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

**October 3 through October 9, 2024**

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

Particulate monitoring and air sampling occurred from October 3 through October 9, 2024, at the community locations listed below and shown on **Figure 1.**

- WW Pump Station #4 (AM-02)
- Lahaina Intermediate School (AM-03)
- Opukea Townhomes (AM-05)
- Lahaina Recreational Center (AM-07)

Real-time air quality monitoring for particulate matter was collected at each community location over a 24-hour period each day in accordance with the CAMSP. Ambient air monitoring was performed to assess the presence of airborne particulates with a particle size diameter of 10 micrometers (µm), which is the size that is recognized as being small enough to be inhaled into a person's lungs. This particle size diameter is recognized for health evaluations and is identified as "$PM_{10}$". Monitoring for $PM_{10}$ was conducted 24 hours a day, 7 days a week from October 3 through October 9 at each of the community locations. Ambient air monitoring results were compared to the National Ambient Air Quality Standard (NAAQS) for $PM_{10}$, 24-hour time-weighted average of 150 micrograms per cubic meter (µg/$m^3$), which was selected as the screening level for this activity.

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

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

***Air Monitoring Results***

In addition to the air sampling activities, real-time $PM_{10}$ concentrations were collected at each of the four monitoring locations throughout this reporting period. Monitoring was conducted 24 hours a day at each station with the exception of an instance where an equipment fault occurred, as described below:

- Because of an equipment fault, there was one day when the air monitoring period was interrupted as described below:
    - On October 8, air monitoring was conducted at WW Pump Station #4 (AM-02) for only 22 hours

The equipment fault was the result of a disruption during the one-hour sampling interval within the 24-hour sampling period. This disruption resulted in a shortened monitoring duration which may have influenced the 24-hour time weighted average (TWA) calculation for that day (October 8).

None of the $PM_{10}$ monitoring results exceeded the 150 µg/$m^3$ screening level established in the CAMSP, as shown in **Table 1**.

***Air Sampling Results***

A total of 28 samples for asbestos fibers were collected during this reporting period. All analytical results from this reporting period were below the SSAL for asbestos of 0.003 structures per cubic centimeter (s/cc), as the asbestos sample results were below the laboratory's analytical sensitivity (see **Table 2**). On October 3, the laboratory included the comment "Numerous gypsum fibers present" for samples collected at WW Pump Station #4

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

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

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

***Meteorological Summary***

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

***Quality Control Summary***

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

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

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

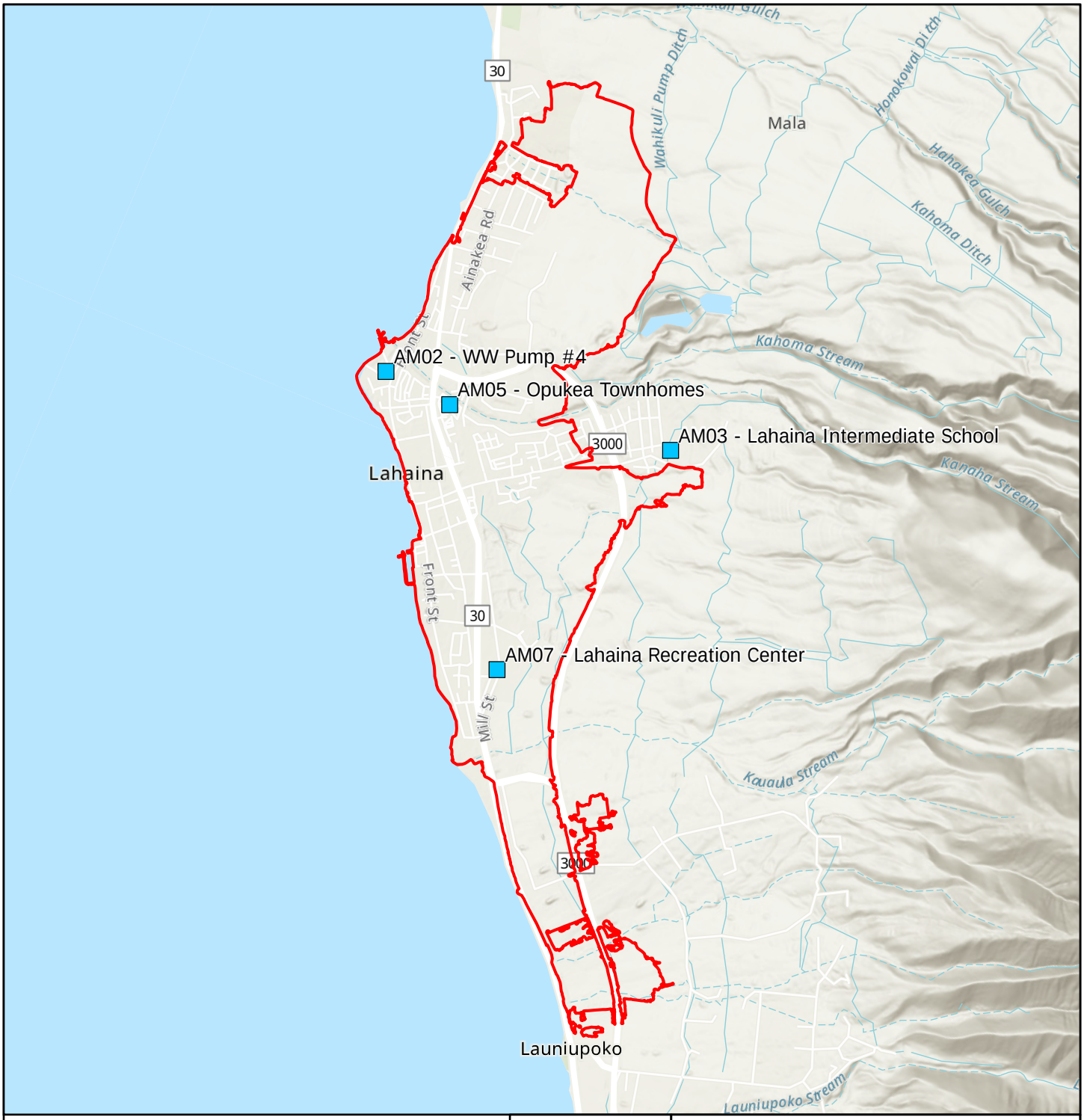
Sampling for metals occurred using Tisch Environmental High Volume Air Samplers (or equivalent) in accordance with the following methods:

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

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

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

# Attachments




Air Sampling Locations

Lahaina Fire Perimeter

N

0 0.3 0.6
Miles

TETRA TECH

Figure 1
Air Sampling Locations

Hawaii DOH
2023 Lahaina Wildfire

Basemap: ESRI ArcGIS World Street Map

**Table 1**
**State of Hawaii, Department of Health, Clean Air Branch**
**Particulate Monitoring Results for $PM_{10}$**
**Maui Wildfires, Lahaina**
**October 3 through October 9, 2024**

| Screening Level | | TWA Results 150 ($\mu g/m^3$) |
|---|---|---|
| 10/3/2024 | Opukea Townhomes (AM-05) | 7.3 |
| | WW Pump Station #4 (AM-02) | 6.8 |
| | Lahaina Intermediate School (AM-03) | 52 |
| | Lahaina Recreation Center (AM-07) | 4.7 |
| 10/4/2024 | Opukea Townhomes (AM-05) | 6.1 |
| | WW Pump Station #4 (AM-02) | 5.8 |
| | Lahaina Intermediate School (AM-03) | 45 |
| | Lahaina Recreation Center (AM-07) | 86 |
| 10/5/2024 | Opukea Townhomes (AM-05) | 6.6 |
| | WW Pump Station #4 (AM-02) | 7.4 |
| | Lahaina Intermediate School (AM-03) | 137 |
| | Lahaina Recreation Center (AM-07) | 3.7 |
| 10/6/2024 | Opukea Townhomes (AM-05) | 7.5 |
| | WW Pump Station #4 (AM-02) | 10 |
| | Lahaina Intermediate School (AM-03) | 38 |
| | Lahaina Recreation Center (AM-07) | 6.8 |
| 10/7/2024 | Opukea Townhomes (AM-05) | 7.4 |
| | WW Pump Station #4 (AM-02) | 8.9 |
| | Lahaina Intermediate School (AM-03) | 44 |
| | Lahaina Recreation Center (AM-07) | 101 |
| 10/8/2024 | Opukea Townhomes (AM-05) | 13 |
| | WW Pump Station #4 (AM-02) | 14* |
| | Lahaina Intermediate School (AM-03) | 46 |
| | Lahaina Recreation Center (AM-07) | 6.5 |
| 10/9/2024 | Opukea Townhomes (AM-05) | 13 |
| | WW Pump Station #4 (AM-02) | 13 |
| | Lahaina Intermediate School (AM-03) | 40 |
| | Lahaina Recreation Center (AM-07) | 98 |

**Notes:**

$\mu g/m^3$ = micrograms per cubic meter

TWA = 24-Hour Time-Weighted Average

TWA calculation results are shown in two significant figures

* Data provided were from a reduced TWA calculation because of an equipment disruption

