/24 | | | |
| Copper | 40.8 | 2.13 | ng/m³ Air | | 38.9 | | | 4.61 | 10 | |
| Lead | 0.476 | 0.173 | ng/m³ Air | | 0.459 | | | 3.70 | 10 | |
| Manganese | 8.17 | 1.53 | ng/m³ Air | | 8.24 | | | 0.954 | 10 | |
| Molybdenum | 1.51 | 0.290 | ng/m³ Air | | 1.48 | | | 2.01 | 10 | |
| Nickel | 1.72 | 0.527 | ng/m³ Air | | 1.65 | | | 4.11 | 10 | |
| Selenium | 0.140 | 0.00725 | ng/m³ Air | | 0.135 | | | 3.94 | 10 | |
| Thallium | 0.00109 | 4.76E-4 | ng/m³ Air | | 0.00107 | | | 2.21 | 10 | |
| Vanadium | 0.665 | 0.0428 | ng/m³ Air | | 0.673 | | | 1.17 | 10 | |
| Zinc | ND | 62.1 | ng/m³ Air | | ND | | | | 10 | U |
| **Duplicate (B4C1905-DUP2)** | | | **Source: 4031840-25** | | Prepared: 03/19/24 | | Analyzed: 03/22/24 | | | |
| Antimony | 0.0892 | 0.0273 | ng/m³ Air | | 0.0872 | | | 2.23 | 10 | SL |
| Arsenic | 0.303 | 0.00662 | ng/m³ Air | | 0.301 | | | 0.741 | 10 | |
| Barium | 3.65 | 0.756 | ng/m³ Air | | 4.35 | | | 17.6 | 10 | QB-01 |
| Beryllium | 0.0244 | 0.00226 | ng/m³ Air | | 0.0258 | | | 5.74 | 10 | |
| Cadmium | ND | 0.0524 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | 2.15 | 1.56 | ng/m³ Air | | 2.16 | | | 0.497 | 10 | |
| Cobalt | 0.423 | 0.0308 | ng/m³ Air | | 0.437 | | | 3.20 | 10 | |
| Copper | 42.0 | 1.86 | ng/m³ Air | | 42.8 | | | 2.05 | 10 | |
| Lead | 0.541 | 0.151 | ng/m³ Air | | 0.574 | | | 5.87 | 10 | |
| Manganese | 10.9 | 1.34 | ng/m³ Air | | 11.2 | | | 2.81 | 10 | |
| Molybdenum | 2.11 | 0.254 | ng/m³ Air | | 2.13 | | | 0.842 | 10 | |
| Nickel | 1.17 | 0.461 | ng/m³ Air | | 1.28 | | | 8.98 | 10 | |
| Selenium | 0.187 | 0.00633 | ng/m³ Air | | 0.201 | | | 7.11 | 10 | |
| Thallium | 9.72E-4 | 4.16E-4 | ng/m³ Air | | 9.31E-4 | | | 4.25 | 10 | |
| Vanadium | 1.10 | 0.0374 | ng/m³ Air | | 1.14 | | | 2.76 | 10 | |
| Zinc | ND | 54.3 | ng/m³ Air | | ND | | | | 10 | U |
| **Duplicate (B4C1905-DUP3)** | | | **Source: 4031840-11** | | Prepared: 03/19/24 | | Analyzed: 03/23/24 | | | |
| Antimony | 0.101 | 0.0300 | ng/m³ Air | | 0.102 | | | 0.281 | 10 | SL |
| Arsenic | 0.830 | 0.00729 | ng/m³ Air | | 0.828 | | | 0.332 | 10 | |
| Barium | 5.99 | 0.833 | ng/m³ Air | | 6.06 | | | 1.02 | 10 | QB-01 |
| Beryllium | 0.0163 | 0.00249 | ng/m³ Air | | 0.0166 | | | 1.64 | 10 | |
| Cadmium | ND | 0.0577 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | 3.87 | 1.72 | ng/m³ Air | | 3.92 | | | 1.26 | 10 | |
| Cobalt | 0.665 | 0.0339 | ng/m³ Air | | 0.672 | | | 1.06 | 10 | |
| Copper | 62.5 | 2.05 | ng/m³ Air | | 62.9 | | | 0.581 | 10 | |
| Lead | 1.08 | 0.167 | ng/m³ Air | | 1.09 | | | 0.846 | 10 | |
| Manganese | 16.7 | 1.47 | ng/m³ Air | | 16.8 | | | 0.207 | 10 | |
| Molybdenum | 1.78 | 0.279 | ng/m³ Air | | 1.80 | | | 1.04 | 10 | |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4C1905 - ICP-MS Extraction* | | | | | | | | | | |
| **Duplicate (B4C1905-DUP3) Continued** | | **Source: 4031840-11** | | Prepared: 03/19/24 | Analyzed: 03/23/24 | | | | | |