**Table 2**
**State of Hawaii, Department of Health, Clean Air Branch**
**Asbestos and Metals Sampling Results**
**Maui Wildfires, Lahaina**
**October 3 through October 9, 2024**

| Analyte | | Asbestos | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Manganese | Molybdenum | Nickel | Selenium | Thallium | Vanadium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units* | | s/cc | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ |
| Site Screening Action Level | | 0.003 [1] | 0.7 | 0.05 | 1.2 | 0.05 | 0.02 | 12 | 0.01 | 240 | 1.5 | 0.12 | 4.8 | 0.02 | 48 | 24 | 0.24 | 1200 |
| 10/3/2024 | Opukea Townhomes (AM-05) | <0.0024 | 0.000126 | 0.000228 | 0.00411 | 0.00000991 | ND | 0.00204 | 0.000341 | 0.0328 | 0.000602 | 0.0100 | 0.00180 | 0.00132 | 0.000177 | 0.00000131 | 0.00130 | ND |
| | WW Pump Station #4 (AM-02) | <0.0027 | 0.000153 | 0.000256 | 0.00570 | 0.0000167 | ND | 0.00278 | 0.000615 | 0.0224 | 0.000593 | 0.0162 | 0.00150 | 0.00195 | 0.000232 | 0.00000104 | 0.00208 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0024 | 0.0000535 | 0.000136 | 0.00250 | 0.0000162 | ND | 0.00216 | 0.000343 | 0.0459 | 0.000187 | 0.00906 | 0.00179 | 0.00152 | 0.000150 | 0.000000696 | 0.00102 | ND |
| | Lahaina Recreation Center (AM-07) | <0.0024 | 0.0000900 | 0.000201 | 0.00331 | 0.0000129 | ND | 0.00399 | 0.000356 | 0.0275 | 0.000304 | 0.0115 | 0.00147 | 0.00165 | 0.000169 | 0.000000711 | 0.00112 | ND |
| 10/4/2024 | Opukea Townhomes (AM-05) | <0.0027 | 0.000136 | 0.000296 | 0.00568 | 0.0000156 | ND | 0.00324 | 0.000649 | 0.0391 | 0.000715 | 0.0175 | 0.00196 | 0.00210 | 0.000197 | 0.00000130 | 0.00211 | ND |
| | WW Pump Station #4 (AM-02) | <0.0024 | 0.000118 | 0.000246 | 0.00454 | 0.0000136 | ND | 0.00277 | 0.000534 | 0.0229 | 0.000617 | 0.0139 | 0.00127 | 0.00160 | 0.000199 | 0.00000101 | 0.00172 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0024 | 0.0000671 | 0.000230 | 0.00358 | 0.0000270 | ND | 0.00381 | 0.000680 | 0.0513 | 0.000387 | 0.0160 | 0.00219 | 0.00213 | 0.000179 | 0.00000113 | 0.00167 | ND |
| | Lahaina Recreation Center (AM-07) | <0.0027 | 0.0000840 | 0.000339 | 0.0107 | 0.0000740 | ND | 0.00379 | 0.00108 | 0.0711 | 0.000786 | 0.0422 | 0.00167 | 0.00215 | 0.000301 | 0.00000230 | 0.00301 | ND |
| 10/5/2024 | Opukea Townhomes (AM-05) | <0.0024 | 0.000101 | 0.000203 | 0.00324 | 0.00000665 | ND | ND | 0.000244 | 0.0409 | 0.000823 | 0.00689 | 0.00216 | 0.00100 | 0.000117 | 0.00000110 | 0.000860 | ND |
| | WW Pump Station #4 (AM-02) | <0.0027 | 0.000145 | 0.000246 | 0.00467 | 0.00000947 | ND | 0.00204 | 0.000337 | 0.0198 | 0.000558 | 0.00951 | 0.00125 | 0.00116 | 0.000133 | 0.00000131 | 0.00114 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0024 | 0.0000771 | 0.000168 | 0.00348 | 0.0000285 | ND | 0.00343 | 0.000552 | 0.0770 | 0.000483 | 0.0127 | 0.00286 | 0.00200 | 0.000162 | 0.00000125 | 0.00150 | ND |
| | Lahaina Recreation Center (AM-07) | <0.0024 | 0.000154 | 0.000135 | 0.00243 | 0.00000743 | 0.000461 | 0.00192 | 0.000212 | 0.0486 | 0.000382 | 0.00649 | 0.00147 | 0.00104 | 0.000116 | 0.000000966 | 0.000735 | ND |
| 10/6/2024 | Opukea Townhomes (AM-05) | <0.0024 | 0.000152 | 0.000262 | 0.00455 | 0.00000668 | ND | ND | 0.000192 | 0.0243 | 0.000577 | 0.00615 | 0.00153 | 0.000888 | 0.000175 | 0.000000941 | 0.000797 | ND |
| | WW Pump Station #4 (AM-02) | <0.0027 | 0.000186 | 0.000535 | 0.00460 | 0.00000786 | ND | 0.00178 | 0.000260 | 0.0569 | 0.00137 | 0.00842 | 0.00259 | 0.00102 | 0.000168 | 0.00000109 | 0.000971 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0024 | 0.0000671 | 0.000149 | 0.00279 | 0.0000153 | ND | 0.00234 | 0.000409 | 0.0720 | 0.000328 | 0.00897 | 0.00297 | 0.00398 | 0.000205 | 0.00000115 | 0.00108 | ND |
| | Lahaina Recreation Center (AM-07) | <0.0024 | 0.000246 | 0.000387 | 0.00484 | 0.0000240 | ND | 0.00409 | 0.000619 | 0.0354 | 0.000637 | 0.0213 | 0.00167 | 0.00326 | 0.000239 | 0.00000161 | 0.00175 | ND |
| 10/7/2024 | Opukea Townhomes (AM-05) | <0.0024 | 0.000142 | 0.000337 | 0.00417 | 0.00000940 | ND | 0.00213 | 0.000346 | 0.0697 | 0.000840 | 0.00952 | 0.00326 | 0.00136 | 0.000219 | 0.00000148 | 0.00132 | ND |
| | WW Pump Station #4 (AM-02) | <0.0024 | 0.000187 | 0.000301 | 0.00622 | 0.0000125 | ND | 0.00227 | 0.000447 | 0.0224 | 0.000760 | 0.0123 | 0.00130 | 0.00158 | 0.000212 | 0.00000163 | 0.00164 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0024 | 0.0000853 | 0.000176 | 0.00300 | 0.0000156 | ND | 0.00200 | 0.000318 | 0.0530 | 0.000394 | 0.00906 | 0.00266 | 0.00129 | 0.000219 | 0.00000141 | 0.00113 | ND |
| | Lahaina Recreation Center (AM-07) | <0.0027 | 0.000146 | 0.000274 | 0.00439 | 0.0000223 | ND | 0.00264 | 0.000466 | 0.0458 | 0.00103 | 0.0168 | 0.00202 | 0.00152 | 0.000226 | 0.00000171 | 0.00158 | ND |
| 10/8/2024 | Opukea Townhomes (AM-05) | <0.0024 | 0.000134 | 0.000410 | 0.00529 | 0.0000111 | ND | 0.00246 | 0.000456 | 0.0700 | 0.00112 | 0.0135 | 0.00360 | 0.00138 | 0.000209 | 0.00000120 | 0.00158 | ND |
| | WW Pump Station #4 (AM-02) | <0.0027 | 0.000159 | 0.000385 | 0.00702 | 0.0000192 | ND | 0.00357 | 0.000779 | 0.0230 | 0.000746 | 0.0193 | 0.00140 | 0.00239 | 0.000220 | 0.00000146 | 0.00243 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0024 | 0.0000671 | 0.000222 | 0.00384 | 0.0000221 | ND | 0.00288 | 0.000600 | 0.0678 | 0.000389 | 0.0149 | 0.00262 | 0.00183 | 0.000197 | 0.00000116 | 0.00156 | ND |
| | Lahaina Recreation Center (AM-07) | <0.0024 | 0.000124 | 0.000528 | 0.00777 | 0.0000400 | ND | 0.00479 | 0.00115 | 0.0753 | 0.000624 | 0.0359 | 0.00217 | 0.00267 | 0.000295 | 0.00000195 | 0.00298 | ND |
| 10/9/2024 | Opukea Townhomes (AM-05) | <0.0024 | 0.000144 | 0.00111 | 0.0176 | 0.0000740 | 0.000116 | 0.0135 | 0.00340 | 0.0610 | 0.00243 | 0.0788 | 0.00219 | 0.00937 | 0.000414 | 0.00000407 | 0.00990 | ND |
| | WW Pump Station #4 (AM-02) | <0.0024 | 0.000146 | 0.00133 | 0.0394 | 0.0000876 | 0.000101 | 0.0149 | 0.00377 | 0.0314 | 0.00305 | 0.0856 | 0.00113 | 0.00974 | 0.000442 | 0.00000379 | 0.0113 | ND |
| | Lahaina Intermediate School (AM-03) | <0.0024 | 0.0000420 | 0.000264 | 0.00579 | 0.0000601 | ND | 0.00554 | 0.00119 | 0.0732 | 0.000715 | 0.0269 | 0.00276 | 0.00324 | 0.000274 | 0.00000181 | 0.00297 | ND |
| | Lahaina Recreation Center (AM-07) | <0.0030 | 0.000122 | 0.000622 | 0.00655 | 0.0000401 | ND | 0.00517 | 0.00122 | 0.0569 | 0.00106 | 0.0376 | 0.00166 | 0.00294 | 0.000292 | 0.00000195 | 0.00340 | ND |
| 95% Upper Confidence Limit[2] | | NA | 0.000140 | 0.000430 | 0.00760 | 0.0000340 | 0.000569 | 0.00468 | 0.00980 | 0.0568 | 0.00100 | 0.0262 | 0.00227 | 0.00293 | 0.000250 | 0.00000170 | 0.00281 | NA |

**Notes:**

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

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

s/cc = structures per cubic centimeter

µg/m³ = micrograms per cubic meter

NA = Not Applicable

ND = Not detected at or above the laboratory reporting limit

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

**Table 3**
**State of Hawaii, Department of Health, Clean Air Branch**
**Averaged Meteorological Data**
**Maui Wildfires, Lahaina**
**October 3, through October 9, 2024**

| Date | Station ID | Weather Station Name | Wind Speed (mph) | Wind Direction (angle) | Temperature (°F) | Rel Humidity (%) | Baro Pressure (mBar) |
|---|---|---|---|---|---|---|---|
| 10/3/2024 | AM-02 | WW Pump Station #4 | 0.9 | S | 80 | 65 | 761.7 |
| 10/3/2024 | AM-03 | Lahaina Intermediate School | 1.1 | ESE | 80 | 62 | 752.3 |
| 10/3/2024 | AM-05 | Opukea Townhomes | 1.2 | SE | 83 | 61 | 761.0 |
| 10/3/2024 | AM-07 | Lahaina Recreational Center | 1.3 | SE | 79 | 65 | 761.0 |
| 10/4/2024 | AM-02 | WW Pump Station #4 | 1.0 | S | 80 | 64 | 761.8 |
| 10/4/2024 | AM-03 | Lahaina Intermediate School | 1.2 | SE | 79 | 61 | 752.3 |
| 10/4/2024 | AM-05 | Opukea Townhomes | 1.4 | SE | 83 | 60 | 761.1 |
| 10/4/2024 | AM-07 | Lahaina Recreational Center | 1.4 | SSE | 79 | 63 | 761.0 |
| 10/5/2024 | AM-02 | WW Pump Station #4 | 1.0 | S | 80 | 67 | 762.0 |
| 10/5/2024 | AM-03 | Lahaina Intermediate School | 1.1 | ESE | 79 | 65 | 752.6 |
| 10/5/2024 | AM-05 | Opukea Townhomes | 1.2 | SE | 82 | 63 | 761.3 |
| 10/5/2024 | AM-07 | Lahaina Recreational Center | 1.4 | SE | 79 | 67 | 761.3 |
| 10/6/2024 | AM-02 | WW Pump Station #4 | 0.9 | SSE | 80 | 66 | 762.8 |
| 10/6/2024 | AM-03 | Lahaina Intermediate School | 1.0 | ESE | 79 | 63 | 753.4 |
| 10/6/2024 | AM-05 | Opukea Townhomes | 1.1 | SSE | 83 | 62 | 762.2 |
| 10/6/2024 | AM-07 | Lahaina Recreational Center | 1.3 | SE | 79 | 66 | 762.1 |
| 10/7/2024 | AM-02 | WW Pump Station #4 | 0.9 | S | 80 | 65 | 763.7 |
| 10/7/2024 | AM-03 | Lahaina Intermediate School | 1.0 | ESE | 79 | 62 | 754.2 |
| 10/7/2024 | AM-05 | Opukea Townhomes | 1.1 | SE | 83 | 61 | 763.0 |
| 10/7/2024 | AM-07 | Lahaina Recreational Center | 1.3 | SE | 79 | 66 | 762.9 |
| 10/8/2024 | AM-02 | WW Pump Station #4 | 1.3 | SE | 80 | 58 | 762.9 |
| 10/8/2024 | AM-03 | Lahaina Intermediate School | 1.5 | ESE | 80 | 54 | 753.4 |
| 10/8/2024 | AM-05 | Opukea Townhomes | 2.0 | ESE | 83 | 54 | 762.2 |
| 10/8/2024 | AM-07 | Lahaina Recreational Center | 1.5 | ESE | 79 | 59 | 762.1 |
| 10/9/2024 | AM-02 | WW Pump Station #4 | 1.5 | SE | 81 | 59 | 761.9 |
| 10/9/2024 | AM-03 | Lahaina Intermediate School | 1.6 | E | 81 | 56 | 752.5 |
| 10/9/2024 | AM-05 | Opukea Townhomes | 1.8 | E | 84 | 55 | 761.3 |
| 10/9/2024 | AM-07 | Lahaina Recreational Center | 1.5 | SE | 79 | 63 | 761.2 |

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

# Appendix 1

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

**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:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM05-100324-AB** | | **Sample Description:** | **DL267149** |
| EMSL Sample Number: | 042421002-0001 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7177.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 4 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0001 **Customer Sample:** MFL-AM05-100324-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| B1 | J8 | None Detected | | | | | | | | | |
| B1 | F3 | None Detected | | | | | | | | | |
| B1 | B5 | None Detected | | | | | | | | | |
| B3 | H6 | None Detected | | | | | | | | | |
| B3 | D7 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM02-100324-AB** | | **Sample Description:** | **DL267139** |
| EMSL Sample Number: | 042421002-0002 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7079.5 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 6 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | | **Limit of Detection (Structures/cc):** | **0.0027** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

**Numerous gypsum fibers present.**

Robyn Ray
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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0002 **Customer Sample:** MFL-AM02-100324-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| B5 | I9 | None Detected | | | | | | | | | |
| B5 | H3 | None Detected | | | | | | | | | |
| B5 | C5 | None Detected | | | | | | | | | |
| B6 | J2 | None Detected | | | | | | | | | |
| B6 | D5 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-100324-AB** | **Sample Description:** | **DL267188** |
| EMSL Sample Number: | 042421002-0003 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7254.6 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0003 **Customer Sample:** MFL-AM03-100324-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| C1 | J9 | None Detected | | | | | | | | | |
| C1 | G5 | None Detected | | | | | | | | | |
| C1 | A4 | None Detected | | | | | | | | | |
| C2 | I5 | None Detected | | | | | | | | | |
| C2 | E5 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM07-100324-AB** | **Sample Description:** | **DL267215** |
| EMSL Sample Number: | 042421002-0004 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7327.8 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0004 **Customer Sample:** MFL-AM07-100324-AB

| Grid ID | 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 | H7 | None Detected | | | | | | | | | |
| C5 | E2 | None Detected | | | | | | | | | |
| C5 | A6 | None Detected | | | | | | | | | |
| C6 | F8 | None Detected | | | | | | | | | |
| C6 | D4 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
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| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-100324-AB** | | **Sample Description:** | **DL267150** |
| EMSL Sample Number: | 042421002-0005 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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

**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0005 **Customer Sample:** MFL-FB01-100324-AB

| Grid ID | 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 | I8 | None Detected | | | | | | | | | |
| D2 | G4 | None Detected | | | | | | | | | |
| D2 | E7 | None Detected | | | | | | | | | |
| D2 | A6 | None Detected | | | | | | | | | |
| D3 | I3 | None Detected | | | | | | | | | |
| D3 | F6 | None Detected | | | | | | | | | |
| D3 | C4 | None Detected | | | | | | | | | |
| D4 | B8 | None Detected | | | | | | | | | |
| D4 | C3 | None Detected | | | | | | | | | |
| D4 | 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:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM05-100424-AB** | **Sample Description:** | **DL267189** |
| EMSL Sample Number: | 042421002-0006 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7117.1 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 6 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | **Limit of Detection (Structures/cc):** | **0.0027** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0006 **Customer Sample:** MFL-AM05-100424-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| D5 | J7 | None Detected | | | | | | | | | |
| D5 | F3 | None Detected | | | | | | | | | |
| D5 | B4 | None Detected | | | | | | | | | |
| D6 | H2 | None Detected | | | | | | | | | |
| D6 | D5 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM02-100424-AB** | | **Sample Description:** | **DL267172** |
| EMSL Sample Number: | 042421002-0007 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7205.4 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 5 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0007 **Customer Sample:** MFL-AM02-100424-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| E1 | J7 | None Detected | | | | | | | | | |
| E1 | G3 | None Detected | | | | | | | | | |
| E1 | B6 | None Detected | | | | | | | | | |
| E2 | H8 | None Detected | | | | | | | | | |
| E2 | E4 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

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|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-100424-AB** | **Sample Description:** | **DL267190** |
| EMSL Sample Number: | 042421002-0008 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7177.6 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0008 **Customer Sample:** MFL-AM03-100424-AB

| Grid ID | 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 | B9 | None Detected | | | | | | | | | |
| E5 | F4 | None Detected | | | | | | | | | |
| E5 | J6 | None Detected | | | | | | | | | |
| E6 | A3 | None Detected | | | | | | | | | |
| E6 | D7 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM07-100424-AB** | **Sample Description:** | **DL267051** |
| EMSL Sample Number: | 042421002-0009 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7129.4 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 7 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | **Limit of Detection (Structures/cc):** | **0.0027** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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

**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0009 **Customer Sample:** MFL-AM07-100424-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| F1 | B4 | None Detected | | | | | | | | | |
| F1 | E2 | None Detected | | | | | | | | | |
| F1 | I7 | None Detected | | | | | | | | | |
| F2 | G3 | None Detected | | | | | | | | | |
| F2 | C5 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-100424-AB** | | **Sample Description:** | **DL267053** |
| EMSL Sample Number: | 042421002-0010 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

*Approved Signatory*

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

**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0010 **Customer Sample:** MFL-FB01-100424-AB

| Grid ID | 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 | H7 | None Detected | | | | | | | | | |
| F5 | F3 | None Detected | | | | | | | | | |
| F5 | A7 | None Detected | | | | | | | | | |
| F6 | F4 | None Detected | | | | | | | | | |
| F6 | G6 | None Detected | | | | | | | | | |
| F6 | I4 | None Detected | | | | | | | | | |
| F8 | J3 | None Detected | | | | | | | | | |
| F8 | H8 | None Detected | | | | | | | | | |
| F8 | A6 | None Detected | | | | | | | | | |

*Abbreviations used:*
*XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled*
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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM05-100524-AB** | **Sample Description:** | **DL267056** |
| EMSL Sample Number: | 042421002-0011 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7146.8 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 3 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0011 **Customer Sample:** MFL-AM05-100524-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| G1 | I6 | None Detected | | | | | | | | | |
| G1 | F4 | None Detected | | | | | | | | | |
| G1 | A3 | None Detected | | | | | | | | | |
| G2 | C8 | None Detected | | | | | | | | | |
| G2 | G7 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM02-100524-AB** | **Sample Description:** | **DL267050** |
| EMSL Sample Number: | 042421002-0012 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 6934.4 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | **Limit of Detection (Structures/cc):** | **0.0027** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0012 **Customer Sample:** MFL-AM02-100524-AB

| Grid ID | 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 | E7 | None Detected | | | | | | | | | |
| G5 | B5 | None Detected | | | | | | | | | |
| G6 | A9 | None Detected | | | | | | | | | |
| G6 | G8 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-100524-AB** | **Sample Description:** | **DL267173** |
| EMSL Sample Number: | 042421002-0013 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7182.8 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0013 **Customer Sample:** MFL-AM03-100524-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| H2 | J5 | None Detected | | | | | | | | | |
| H2 | F8 | None Detected | | | | | | | | | |
| H2 | B4 | None Detected | | | | | | | | | |
| H3 | C9 | None Detected | | | | | | | | | |
| H3 | G6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/16/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM07-100524-AB** | | **Sample Description:** | **DL267196** |
| EMSL Sample Number: | 042421002-0014 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7239.5 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 5 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0014 **Customer Sample:** MFL-AM07-100524-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| H6 | A5 | None Detected | | | | | | | | | |
| H6 | F3 | None Detected | | | | | | | | | |
| H6 | I4 | None Detected | | | | | | | | | |
| H7 | G8 | None Detected | | | | | | | | | |
| H7 | 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:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/16/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-100524-AB** | | **Sample Description:** | **DL267047** |
| EMSL Sample Number: | 042421002-0015 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Approved Signatory