| Nickel | 2.67 | 0.507 | ng/m³ Air | | 2.70 | | | 1.01 | 10 | |
| Selenium | 0.190 | 0.00697 | ng/m³ Air | | 0.201 | | | 5.49 | 10 | |
| Thallium | 0.00126 | 4.58E-4 | ng/m³ Air | | 0.00130 | | | 3.42 | 10 | |
| Vanadium | 1.59 | 0.0412 | ng/m³ Air | | 1.62 | | | 1.60 | 10 | |
| Zinc | ND | 59.8 | ng/m³ Air | | ND | | | | 10 | U |
| **Duplicate (B4C1905-DUP4)** | | **Source: 4031840-22** | | Prepared: 03/19/24 | Analyzed: 03/23/24 | | | | | |
| Antimony | 0.0789 | 0.0323 | ng/m³ Air | | 0.0785 | | | 0.527 | 10 | SL |
| Arsenic | 0.204 | 0.00785 | ng/m³ Air | | 0.205 | | | 0.719 | 10 | |
| Barium | 2.44 | 0.896 | ng/m³ Air | | 2.45 | | | 0.356 | 10 | QB-01 |
| Beryllium | 0.00599 | 0.00268 | ng/m³ Air | | 0.00578 | | | 3.53 | 10 | |
| Cadmium | ND | 0.0621 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | ND | 1.85 | ng/m³ Air | | ND | | | | 10 | U |
| Cobalt | 0.166 | 0.0365 | ng/m³ Air | | 0.165 | | | 0.672 | 10 | |
| Copper | 52.5 | 2.20 | ng/m³ Air | | 52.5 | | | 0.133 | 10 | |
| Lead | 0.613 | 0.179 | ng/m³ Air | | 0.617 | | | 0.725 | 10 | |
| Manganese | 5.55 | 1.58 | ng/m³ Air | | 5.54 | | | 0.0543 | 10 | |
| Molybdenum | 2.64 | 0.301 | ng/m³ Air | | 2.62 | | | 0.469 | 10 | |
| Nickel | 0.594 | 0.546 | ng/m³ Air | | 0.593 | | | 0.251 | 10 | |
| Selenium | 0.138 | 0.00750 | ng/m³ Air | | 0.135 | | | 2.34 | 10 | |
| Thallium | 8.21E-4 | 4.93E-4 | ng/m³ Air | | 8.88E-4 | | | 7.90 | 10 | |
| Vanadium | 0.512 | 0.0443 | ng/m³ Air | | 0.512 | | | 0.0835 | 10 | |
| Zinc | ND | 64.3 | ng/m³ Air | | ND | | | | 10 | U |
| **Matrix Spike (B4C1905-MS1)** | | **Source: 4031840-05** | | Prepared: 03/19/24 | Analyzed: 03/22/24 | | | | | |
| Antimony | 0.518 | 0.0312 | ng/m³ Air | 1.1188 | 0.0721 | 39.9 | 80-120 | | | SL |
| Arsenic | 2.82 | 0.00758 | ng/m³ Air | 2.2375 | 0.640 | 97.5 | 80-120 | | | |
| Barium | 25.0 | 0.866 | ng/m³ Air | 22.375 | 2.87 | 98.8 | 80-120 | | | QB-01 |
| Beryllium | 1.13 | 0.00259 | ng/m³ Air | 1.1188 | 0.00838 | 99.9 | 80-120 | | | |
| Cadmium | 1.15 | 0.0599 | ng/m³ Air | 1.1188 | ND | 102 | 80-120 | | | |
| Chromium | 15.4 | 1.79 | ng/m³ Air | 11.188 | 3.91 | 103 | 80-120 | | | |
| Cobalt | 1.41 | 0.0353 | ng/m³ Air | 1.1188 | 0.301 | 98.8 | 80-120 | | | |
| Copper | 64.7 | 2.13 | ng/m³ Air | 22.375 | 38.9 | 115 | 80-120 | | | |
| Lead | 11.7 | 0.173 | ng/m³ Air | 11.188 | 0.459 | 100 | 80-120 | | | |
| Manganese | 15.2 | 1.53 | ng/m³ Air | 6.7125 | 8.24 | 103 | 80-120 | | | |
| Molybdenum | 2.57 | 0.290 | ng/m³ Air | 1.1188 | 1.48 | 97.9 | 80-120 | | | |
| Nickel | 3.79 | 0.527 | ng/m³ Air | 2.2375 | 1.65 | 95.4 | 80-120 | | | |
| Selenium | 2.34 | 0.00725 | ng/m³ Air | 2.2375 | 0.135 | 98.6 | 80-120 | | | |
| Thallium | 0.108 | 4.76E-4 | ng/m³ Air | 0.11188 | 0.00107 | 95.5 | 80-120 | | | |
| Vanadium | 2.85 | 0.0428 | ng/m³ Air | 2.2375 | 0.673 | 97.2 | 80-120 | | | |

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

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4C1905 - ICP-MS Extraction* | | | | | | | | | | |
| **Matrix Spike (B4C1905-MS1) Continued Source: 4031840-05** Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | | | | | | |
| Zinc | 84.8 | 62.1 | ng/m³ Air | 67.125 | ND | 126 | 80-120 | | | |
| **Matrix Spike (B4C1905-MS2) Source: 4031840-25** Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | | | | | | |
| Antimony | 0.666 | 0.0273 | ng/m³ Air | 0.97736 | 0.0872 | 59.2 | 80-120 | | | SL |
| Arsenic | 2.15 | 0.00662 | ng/m³ Air | 1.9547 | 0.301 | 94.6 | 80-120 | | | |
| Barium | 23.2 | 0.756 | ng/m³ Air | 19.547 | 4.35 | 96.7 | 80-120 | | | QB-01 |
| Beryllium | 0.938 | 0.00226 | ng/m³ Air | 0.97736 | 0.0258 | 93.4 | 80-120 | | | |
| Cadmium | 0.984 | 0.0524 | ng/m³ Air | 0.97736 | ND | 101 | 80-120 | | | |
| Chromium | 12.3 | 1.56 | ng/m³ Air | 9.7736 | 2.16 | 104 | 80-120 | | | |
| Cobalt | 1.39 | 0.0308 | ng/m³ Air | 0.97736 | 0.437 | 97.5 | 80-120 | | | |
| Copper | 61.6 | 1.86 | ng/m³ Air | 19.547 | 42.8 | 96.0 | 80-120 | | | |
| Lead | 10.2 | 0.151 | ng/m³ Air | 9.7736 | 0.574 | 99.0 | 80-120 | | | |
| Manganese | 17.3 | 1.34 | ng/m³ Air | 5.8642 | 11.2 | 104 | 80-120 | | | |
| Molybdenum | 3.07 | 0.254 | ng/m³ Air | 0.97736 | 2.13 | 96.5 | 80-120 | | | |
| Nickel | 3.14 | 0.461 | ng/m³ Air | 1.9547 | 1.28 | 95.2 | 80-120 | | | |
| Selenium | 2.10 | 0.00633 | ng/m³ Air | 1.9547 | 0.201 | 97.0 | 80-120 | | | |
| Thallium | 0.0946 | 4.16E-4 | ng/m³ Air | 9.7736E-2 | 9.31E-4 | 95.9 | 80-120 | | | |
| Vanadium | 3.01 | 0.0374 | ng/m³ Air | 1.9547 | 1.14 | 95.7 | 80-120 | | | |
| Zinc | 74.0 | 54.3 | ng/m³ Air | 58.642 | ND | 126 | 80-120 | | | |
| **Matrix Spike Dup (B4C1905-MSD1) Source: 4031840-05** Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | | | | | | |
| Antimony | 0.561 | 0.0312 | ng/m³ Air | 1.1188 | 0.0721 | 43.7 | 80-120 | 7.88 | 20 | SL |
| Arsenic | 2.99 | 0.00758 | ng/m³ Air | 2.2375 | 0.640 | 105 | 80-120 | 5.82 | 20 | |
| Barium | 25.3 | 0.866 | ng/m³ Air | 22.375 | 2.87 | 100 | 80-120 | 1.13 | 20 | QB-01 |
| Beryllium | 1.10 | 0.00259 | ng/m³ Air | 1.1188 | 0.00838 | 97.5 | 80-120 | 2.38 | 20 | |
| Cadmium | 1.15 | 0.0599 | ng/m³ Air | 1.1188 | ND | 103 | 80-120 | 0.175 | 20 | |
| Chromium | 16.0 | 1.79 | ng/m³ Air | 11.188 | 3.91 | 108 | 80-120 | 3.85 | 20 | |
| Cobalt | 1.46 | 0.0353 | ng/m³ Air | 1.1188 | 0.301 | 104 | 80-120 | 3.90 | 20 | |
| Copper | 66.0 | 2.13 | ng/m³ Air | 22.375 | 38.9 | 121 | 80-120 | 2.00 | 20 | QM-07 |
| Lead | 12.0 | 0.173 | ng/m³ Air | 11.188 | 0.459 | 103 | 80-120 | 2.51 | 20 | |
| Manganese | 15.5 | 1.53 | ng/m³ Air | 6.7125 | 8.24 | 108 | 80-120 | 2.02 | 20 | |
| Molybdenum | 2.65 | 0.290 | ng/m³ Air | 1.1188 | 1.48 | 105 | 80-120 | 2.88 | 20 | |
| Nickel | 4.17 | 0.527 | ng/m³ Air | 2.2375 | 1.65 | 113 | 80-120 | 9.72 | 20 | |
| Selenium | 2.34 | 0.00725 | ng/m³ Air | 2.2375 | 0.135 | 98.6 | 80-120 | 0.00124 | 20 | |
| Thallium | 0.110 | 4.76E-4 | ng/m³ Air | 0.11188 | 0.00107 | 97.4 | 80-120 | 1.96 | 20 | |
| Vanadium | 2.90 | 0.0428 | ng/m³ Air | 2.2375 | 0.673 | 99.3 | 80-120 | 1.70 | 20 | |
| Zinc | 88.1 | 62.1 | ng/m³ Air | 67.125 | ND | 131 | 80-120 | 3.84 | 20 | |
| **Matrix Spike Dup (B4C1905-MSD2) Source: 4031840-25** Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | | | | | | |
| Antimony | 0.680 | 0.0273 | ng/m³ Air | 0.97736 | 0.0872 | 60.7 | 80-120 | 2.13 | 20 | SL |
| Arsenic | 2.16 | 0.00662 | ng/m³ Air | 1.9547 | 0.301 | 95.0 | 80-120 | 0.427 | 20 | |