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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0015 **Customer Sample:** MFL-FB01-100524-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| I1 | J9 | None Detected | | | | | | | | | |
| I1 | H6 | None Detected | | | | | | | | | |
| I1 | E3 | None Detected | | | | | | | | | |
| I1 | B4 | None Detected | | | | | | | | | |
| I2 | A9 | None Detected | | | | | | | | | |
| I2 | D7 | None Detected | | | | | | | | | |
| I2 | I4 | None Detected | | | | | | | | | |
| I3 | J8 | None Detected | | | | | | | | | |
| I3 | G5 | None Detected | | | | | | | | | |
| I3 | 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:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

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|---|---|
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| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/16/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM05-100624-AB** | | **Sample Description:** | **DL267205** |
| EMSL Sample Number: | 042421002-0016 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7164.2 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 5 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0016 **Customer Sample:** MFL-AM05-100624-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| I5 | B6 | None Detected | | | | | | | | | |
| I5 | F7 | None Detected | | | | | | | | | |
| I5 | J4 | None Detected | | | | | | | | | |
| I6 | C2 | None Detected | | | | | | | | | |
| I6 | G6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/16/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM02-100624-AB** | | **Sample Description:** | **DL267046** |
| EMSL Sample Number: | 042421002-0017 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7020.3 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 4 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | | **Limit of Detection (Structures/cc):** | **0.0027** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0017 **Customer Sample:** MFL-AM02-100624-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| J1 | H7 | None Detected | | | | | | | | | |
| J1 | E3 | None Detected | | | | | | | | | |
| J1 | B5 | None Detected | | | | | | | | | |
| J2 | I4 | None Detected | | | | | | | | | |
| J2 | D8 | None Detected | | | | | | | | | |

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

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|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/16/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-100624-AB** | **Sample Description:** | **DL267161** |
| EMSL Sample Number: | 042421002-0018 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7249.3 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0018 **Customer Sample:** MFL-AM03-100624-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| J5 | J6 | None Detected | | | | | | | | | |
| J5 | H2 | None Detected | | | | | | | | | |
| J5 | C5 | None Detected | | | | | | | | | |
| J6 | B6 | None Detected | | | | | | | | | |
| J6 | G5 | None Detected | | | | | | | | | |

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

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

| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/16/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM07-100624-AB** | **Sample Description:** | **DL267208** |
| EMSL Sample Number: | 042421002-0019 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7159.3 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
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**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0019 **Customer Sample:** MFL-AM07-100624-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| K1 | A3 | None Detected | | | | | | | | | |
| K1 | D6 | None Detected | | | | | | | | | |
| K1 | I4 | None Detected | | | | | | | | | |
| K2 | H7 | None Detected | | | | | | | | | |
| K2 | D4 | None Detected | | | | | | | | | |

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

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

| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/16/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-100624-AB** | | **Sample Description:** | **DL267212** |
| EMSL Sample Number: | 042421002-0020 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 3 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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

**EMSL Order ID:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0020 **Customer Sample:** MFL-FB01-100624-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| K5 | A9 | None Detected | | | | | | | | | |
| K5 | C4 | None Detected | | | | | | | | | |
| K5 | G8 | None Detected | | | | | | | | | |
| K5 | I6 | None Detected | | | | | | | | | |
| K6 | J3 | None Detected | | | | | | | | | |
| K6 | F6 | None Detected | | | | | | | | | |
| K6 | B5 | None Detected | | | | | | | | | |
| K7 | A4 | None Detected | | | | | | | | | |
| K7 | E8 | None Detected | | | | | | | | | |
| K7 | I5 | None Detected | | | | | | | | | |

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

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

| | |
|---|---|
| **EMSL Order:** | 042421002 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/09/2024 09:51 AM |
| **Analysis Date:** | 10/15/2024 |
| **Report Date:** | 10/16/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **Lab Blank** | | **Sample Description:** | **Lab Blank** |
| EMSL Sample Number: | 042421002-0021 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0127 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | G.Barry |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Approved Signatory

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:** 042421002
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421002-0021 **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 | A9 | None Detected | | | | | | | | | |
| A1 | A5 | None Detected | | | | | | | | | |
| A1 | F4 | None Detected | | | | | | | | | |
| A1 | I7 | None Detected | | | | | | | | | |
| A2 | B8 | None Detected | | | | | | | | | |
| A2 | D6 | None Detected | | | | | | | | | |
| A2 | J7 | None Detected | | | | | | | | | |
| A3 | C4 | None Detected | | | | | | | | | |
| A3 | G4 | None Detected | | | | | | | | | |
| A3 | J3 | None Detected | | | | | | | | | |

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

OrderID: 042421002

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

EMSL Order Number / Lab Use Only

#042421002

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

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

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

| Customer Information | | Billing Information | |
|---|---|---|---|
| Customer ID: | | Billing ID: | |
| Company Name: | Tetra Tech | Company Name: | |
| Contact Name: | Chelsea Saber | Billing Contact: | |
| Street Address: | 1560 Broadway STE 1900 | Street Address: | |
| City, State, Zip: | Denver, CO 80202 | City, State, Zip: | |
| Country: | USA | Country: | |
| Phone: | (703) 489-2674 | Phone: | |
| Email(s) for Report: | chelsea.saber@tetratech.com | Email(s) for Invoice: | |

**Project Information**

| | | | |
|---|---|---|---|
| Project Name/No: | Maui Fires Lahaina | Purchase Order: | 120785 |
| EMSL LIMS Project ID: (If applicable, EMSL will provide) | | US State where samples collected: | HI |
| State of Connecticut (CT) must select project location: | ☐ Commercial (Taxable) ☐ Residential (Non-Taxable) | | |
| Sampled By Name: | Shaina Epstein | Sampled By Signature: | |
| No. of Samples in Shipment | 20 | | |

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

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

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

**Test Selection**

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

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

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

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

**Other Test (please specify)**

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

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

*Please call with your project-specific requirements.

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

| Sample Number | Sample Location / Description | Volume, Area or Homogeneous Area | Date / Time Sampled (Air Monitoring Only) |
|---|---|---|---|
| MFL-AM05-100324-AB | DL267149 | 7,177.027 | 10/03/24 1059 |
| MFL-AM02-100324-AB | DL267139 | 7,079.450 | 10/03/24 1114 |
| MFL-AM03-100324-AB | DL267188 | 7,254.623 | 10/03/24 1305 |
| MFL-AM07-100324-AB | DL267215 | 7,327.762 | 10/03/24 1343 |
| MFL-FB01-100324-AB | DL267150 | 0 | 10/03/24 1200 |
| MFL-AM05-100424-AB | DL267189 | 7,117.085 | 10/04/24 1056 |
| MFL-AM02-100424-AB | DL267172 | 7,205.411 | 10/04/24 1110 |
| MFL-AM03-100424-AB | DL267190 | 7,177.599 | 10/04/24 1258 |

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

All samples received acceptable for analysis.

| | | | |
|---|---|---|---|
| Method of Shipment: | Fedex | Sample Condition Upon Receipt: | |
| Relinquished by: | | Date/Time: 10/07/24 1100 | Received by: FedEX |
| Date/Time | 10/9/24 9:51A | | |
| Relinquished by: | | Date/Time: | Received by: |
| Date/Time | | | |

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

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

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

Page 1 of 2

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RSA

OrderID: 042421002

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

EMSL Order Number / Lab Use Only

#042421002

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

PHONE: (800) 220-3675
EMAIL: CinnAshlab@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-AM07-100424-AB | DL267051 | 7,129.433 | 10/04/24 1318 |
| MFL-FB01-100424-AB | DL267053 | 0 | 10/04/24 1200 |
| MFL-AM05-100524-AB | DL267056 | 7,146.828 | 10/05/24 1055 |
| MFL-AM02-100524-AB | DL267050 | 6,934.432 | 10/05/24 1119 |
| MFL-AM03-100524-AB | DL267173 | 7,182.769 | 10/05/24 1253 |
| MFL-AM07-100524-AB | DL267196 | 7,239.462 | 10/05/24 1319 |
| MFL-FB01-100524-AB | DL267047 | 0 | 10/05/24 1200 |
| MFL-AM05-100624-AB | DL267205 | 7,164.217 | 10/06/24 1100 |
| MFL-AM02-100624-AB | DL267046 | 7,020.299 | 10/06/24 1116 |
| MFL-AM03-100624-AB | DL267161 | 7,249.322 | 10/06/24 1255 |
| MFL-AM07-100624-AB | DL267208 | 7,159.299 | 10/06/24 1320 |
| MFL-FB01-100624-AB | DL267212 | 0 | 10/06/24 1200 |

RECEIVED OCT - 8 2024

| | | | |
|---|---|---|---|
| Method of Shipment: Fedex | | Sample Condition Upon Receipt: | |
| Relinquished by: | Date/Time: 10/07/24 1100 | Received by: FedEx | Date/Time 10/9/24 9:51 A |
| 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 10/16/2024 and Shanna Vasser 10/17/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/03/2024 – 10/06/2024
Report No: 42421002

| | | |
|---|---|---|
| √ | 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:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM05-100724-AB** | **Sample Description:** | **DL267193** |
| EMSL Sample Number: | 042421228-0001 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7151.6 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 3 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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

**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0001 **Customer Sample:** MFL-AM05-100724-AB

| Grid ID | 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 | J4 | None Detected | | | | | | | | | |
| B2 | G6 | None Detected | | | | | | | | | |
| B2 | B7 | None Detected | | | | | | | | | |
| B3 | G8 | None Detected | | | | | | | | | |
| B3 | D5 | 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:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM02-100724-AB** | | **Sample Description:** | **DL267186** |
| EMSL Sample Number: | 042421228-0002 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 7098.4 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 5 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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

**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0002 **Customer Sample:** MFL-AM02-100724-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| B5 | A3 | None Detected | | | | | | | | | |
| B5 | D5 | None Detected | | | | | | | | | |
| B5 | G7 | None Detected | | | | | | | | | |
| B6 | J2 | None Detected | | | | | | | | | |
| B6 | D5 | None Detected | | | | | | | | | |

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

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

| | |
|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-100724-AB** | **Sample Description:** | **DL267185** |
| EMSL Sample Number: | 042421228-0003 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7186.5 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 3 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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

**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0003 **Customer Sample:** MFL-AM03-100724-AB

| Grid ID | 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 | A4 | None Detected | | | | | | | | | |
| C2 | D7 | None Detected | | | | | | | | | |
| C2 | G8 | None Detected | | | | | | | | | |
| C3 | D8 | None Detected | | | | | | | | | |
| C3 | G4 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
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| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM07-100724-AB** | **Sample Description:** | **DL267177** |
| EMSL Sample Number: | 042421228-0004 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 4917.7 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 7 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 3 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | **Limit of Detection (Structures/cc):** | **0.0027** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density ($S/mm^2$) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 33.11** | **< 0.0027** | **Not Applicable** | **0.0027** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 33.11** | **< 0.0027** | **Not Applicable** | **0.0027** |
| Actinolite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| Amosite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| Anthophyllite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| Crocidolite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| Tremolite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 33.11** | **< 0.0027** | **Not Applicable** | **0.0027** |
| Other Minerals | - | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| **Total All Structures** | **-** | **0** | **0** | **< 33.11** | **< 0.0027** | **Not Applicable** | **0.0027** |

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

| | Minimum ID Level | Fibers Detected Primary | Fibers Detected Total | Density ($F/mm^2$) | Concentration (F/cc) | 95 % Confidence Interval (F/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 33.11** | **< 0.0027** | **Not Applicable** | **0.0027** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 33.11** | **< 0.0027** | **Not Applicable** | **0.0027** |
| Actinolite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| Amosite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| Anthophyllite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| Crocidolite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| Tremolite | ADX | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 33.11** | **< 0.0027** | **Not Applicable** | **0.0027** |
| Other Minerals | - | 0 | 0 | < 33.11 | < 0.0027 | Not Applicable | 0.0027 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 33.11** | **< 0.0027** | **Not Applicable** | **0.0027** |

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0004 **Customer Sample:** MFL-AM07-100724-AB

| Grid ID | 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 | B3 | None Detected | | | | | | | | | |
| C5 | E7 | None Detected | | | | | | | | | |
| C5 | G9 | None Detected | | | | | | | | | |
| C5 | I6 | None Detected | | | | | | | | | |
| C6 | B8 | None Detected | | | | | | | | | |
| C6 | E10 | None Detected | | | | | | | | | |
| C6 | 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:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-100724-AB** | **Sample Description:** | **DL267195** |
| EMSL Sample Number: | 042421228-0005 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 1 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**


*Approved Signatory*

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

**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0005 **Customer Sample:** MFL-FB01-100724-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| D2 | J4 | None Detected | | | | | | | | | |
| D2 | H1 | None Detected | | | | | | | | | |
| D2 | F4 | None Detected | | | | | | | | | |
| D2 | D6 | None Detected | | | | | | | | | |
| D2 | B3 | None Detected | | | | | | | | | |
| D3 | A9 | None Detected | | | | | | | | | |
| D3 | C10 | None Detected | | | | | | | | | |
| D3 | E7 | None Detected | | | | | | | | | |
| D3 | G9 | None Detected | | | | | | | | | |
| D3 | I5 | None Detected | | | | | | | | | |

*Abbreviations used:*
*XNCGBLD - Crosses Non-Countable Grid Bar Length Doubled*
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|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM05-100824-AB** | **Sample Description:** | **DL267170** |
| EMSL Sample Number: | 042421228-0006 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7205.0 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 3 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0006 **Customer Sample:** MFL-AM05-100824-AB

| Grid ID | 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 | J3 | None Detected | | | | | | | | | |
| D5 | G4 | None Detected | | | | | | | | | |
| D5 | C6 | None Detected | | | | | | | | | |
| D6 | B3 | None Detected | | | | | | | | | |
| D6 | 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:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM02-100824-AB** | **Sample Description:** | **DL267184** |
| EMSL Sample Number: | 042421228-0007 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 6992.9 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 8 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0009** | **Limit of Detection (Structures/cc):** | **0.0027** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0007 **Customer Sample:** MFL-AM02-100824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| E3 | J3 | None Detected | | | | | | | | | |
| E3 | G6 | None Detected | | | | | | | | | |
| E3 | C7 | None Detected | | | | | | | | | |
| E4 | A4 | None Detected | | | | | | | | | |
| E4 | G6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

**Attn:** **Chelsea Saber**
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**Project:** **Maui Fires Lahaina**

| | |
|---|---|
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| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-100824-AB** | **Sample Description:** | **DL267231** |
| EMSL Sample Number: | 042421228-0008 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7164.0 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 2 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0008 **Customer Sample:** MFL-AM03-100824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| E5 | I4 | None Detected | | | | | | | | | |
| E5 | F2 | None Detected | | | | | | | | | |
| E5 | C5 | None Detected | | | | | | | | | |
| E6 | B5 | None Detected | | | | | | | | | |
| E6 | J6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM07-100824-AB** | **Sample Description:** | **DL267277** |
| EMSL Sample Number: | 042421228-0009 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7157.4 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 3 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0009 **Customer Sample:** MFL-AM07-100824-AB

| Grid ID | 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 | A6 | None Detected | | | | | | | | | |
| F2 | D7 | None Detected | | | | | | | | | |
| F2 | G4 | None Detected | | | | | | | | | |
| F3 | I6 | None Detected | | | | | | | | | |
| F3 | C7 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

**Customer Sample Number:** **MFL-FB01-100824-AB** **Sample Description:** **DL267260**

| | | | | |
|---|---|---|---|---|
| EMSL Sample Number: | 042421228-0010 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

*Approved Signatory*

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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0010 **Customer Sample:** MFL-FB01-100824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| F5 | A5 | None Detected | | | | | | | | | |
| F5 | C8 | None Detected | | | | | | | | | |
| F5 | E9 | None Detected | | | | | | | | | |
| F5 | G4 | None Detected | | | | | | | | | |
| F5 | I8 | None Detected | | | | | | | | | |
| F6 | J5 | None Detected | | | | | | | | | |
| F6 | H4 | None Detected | | | | | | | | | |
| F6 | F7 | None Detected | | | | | | | | | |
| F6 | D4 | None Detected | | | | | | | | | |
| F6 | B4 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

**Customer Sample Number:** **MFL-LB01-100824-AB** **Sample Description:** **DL267261**

| | | | | |
|---|---|---|---|---|
| EMSL Sample Number: | 042421228-0011 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |

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

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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| | |
|---|---|
| **EMSL Order ID:** | **042421228** |
| **Client:** | **Tetra Tech** |
| **Project ID:** | **Maui Fires Lahaina** |

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0011 **Customer Sample:** MFL-LB01-100824-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| G2 | A7 | None Detected | | | | | | | | | |
| G2 | C9 | None Detected | | | | | | | | | |
| G2 | E9 | None Detected | | | | | | | | | |
| G2 | G7 | None Detected | | | | | | | | | |
| G2 | I8 | None Detected | | | | | | | | | |
| G3 | A10 | None Detected | | | | | | | | | |
| G3 | C10 | None Detected | | | | | | | | | |
| G3 | E9 | None Detected | | | | | | | | | |
| G3 | G9 | None Detected | | | | | | | | | |
| G3 | 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:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM05-100924-AB** | **Sample Description:** | **DL267238** |
| EMSL Sample Number: | 042421228-0012 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7135.7 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
*Approved Signatory*

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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0012 **Customer Sample:** MFL-AM05-100924-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| G5 | A4 | None Detected | | | | | | | | | |
| G5 | C6 | None Detected | | | | | | | | | |
| G5 | G7 | None Detected | | | | | | | | | |
| G6 | A3 | None Detected | | | | | | | | | |
| G6 | 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:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM02-100924-AB** | **Sample Description:** | **DL267385** |
| EMSL Sample Number: | 042421228-0013 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7041.2 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 2 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0013 **Customer Sample:** MFL-AM02-100924-AB

| Grid ID | 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 | A10 | None Detected | | | | | | | | | |
| H2 | D7 | None Detected | | | | | | | | | |
| H2 | G6 | None Detected | | | | | | | | | |
| H3 | B10 | None Detected | | | | | | | | | |
| H3 | J8 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM03-100924-AB** | **Sample Description:** | **DL267279** |
| EMSL Sample Number: | 042421228-0014 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 7235.6 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 5 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 5 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0008** | **Limit of Detection (Structures/cc):** | **0.0024** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

Robyn Ray
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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0014 **Customer Sample:** MFL-AM03-100924-AB

| Grid ID | 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 | D3 | None Detected | | | | | | | | | |
| H5 | I4 | None Detected | | | | | | | | | |
| H6 | B8 | None Detected | | | | | | | | | |
| H6 | G6 | None Detected | | | | | | | | | |

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

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| | |
|---|---|
| **EMSL Order:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-AM07-100924-AB** | **Sample Description:** | **DL267694** |
| EMSL Sample Number: | 042421228-0015 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 4997.0 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 6 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 8 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **0.0010** | **Limit of Detection (Structures/cc):** | **0.0030** |

**TOTAL STRUCTURES (All Sizes)**

| | Minimum ID Level | Structures Detected Primary | Structures Detected Total | Density ($S/mm^2$) | Concentration (S/cc) | 95 % Confidence Interval (S/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile** | **CD** | **0** | **0** | **< 38.63** | **< 0.0030** | **Not Applicable** | **0.0030** |
| **Total Amphibole** | **ADX** | **0** | **0** | **< 38.63** | **< 0.0030** | **Not Applicable** | **0.0030** |
| Actinolite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| Amosite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| Anthophyllite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| Crocidolite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| Tremolite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| **Total Asbestos Structures** | **CD/ADX** | **0** | **0** | **< 38.63** | **< 0.0030** | **Not Applicable** | **0.0030** |
| Other Minerals | - | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| **Total All Structures** | **-** | **0** | **0** | **< 38.63** | **< 0.0030** | **Not Applicable** | **0.0030** |