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| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4C1905 - ICP-MS Extraction* | | | | | | | | | | |
| **Matrix Spike Dup (B4C1905-MSD2) Conti** | | **Source: 4031840-25** | | | Prepared: 03/19/24 | | Analyzed: 03/22/24 | | | |
| Barium | 23.4 | 0.756 | ng/m³ Air | 19.547 | 4.35 | 97.4 | 80-120 | 0.599 | 20 | QB-01 |
| Beryllium | 1.02 | 0.00226 | ng/m³ Air | 0.97736 | 0.0258 | 102 | 80-120 | 8.41 | 20 | |
| Cadmium | 0.977 | 0.0524 | ng/m³ Air | 0.97736 | ND | 100 | 80-120 | 0.683 | 20 | |
| Chromium | 12.3 | 1.56 | ng/m³ Air | 9.7736 | 2.16 | 103 | 80-120 | 0.371 | 20 | |
| Cobalt | 1.40 | 0.0308 | ng/m³ Air | 0.97736 | 0.437 | 98.7 | 80-120 | 0.782 | 20 | |
| Copper | 62.8 | 1.86 | ng/m³ Air | 19.547 | 42.8 | 102 | 80-120 | 1.87 | 20 | |
| Lead | 10.3 | 0.151 | ng/m³ Air | 9.7736 | 0.574 | 99.5 | 80-120 | 0.510 | 20 | |
| Manganese | 17.5 | 1.34 | ng/m³ Air | 5.8642 | 11.2 | 108 | 80-120 | 1.39 | 20 | |
| Molybdenum | 3.17 | 0.254 | ng/m³ Air | 0.97736 | 2.13 | 107 | 80-120 | 3.24 | 20 | |
| Nickel | 3.20 | 0.461 | ng/m³ Air | 1.9547 | 1.28 | 98.0 | 80-120 | 1.69 | 20 | |
| Selenium | 2.11 | 0.00633 | ng/m³ Air | 1.9547 | 0.201 | 97.9 | 80-120 | 0.856 | 20 | |
| Thallium | 0.0930 | 4.16E-4 | ng/m³ Air | 9.7736E-2 | 9.31E-4 | 94.2 | 80-120 | 1.75 | 20 | |
| Vanadium | 3.05 | 0.0374 | ng/m³ Air | 1.9547 | 1.14 | 98.1 | 80-120 | 1.55 | 20 | |
| Zinc | 73.4 | 54.3 | ng/m³ Air | 58.642 | ND | 125 | 80-120 | 0.882 | 20 | |
| **Post Spike (B4C1905-PS1)** | | **Source: 4031840-05** | | | Prepared: 03/19/24 | | Analyzed: 03/22/24 | | | |
| Antimony | 0.283 | 0.0312 | ng/m³ Air | 0.22375 | 0.0721 | 94.3 | 75-125 | | | SL |
| Arsenic | 1.72 | 0.00758 | ng/m³ Air | 1.1188 | 0.640 | 96.1 | 75-125 | | | |