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

| | Minimum ID Level | Fibers Detected Primary | Fibers Detected Total | Density ($F/mm^2$) | Concentration (F/cc) | 95 % Confidence Interval (F/cc) Lower | Upper |
|---|---|---|---|---|---|---|---|
| **Total Chrysotile (PCMe)** | **CD** | **0** | **0** | **< 38.63** | **< 0.0030** | **Not Applicable** | **0.0030** |
| **Total Amphibole (PCMe)** | **ADX** | **0** | **0** | **< 38.63** | **< 0.0030** | **Not Applicable** | **0.0030** |
| Actinolite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| Amosite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| Anthophyllite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| Crocidolite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| Tremolite | ADX | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| **Total Asbestos Structures (PCMe)** | **CD/ADX** | **0** | **0** | **< 38.63** | **< 0.0030** | **Not Applicable** | **0.0030** |
| Other Minerals | - | 0 | 0 | < 38.63 | < 0.0030 | Not Applicable | 0.0030 |
| **Total All Structures (PCMe)** | **-** | **0** | **0** | **< 38.63** | **< 0.0030** | **Not Applicable** | **0.0030** |

**Comment**

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**EMSL Order ID:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0015 **Customer Sample:** MFL-AM07-100924-AB

| Grid ID | 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 | G6 | None Detected | | | | | | | | | |
| I2 | C8 | None Detected | | | | | | | | | |
| I3 | C5 | None Detected | | | | | | | | | |
| I3 | F7 | None Detected | | | | | | | | | |
| I3 | 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:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/21/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | |
|---|---|---|---|
| **Customer Sample Number:** | **MFL-FB01-100924-AB** | **Sample Description:** | **DL267242** |
| EMSL Sample Number: | 042421228-0016 | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | |
| Estimated Particulate Loading on Filter %: | 1 | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

*Approved Signatory*

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:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0016 **Customer Sample:** MFL-FB01-100924-AB

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| K1 | J4 | None Detected | | | | | | | | | |
| K1 | H6 | None Detected | | | | | | | | | |
| K1 | F2 | None Detected | | | | | | | | | |
| K1 | D7 | None Detected | | | | | | | | | |
| K1 | B8 | None Detected | | | | | | | | | |
| K2 | J6 | None Detected | | | | | | | | | |
| K2 | H3 | None Detected | | | | | | | | | |
| K2 | F7 | None Detected | | | | | | | | | |
| K2 | D5 | None Detected | | | | | | | | | |
| K2 | B2 | 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:** | 042421228 |
| **Customer ID:** | TTDC42 |
| **Customer PO:** | 1207085 |
| **Project ID:** | N/A |

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

**Project:** **Maui Fires Lahaina**

| | |
|---|---|
| **Phone:** | (703) 489-2674 |
| **Fax:** | N/A |
| **Received Date:** | 10/14/2024 08:50 AM |
| **Analysis Date:** | 10/18/2024 |
| **Report Date:** | 10/21/2024 |

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

| | | | | |
|---|---|---|---|---|
| **Customer Sample Number:** | **Lab Blank** | | **Sample Description:** | **Lab Blank** |
| EMSL Sample Number: | 042421228-0017 | | Sample Matrix: | Air |
| Magnification used for fiber counting: | 20,000 | | Volume (L) : | 0.0 |
| Aspect ratio for fiber definition: | 3:1 | | Area of original collection filter ($mm^2$): | 385 |
| Minimum Length (µm): | ≥ 0.5 | | Grid Opening Area ($mm^2$): | 0.0129 |
| $Chi^2$ Test for Random Distribution on Filter: | N/A | *( N/A )* | Grid Openings Analyzed: | 10 |
| Minimum Level of analysis (chrysotile): | CD | | Analyst: | P. Harrison |
| Minimum Level of analysis (amphibole): | ADX | | | |
| Estimated Particulate Loading on Filter %: | 1 | | | |
| Target Analytical Sensitivity (Structures/cc): | 0.001 | | | |
| **Analytical Sensitivity (Structures/cc):** | **N/A** | | **Limit of Detection (Structures/cc):** | **N/A** |

**TOTAL STRUCTURES (All Sizes)**

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

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

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

**Comment**

*Approved Signatory*

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:** 042421228
**Client:** Tetra Tech
**Project ID:** Maui Fires Lahaina

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

## Analytical Bench Sheet Data

**EMSL Sample ID:** 042421228-0017 **Customer Sample:** Lab Blank

| Grid ID | Grid Opening | Structure Type | Structure Number | | Dimensions (µm) | | Level of ID | Mineral Type | Additional Mineral ID | Image Number | Structure Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Total | Length | Width | | | | | |
| A1 | A5 | None Detected | | | | | | | | | |
| A1 | C6 | None Detected | | | | | | | | | |
| A1 | E4 | None Detected | | | | | | | | | |
| A1 | G5 | None Detected | | | | | | | | | |
| A1 | I7 | None Detected | | | | | | | | | |
| A2 | A7 | None Detected | | | | | | | | | |
| A2 | C10 | None Detected | | | | | | | | | |
| A2 | E7 | None Detected | | | | | | | | | |
| A2 | G9 | None Detected | | | | | | | | | |
| A2 | I10 | None Detected | | | | | | | | | |

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

OrderID: 042421228

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

EMSL Order Number / Lab Use Only

#042421228

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

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

RECEIVED EMSL CINNAMINSON, NJ 2024 OCT 14 AM 9:05

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

**Customer Information**

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

**Billing Information**

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

**Project Information**

Project Name/No: Maui Fires Lahaina
Purchase Order: 1207085
EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: HI
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Shaina Epstein
Sampled By Signature:
No. of Samples in Shipment 16

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

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

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

**Test Selection**

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

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

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

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

**Other Test (please specify)**

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

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

*Please call with your project-specific requirements.

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

| Sample Number | Sample Location / Description | Volume, Area or Homogeneous Area | Date / Time Sampled (Air Monitoring Only) |
|---|---|---|---|
| MFL-AM05-100724-AB | DL267193 | 7,151.645 | 10/07/24 1054 |
| MFL-AM02-100724-AB | DL267186 | 7,098.446 | 10/07/24 1109 |
| MFL-AM03-100724-AB | DL267185 | 7,186.483 | 10/07/24 1301 |
| MFL-AM07-100724-AB | DL267177 | 4,917.739 | 10/07/24 1323 |
| MFL-FB01-100724-AB | DL267195 | 0 | 10/07/24 1200 |
| MFL-AM05-100824-AB | DL267170 | 7,205.043 | 10/08/24 1101 |
| MFL-AM02-100824-AB | DL267184 | 6,992.882 | 10/08/24 1121 |
| MFL-AM03-100824-AB | DL267231 | 7,163.997 | 10/08/24 1257 |

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

All samples received acceptable for analysis.

16

Method of Shipment: Fedex
Sample Condition Upon Receipt:

Relinquished by: Date/Time: 10/10/24 1100
Received by: FedEx Date/Time 10/14/24 8:50A

Relinquished by: Date/Time:
Received by: Date/Time

Controlled Document - COC-05 Asbestos R16 10/25/2021

☐ 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: 042421228

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

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

EMSL Order Number / Lab Use Only

#042421228

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-AM07-100824-AB | DL267277 | 7,157.361 | 10/08/24 1317 |
| MFL-FB01-100824-AB | DL267260 | 0 | 10/08/24 1200 |
| MFL-LB01-100824-AB | DL267261 | 0 | 10/08/24 1200 |
| MFL-AM05-100924-AB | DL267238 | 7,135.712 | 10/09/24 1057 |
| MFL-AM02-100924-AB | DL267385 | 7,041.232 | 10/09/24 1113 |
| MFL-AM03-100924-AB | DL267279 | 7,235.621 | 10/09/24 1305 |
| MFL-AM07-100924-AB | DL267694 | 4,996.954 | 10/09/24 1333 |
| MFL-FB01-100924-AB | DL267242 | 0 | 10/09/24 1200 |

RECEIVED
EMSL
CINNAMINSON, NJ
24 OCT 14 AM 9:05

Method of Shipment: Fedex

Sample Condition Upon Receipt:

Relinquished by: [signature] Date/Time: 10/10/24 1100 Received by: [signature] - FedEx Date/Time 10/14/24 8:50A

Relinquished by: Date/Time: Received by: Date/Time

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

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

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

Page of

**Stage 1 Data Verification Checklist – Asbestos**

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

**Task Order No. 23141**

Reviewed by:
Kierra Johnson 10/21/2024 and Shanna Vasser 10/22/2024
Laboratory: EMSL Analytical, Inc. – North Cinnaminson, NJ
Collection date(s): 10/07/2024 – 10/09/2024
Report No: 42421228

| | | |
|---|---|---|
| √ | 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

October 22, 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 10/14/24 10:20.

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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**ANALYTICAL REPORT FOR SAMPLES**

| SampleName | LabNumber | Matrix | Sampled | Received |
|---|---|---|---|---|
| MFL-AM05-100324-HM | 4101441-01 | Air | 10/03/24 23:59 | 10/14/24 10:20 |
| MFL-AM02-100324-HM | 4101441-02 | Air | 10/03/24 23:59 | 10/14/24 10:20 |
| MFL-AM03-100324-HM | 4101441-03 | Air | 10/03/24 23:59 | 10/14/24 10:20 |
| MFL-AM07-100324-HM | 4101441-04 | Air | 10/03/24 23:59 | 10/14/24 10:20 |
| MFL-FB01-100324-HM | 4101441-05 | Air | 10/03/24 00:00 | 10/14/24 10:20 |
| MFL-AM05-100424-HM | 4101441-06 | Air | 10/04/24 23:59 | 10/14/24 10:20 |
| MFL-AM02-100424-HM | 4101441-07 | Air | 10/04/24 23:59 | 10/14/24 10:20 |
| MFL-AM03-100424-HM | 4101441-08 | Air | 10/04/24 23:59 | 10/14/24 10:20 |
| MFL-AM07-100424-HM | 4101441-09 | Air | 10/04/24 23:59 | 10/14/24 10:20 |
| MFL-AM05-100524-HM | 4101441-10 | Air | 10/05/24 23:59 | 10/14/24 10:20 |
| MFL-AM02-100524-HM | 4101441-11 | Air | 10/05/24 23:59 | 10/14/24 10:20 |
| MFL-AM03-100524-HM | 4101441-12 | Air | 10/05/24 23:59 | 10/14/24 10:20 |
| MFL-AM07-100524-HM | 4101441-13 | Air | 10/05/24 23:59 | 10/14/24 10:20 |
| MFL-FB01-100524-HM | 4101441-14 | Air | 10/03/24 00:00 | 10/14/24 10:20 |
| MFL-AM05-100624-HM | 4101441-15 | Air | 10/06/24 23:59 | 10/14/24 10:20 |
| MFL-AM02-100624-HM | 4101441-16 | Air | 10/06/24 23:59 | 10/14/24 10:20 |
| MFL-AM03-100624-HM | 4101441-17 | Air | 10/06/24 23:59 | 10/14/24 10:20 |
| MFL-AM07-100624-HM | 4101441-18 | Air | 10/06/24 23:59 | 10/14/24 10:20 |
| MFL-AM05-100724-HM | 4101441-19 | Air | 10/07/24 23:59 | 10/14/24 10:20 |
| MFL-AM02-100724-HM | 4101441-20 | Air | 10/07/24 23:59 | 10/14/24 10:20 |
| MFL-AM03-100724-HM | 4101441-21 | Air | 10/07/24 23:59 | 10/14/24 10:20 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

| | | | | |
|---|---|---|---|---|
| MFL-AM07-100724-HM | 4101441-22 | Air | 10/07/24 23:59 | 10/14/24 10:20 |
| MFL-FB01-100724-HM | 4101441-23 | Air | 10/07/24 00:00 | 10/14/24 10:20 |
| MFL-AM05-100824-HM | 4101441-24 | Air | 10/08/24 23:59 | 10/14/24 10:20 |
| MFL-AM02-100824-HM | 4101441-25 | Air | 10/08/24 23:59 | 10/14/24 10:20 |
| MFL-AM03-100824-HM | 4101441-26 | Air | 10/08/24 23:59 | 10/14/24 10:20 |
| MFL-AM07-100824-HM | 4101441-27 | Air | 10/08/24 23:59 | 10/14/24 10:20 |
| MFL-AM05-100924-HM | 4101441-28 | Air | 10/09/24 23:59 | 10/14/24 10:20 |
| MFL-AM02-100924-HM | 4101441-29 | Air | 10/09/24 23:59 | 10/14/24 10:20 |
| MFL-AM03-100924-HM | 4101441-30 | Air | 10/09/24 23:59 | 10/14/24 10:20 |
| MFL-AM07-100924-HM | 4101441-31 | Air | 10/09/24 23:59 | 10/14/24 10:20 |
| MFL-FB01-100924-HM | 4101441-32 | Air | 10/09/24 00:00 | 10/14/24 10:20 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM05-100324-HM
**Matrix:** Air
**Lab ID:** 4101441-01
**Sample Volume:** 2087.165 m³
**Filter ID:**
**Sampled:** 10/03/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 02:10

**Comments:** Q8522548 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.126** | SL | **0.0301** |
| **Arsenic** | **7440-38-2** | **0.228** | | **0.00730** |
| **Barium** | **7440-39-3** | **4.11** | | **0.834** |
| **Beryllium** | **7440-41-7** | **0.00991** | | **0.00249** |
| Cadmium | 7440-43-9 | 0.0204 | U | 0.0578 |
| **Chromium** | **7440-47-3** | **2.04** | | **1.72** |
| **Cobalt** | **7440-48-4** | **0.341** | | **0.0340** |
| **Copper** | **7440-50-8** | **32.8** | | **2.05** |
| **Lead** | **7439-92-1** | **0.602** | | **0.167** |
| **Manganese** | **7439-96-5** | **10.0** | | **1.47** |
| **Molybdenum** | **7439-98-7** | **1.80** | | **0.280** |
| **Nickel** | **7440-02-0** | **1.32** | | **0.508** |
| **Selenium** | **7782-49-2** | **0.177** | | **0.00698** |
| **Thallium** | **7440-28-0** | **0.00131** | | **4.59E-4** |
| **Vanadium** | **7440-62-2** | **1.30** | | **0.0412** |
| Zinc | 7440-66-6 | 13.2 | 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-100324-HM
**Matrix:** Air
**Lab ID:** 4101441-02
**Sample Volume:** 2089.846 m³
**Filter ID:**
**Sampled:** 10/03/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 02:44

**Comments:** Q8522546 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.153** | SL | **0.0301** |
| **Arsenic** | **7440-38-2** | **0.256** | | **0.00729** |
| **Barium** | **7440-39-3** | **5.70** | | **0.833** |
| **Beryllium** | **7440-41-7** | **0.0167** | | **0.00249** |
| Cadmium | 7440-43-9 | 0.00872 | U | 0.0577 |
| **Chromium** | **7440-47-3** | **2.78** | | **1.72** |
| **Cobalt** | **7440-48-4** | **0.615** | | **0.0339** |
| **Copper** | **7440-50-8** | **22.4** | | **2.05** |
| **Lead** | **7439-92-1** | **0.593** | | **0.167** |
| **Manganese** | **7439-96-5** | **16.2** | | **1.47** |
| **Molybdenum** | **7439-98-7** | **1.50** | | **0.279** |
| **Nickel** | **7440-02-0** | **1.95** | | **0.508** |
| **Selenium** | **7782-49-2** | **0.232** | | **0.00698** |
| **Thallium** | **7440-28-0** | **0.00104** | | **4.59E-4** |
| **Vanadium** | **7440-62-2** | **2.08** | | **0.0412** |
| Zinc | 7440-66-6 | 13.7 | U | 59.8 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-100324-HM
**Matrix:** Air
**Lab ID:** 4101441-03
**Sample Volume:** 2092.282 m³
**Filter ID:**
**Sampled:** 10/03/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 03:00

**Comments:** Q8522543 - Received in good condition.

## 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 | **0.0300** |
| **Arsenic** | **7440-38-2** | **0.136** | | **0.00729** |
| **Barium** | **7440-39-3** | **2.50** | | **0.832** |
| **Beryllium** | **7440-41-7** | **0.0162** | | **0.00249** |
| Cadmium | 7440-43-9 | 0.00470 | U | 0.0576 |
| **Chromium** | **7440-47-3** | **2.16** | | **1.72** |
| **Cobalt** | **7440-48-4** | **0.343** | | **0.0339** |
| **Copper** | **7440-50-8** | **45.9** | | **2.05** |
| **Lead** | **7439-92-1** | **0.187** | | **0.166** |
| **Manganese** | **7439-96-5** | **9.06** | | **1.47** |
| **Molybdenum** | **7439-98-7** | **1.79** | | **0.279** |
| **Nickel** | **7440-02-0** | **1.52** | | **0.507** |
| **Selenium** | **7782-49-2** | **0.150** | | **0.00697** |
| **Thallium** | **7440-28-0** | **6.96E-4** | | **4.58E-4** |
| **Vanadium** | **7440-62-2** | **1.02** | | **0.0411** |
| Zinc | 7440-66-6 | 8.01 | U | 59.7 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM07-100324-HM
**Matrix:** Air
**Lab ID:** 4101441-04
**Sample Volume:** 1861.448 m³
**Filter ID:**
**Sampled:** 10/03/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 03:14

**Comments:** Q8522542 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0900** | SL | **0.0337** |
| **Arsenic** | **7440-38-2** | **0.201** | | **0.00819** |
| **Barium** | **7440-39-3** | **3.31** | | **0.935** |
| **Beryllium** | **7440-41-7** | **0.0129** | | **0.00280** |
| Cadmium | 7440-43-9 | 0.00819 | U | 0.0648 |
| **Chromium** | **7440-47-3** | **3.99** | | **1.93** |
| **Cobalt** | **7440-48-4** | **0.356** | | **0.0381** |
| **Copper** | **7440-50-8** | **27.5** | | **2.30** |
| **Lead** | **7439-92-1** | **0.304** | | **0.187** |
| **Manganese** | **7439-96-5** | **11.5** | | **1.65** |
| **Molybdenum** | **7439-98-7** | **1.47** | | **0.314** |
| **Nickel** | **7440-02-0** | **1.65** | | **0.570** |
| **Selenium** | **7782-49-2** | **0.169** | | **0.00783** |
| **Thallium** | **7440-28-0** | **7.11E-4** | | **5.15E-4** |
| **Vanadium** | **7440-62-2** | **1.12** | | **0.0462** |
| Zinc | 7440-66-6 | 9.02 | U | 67.1 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-FB01-100324-HM
**Matrix:** Air
**Lab ID:** 4101441-05
**Sample Volume:** 2087.165 m³
**Filter ID:**
**Sampled:** 10/03/24 00:00
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 03:28

**Comments:** Q8522537 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| Antimony | 7440-36-0 | 0.0188 | SL, U | 0.0301 |
| Arsenic | 7440-38-2 | 0.00154 | U | 0.00730 |
| Barium | 7440-39-3 | 0.742 | U | 0.834 |
| Beryllium | 7440-41-7 | 3.93E-4 | U | 0.00249 |
| Cadmium | 7440-43-9 | 6.46E-4 | U | 0.0578 |
| Chromium | 7440-47-3 | 0.828 | U | 1.72 |
| Cobalt | 7440-48-4 | 0.0104 | U | 0.0340 |
| Copper | 7440-50-8 | 0.269 | U | 2.05 |
| Lead | 7439-92-1 | 0.0233 | U | 0.167 |
| Manganese | 7439-96-5 | 0.157 | U | 1.47 |
| Molybdenum | 7439-98-7 | 0.127 | U | 0.280 |
| Nickel | 7440-02-0 | 0.407 | U | 0.508 |
| Selenium | 7782-49-2 | 0.00290 | U | 0.00698 |
| Thallium | 7440-28-0 | 1.02E-4 | U | 4.59E-4 |
| Vanadium | 7440-62-2 | 0.0109 | U | 0.0412 |
| Zinc | 7440-66-6 | 3.41 | 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM05-100424-HM
**Matrix:** Air
**Lab ID:** 4101441-06
**Sample Volume:** 2046.562 m³
**Filter ID:**
**Sampled:** 10/04/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 03:42