| Barium | 5.00 | 0.866 | ng/m³ Air | 2.2375 | 2.87 | 94.9 | 75-125 | | | QB-01 |
| Beryllium | 0.235 | 0.00259 | ng/m³ Air | 0.22375 | 0.00838 | 101 | 75-125 | | | |
| Cadmium | 0.124 | 0.0599 | ng/m³ Air | 0.11188 | ND | 111 | 75-125 | | | |
| Chromium | 4.90 | 1.79 | ng/m³ Air | 1.1188 | 3.91 | 88.6 | 75-125 | | | |
| Cobalt | 0.512 | 0.0353 | ng/m³ Air | 0.22375 | 0.301 | 94.1 | 75-125 | | | |
| Copper | 50.6 | 2.13 | ng/m³ Air | 11.188 | 38.9 | 105 | 75-125 | | | |
| Lead | 21.8 | 0.173 | ng/m³ Air | 22.375 | 0.459 | 95.5 | 75-125 | | | |
| Manganese | 10.4 | 1.53 | ng/m³ Air | 2.2375 | 8.24 | 94.2 | 75-125 | | | |
| Molybdenum | 2.45 | 0.290 | ng/m³ Air | 1.1188 | 1.48 | 87.1 | 75-125 | | | |
| Nickel | 3.79 | 0.527 | ng/m³ Air | 2.2375 | 1.65 | 95.5 | 75-125 | | | |
| Selenium | 1.20 | 0.00725 | ng/m³ Air | 1.1188 | 0.135 | 95.1 | 75-125 | | | |
| Thallium | 0.0546 | 4.76E-4 | ng/m³ Air | 5.5938E-2 | 0.00107 | 95.7 | 75-125 | | | |
| Vanadium | 1.68 | 0.0428 | ng/m³ Air | 1.1188 | 0.673 | 90.3 | 75-125 | | | |
| Zinc | ND | 62.1 | ng/m³ Air | 22.375 | ND | | 75-125 | | | U |
| **Post Spike (B4C1905-PS2)** | | **Source: 4031840-25** | | | Prepared: 03/19/24 | | Analyzed: 03/22/24 | | | |
| Antimony | 0.273 | 0.0273 | ng/m³ Air | 0.19547 | 0.0872 | 95.1 | 75-125 | | | SL |
| Arsenic | 1.24 | 0.00662 | ng/m³ Air | 0.97736 | 0.301 | 95.9 | 75-125 | | | |
| Barium | 6.40 | 0.756 | ng/m³ Air | 1.9547 | 4.35 | 105 | 75-125 | | | QB-01 |
| Beryllium | 0.231 | 0.00226 | ng/m³ Air | 0.19547 | 0.0258 | 105 | 75-125 | | | |
| Cadmium | 0.107 | 0.0524 | ng/m³ Air | 9.7736E-2 | ND | 109 | 75-125 | | | |
| Chromium | 3.11 | 1.56 | ng/m³ Air | 0.97736 | 2.16 | 97.2 | 75-125 | | | |

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| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4C1905 - ICP-MS Extraction* | | | | | | | | | | |
| **Post Spike (B4C1905-PS2) Continued** | | **Source: 4031840-25** | | Prepared: 03/19/24 | | Analyzed: 03/22/24 | | | | |
| Cobalt | 0.633 | 0.0308 | ng/m³ Air | 0.19547 | 0.437 | 100 | 75-125 | | | |
| Copper | 54.0 | 1.86 | ng/m³ Air | 9.7736 | 42.8 | 114 | 75-125 | | | |
| Lead | 19.6 | 0.151 | ng/m³ Air | 19.547 | 0.574 | 97.2 | 75-125 | | | |
| Manganese | 13.2 | 1.34 | ng/m³ Air | 1.9547 | 11.2 | 103 | 75-125 | | | |
| Molybdenum | 3.04 | 0.254 | ng/m³ Air | 0.97736 | 2.13 | 93.6 | 75-125 | | | |
| Nickel | 3.21 | 0.461 | ng/m³ Air | 1.9547 | 1.28 | 98.9 | 75-125 | | | |
| Selenium | 1.14 | 0.00633 | ng/m³ Air | 0.97736 | 0.201 | 96.4 | 75-125 | | | |
| Thallium | 0.0475 | 4.16E-4 | ng/m³ Air | 4.8868E-2 | 9.31E-4 | 95.3 | 75-125 | | | |
| Vanadium | 2.06 | 0.0374 | ng/m³ Air | 0.97736 | 1.14 | 94.8 | 75-125 | | | |
| Zinc | ND | 54.3 | ng/m³ Air | 19.547 | ND | | 75-125 | | | U |
| **Dilution Check (B4C1905-SRL1)** | | **Source: 4031840-05** | | Prepared: 03/19/24 | | Analyzed: 03/22/24 | | | | |
| Antimony | ND | 0.156 | ng/m³ Air | | ND | | | | 10 | SL, U |
| Arsenic | 0.654 | 0.0379 | ng/m³ Air | | 0.640 | | | 2.14 | 10 | |
| Barium | ND | 4.33 | ng/m³ Air | | ND | | | | 10 | QB-01, U |
| Beryllium | ND | 0.0129 | ng/m³ Air | | ND | | | | 10 | U |
| Cadmium | ND | 0.300 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | ND | 8.94 | ng/m³ Air | | ND | | | | 10 | U |
| Cobalt | 0.307 | 0.176 | ng/m³ Air | | 0.301 | | | 2.09 | 10 | |
| Copper | 39.5 | 10.6 | ng/m³ Air | | 38.9 | | | 1.36 | 10 | |
| Lead | ND | 0.866 | ng/m³ Air | | ND | | | | 10 | U |
| Manganese | 8.37 | 7.64 | ng/m³ Air | | 8.24 | | | 1.55 | 10 | |
| Molybdenum | 1.46 | 1.45 | ng/m³ Air | | 1.48 | | | 1.10 | 10 | |
| Nickel | ND | 2.64 | ng/m³ Air | | ND | | | | 10 | U |
| Selenium | 0.129 | 0.0362 | ng/m³ Air | | 0.135 | | | 4.26 | 10 | |
| Thallium | ND | 0.00238 | ng/m³ Air | | ND | | | | 10 | U |
| Vanadium | 0.675 | 0.214 | ng/m³ Air | | 0.673 | | | 0.232 | 10 | |
| Zinc | ND | 311 | ng/m³ Air | | ND | | | | 10 | U |
| **Dilution Check (B4C1905-SRL2)** | | **Source: 4031840-25** | | Prepared: 03/19/24 | | Analyzed: 03/22/24 | | | | |
| Antimony | ND | 0.136 | ng/m³ Air | | ND | | | | 10 | SL, U |
| Arsenic | 0.315 | 0.0331 | ng/m³ Air | | 0.301 | | | 4.61 | 10 | |
| Barium | 4.45 | 3.78 | ng/m³ Air | | 4.35 | | | 2.16 | 10 | QB-01 |
| Beryllium | 0.0252 | 0.0113 | ng/m³ Air | | 0.0258 | | | 2.42 | 10 | |
| Cadmium | ND | 0.262 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | ND | 7.81 | ng/m³ Air | | ND | | | | 10 | U |
| Cobalt | 0.453 | 0.154 | ng/m³ Air | | 0.437 | | | 3.73 | 10 | |
| Copper | 43.9 | 9.29 | ng/m³ Air | | 42.8 | | | 2.58 | 10 | |
| Lead | ND | 0.756 | ng/m³ Air | | ND | | | | 10 | U |
| Manganese | 11.5 | 6.68 | ng/m³ Air | | 11.2 | | | 2.72 | 10 | |

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|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4C1905 - ICP-MS Extraction* | | | | | | | | | | |
| **Dilution Check (B4C1905-SRL2) ContinueSource: 4031840-25** Prepared: 03/19/24 Analyzed: 03/22/24 | | | | | | | | | | |
| Molybdenum | 2.20 | 1.27 | ng/m³ Air | | 2.13 | | | 3.37 | 10 | |
| Nickel | ND | 2.30 | ng/m³ Air | | ND | | | | 10 | U |
| Selenium | 0.203 | 0.0317 | ng/m³ Air | | 0.201 | | | 0.710 | 10 | |
| Thallium | 0.00258 | 0.00208 | ng/m³ Air | | ND | | | 93.9 | 10 | |
| Vanadium | 1.16 | 0.187 | ng/m³ Air | | 1.14 | | | 1.92 | 10 | |
| Zinc | ND | 271 | ng/m³ Air | | ND | | | | 10 | U |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 03/26/24 14:17
**SUBMITTED:** 03/18/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Notes and Definitions**

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

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

**Stage 1 Data Verification Checklist – Metals**

**HDOH CAB – Ambient Community Air Sampling – Lahaina**

**Task Order No. 23141**

Reviewed by:
Kierra Johnson 3/27/2024 and Shanna Vasser 3/28/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 3/7/2024 - 3/13/2024
Report No: 4031840

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

Discrepancies:

13. Field blank detections above the method detection limit were reported for arsenic and copper in MFL-FB01-031024-HM and for arsenic in MFL-FB01-031224-HM.

Notes:

1. CoC was revised on March 25, 2024, to correct volumes.