**Comments:** Q8522540 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.136** | SL | **0.0307** |
| **Arsenic** | **7440-38-2** | **0.296** | | **0.00745** |
| **Barium** | **7440-39-3** | **5.68** | | **0.851** |
| **Beryllium** | **7440-41-7** | **0.0156** | | **0.00254** |
| Cadmium | 7440-43-9 | 0.0159 | U | 0.0589 |
| **Chromium** | **7440-47-3** | **3.24** | | **1.76** |
| **Cobalt** | **7440-48-4** | **0.649** | | **0.0347** |
| **Copper** | **7440-50-8** | **39.1** | | **2.09** |
| **Lead** | **7439-92-1** | **0.715** | | **0.170** |
| **Manganese** | **7439-96-5** | **17.5** | | **1.50** |
| **Molybdenum** | **7439-98-7** | **1.96** | | **0.285** |
| **Nickel** | **7440-02-0** | **2.10** | | **0.518** |
| **Selenium** | **7782-49-2** | **0.197** | | **0.00712** |
| **Thallium** | **7440-28-0** | **0.00130** | | **4.68E-4** |
| **Vanadium** | **7440-62-2** | **2.11** | | **0.0421** |
| Zinc | 7440-66-6 | 15.7 | U | 61.1 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-100424-HM
**Matrix:** Air
**Lab ID:** 4101441-07
**Sample Volume:** 2092.479 m³
**Filter ID:**
**Sampled:** 10/04/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 03:57

**Comments:** Q8522539 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.118** | SL | **0.0300** |
| **Arsenic** | **7440-38-2** | **0.246** | | **0.00729** |
| **Barium** | **7440-39-3** | **4.54** | | **0.832** |
| **Beryllium** | **7440-41-7** | **0.0136** | | **0.00249** |
| Cadmium | 7440-43-9 | 0.00937 | U | 0.0576 |
| **Chromium** | **7440-47-3** | **2.77** | | **1.72** |
| **Cobalt** | **7440-48-4** | **0.534** | | **0.0339** |
| **Copper** | **7440-50-8** | **22.9** | | **2.04** |
| **Lead** | **7439-92-1** | **0.617** | | **0.166** |
| **Manganese** | **7439-96-5** | **13.9** | | **1.47** |
| **Molybdenum** | **7439-98-7** | **1.27** | | **0.279** |
| **Nickel** | **7440-02-0** | **1.60** | | **0.507** |
| **Selenium** | **7782-49-2** | **0.199** | | **0.00697** |
| **Thallium** | **7440-28-0** | **0.00101** | | **4.58E-4** |
| **Vanadium** | **7440-62-2** | **1.72** | | **0.0411** |
| Zinc | 7440-66-6 | 12.3 | U | 59.7 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-100424-HM
**Matrix:** Air
**Lab ID:** 4101441-08
**Sample Volume:** 2048.775 m³
**Filter ID:**
**Sampled:** 10/04/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 04:12

**Comments:** Q8522538 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0671** | SL | **0.0307** |
| **Arsenic** | **7440-38-2** | **0.230** | | **0.00744** |
| **Barium** | **7440-39-3** | **3.58** | | **0.850** |
| **Beryllium** | **7440-41-7** | **0.0270** | | **0.00254** |
| Cadmium | 7440-43-9 | 0.0100 | U | 0.0588 |
| **Chromium** | **7440-47-3** | **3.81** | | **1.76** |
| **Cobalt** | **7440-48-4** | **0.680** | | **0.0346** |
| **Copper** | **7440-50-8** | **51.3** | | **2.09** |
| **Lead** | **7439-92-1** | **0.387** | | **0.170** |
| **Manganese** | **7439-96-5** | **16.0** | | **1.50** |
| **Molybdenum** | **7439-98-7** | **2.19** | | **0.285** |
| **Nickel** | **7440-02-0** | **2.13** | | **0.518** |
| **Selenium** | **7782-49-2** | **0.179** | | **0.00712** |
| **Thallium** | **7440-28-0** | **0.00113** | | **4.68E-4** |
| **Vanadium** | **7440-62-2** | **1.67** | | **0.0420** |
| Zinc | 7440-66-6 | 9.54 | U | 61.0 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM07-100424-HM
**Matrix:** Air
**Lab ID:** 4101441-09
**Sample Volume:** 1812.928 m³
**Filter ID:**
**Sampled:** 10/04/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 04:27

**Comments:** Q8522536 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0840** | SL | **0.0346** |
| **Arsenic** | **7440-38-2** | **0.339** | | **0.00841** |
| **Barium** | **7440-39-3** | **10.7** | | **0.960** |
| **Beryllium** | **7440-41-7** | **0.0740** | | **0.00287** |
| Cadmium | 7440-43-9 | 0.0125 | U | 0.0665 |
| **Chromium** | **7440-47-3** | **3.79** | | **1.98** |
| **Cobalt** | **7440-48-4** | **1.08** | | **0.0391** |
| **Copper** | **7440-50-8** | **71.1** | | **2.36** |
| **Lead** | **7439-92-1** | **0.786** | | **0.192** |
| **Manganese** | **7439-96-5** | **42.2** | | **1.70** |
| **Molybdenum** | **7439-98-7** | **1.67** | | **0.322** |
| **Nickel** | **7440-02-0** | **2.15** | | **0.585** |
| **Selenium** | **7782-49-2** | **0.301** | | **0.00804** |
| **Thallium** | **7440-28-0** | **0.00230** | | **5.29E-4** |
| **Vanadium** | **7440-62-2** | **3.01** | | **0.0475** |
| Zinc | 7440-66-6 | 12.8 | U | 68.9 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM05-100524-HM
**Matrix:** Air
**Lab ID:** 4101441-10
**Sample Volume:** 2005.012 m³
**Filter ID:**
**Sampled:** 10/05/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 05:35

**Comments:** Q8522534 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.101** | SL | **0.0313** |
| **Arsenic** | **7440-38-2** | **0.203** | | **0.00760** |
| **Barium** | **7440-39-3** | **3.24** | | **0.868** |
| **Beryllium** | **7440-41-7** | **0.00665** | | **0.00260** |
| Cadmium | 7440-43-9 | 0.0255 | U | 0.0601 |
| Chromium | 7440-47-3 | 1.62 | U | 1.79 |
| **Cobalt** | **7440-48-4** | **0.244** | | **0.0354** |
| **Copper** | **7440-50-8** | **40.9** | | **2.13** |
| **Lead** | **7439-92-1** | **0.823** | | **0.174** |
| **Manganese** | **7439-96-5** | **6.89** | | **1.53** |
| **Molybdenum** | **7439-98-7** | **2.16** | | **0.291** |
| **Nickel** | **7440-02-0** | **1.00** | | **0.529** |
| **Selenium** | **7782-49-2** | **0.117** | | **0.00727** |
| **Thallium** | **7440-28-0** | **0.00110** | | **4.78E-4** |
| **Vanadium** | **7440-62-2** | **0.860** | | **0.0429** |
| Zinc | 7440-66-6 | 13.7 | U | 62.3 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-100524-HM
**Matrix:** Air
**Lab ID:** 4101441-11
**Sample Volume:** 2075.601 m³
**Filter ID:**
**Sampled:** 10/05/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/15/24 19:24

**Comments:** Q8522534 MS/MSD - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.145** | SL | **0.0303** |
| **Arsenic** | **7440-38-2** | **0.246** | | **0.00734** |
| **Barium** | **7440-39-3** | **4.67** | | **0.839** |
| **Beryllium** | **7440-41-7** | **0.00947** | | **0.00251** |
| Cadmium | 7440-43-9 | 0.0130 | U | 0.0581 |
| **Chromium** | **7440-47-3** | **2.04** | | **1.73** |
| **Cobalt** | **7440-48-4** | **0.337** | | **0.0342** |
| **Copper** | **7440-50-8** | **19.8** | | **2.06** |
| **Lead** | **7439-92-1** | **0.558** | | **0.168** |
| **Manganese** | **7439-96-5** | **9.51** | | **1.48** |
| **Molybdenum** | **7439-98-7** | **1.25** | | **0.281** |
| **Nickel** | **7440-02-0** | **1.16** | | **0.511** |
| **Selenium** | **7782-49-2** | **0.133** | | **0.00702** |
| **Thallium** | **7440-28-0** | **0.00131** | | **4.62E-4** |
| **Vanadium** | **7440-62-2** | **1.14** | | **0.0415** |
| Zinc | 7440-66-6 | 13.0 | U | 60.2 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-100524-HM
**Matrix:** Air
**Lab ID:** 4101441-12
**Sample Volume:** 1974.13 m³
**Filter ID:**
**Sampled:** 10/05/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 05:51

**Comments:** Q8522531 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0771** | SL | **0.0318** |
| **Arsenic** | **7440-38-2** | **0.168** | | **0.00772** |
| **Barium** | **7440-39-3** | **3.48** | | **0.882** |
| **Beryllium** | **7440-41-7** | **0.0285** | | **0.00264** |
| Cadmium | 7440-43-9 | 0.0152 | U | 0.0611 |
| **Chromium** | **7440-47-3** | **3.43** | | **1.82** |
| **Cobalt** | **7440-48-4** | **0.552** | | **0.0359** |
| **Copper** | **7440-50-8** | **77.0** | | **2.17** |
| **Lead** | **7439-92-1** | **0.483** | | **0.176** |
| **Manganese** | **7439-96-5** | **12.7** | | **1.56** |
| **Molybdenum** | **7439-98-7** | **2.86** | | **0.296** |
| **Nickel** | **7440-02-0** | **2.00** | | **0.537** |
| **Selenium** | **7782-49-2** | **0.162** | | **0.00738** |
| **Thallium** | **7440-28-0** | **0.00125** | | **4.85E-4** |
| **Vanadium** | **7440-62-2** | **1.50** | | **0.0436** |
| Zinc | 7440-66-6 | 13.0 | U | 63.3 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM07-100524-HM
**Matrix:** Air
**Lab ID:** 4101441-13
**Sample Volume:** 1946.241 m³
**Filter ID:**
**Sampled:** 10/05/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 06:06

**Comments:** Q8522526 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.154** | SL | **0.0323** |
| **Arsenic** | **7440-38-2** | **0.135** | | **0.00783** |
| **Barium** | **7440-39-3** | **2.43** | | **0.894** |
| **Beryllium** | **7440-41-7** | **0.00743** | | **0.00268** |
| **Cadmium** | **7440-43-9** | **0.461** | | **0.0619** |
| **Chromium** | **7440-47-3** | **1.92** | | **1.85** |
| **Cobalt** | **7440-48-4** | **0.212** | | **0.0364** |
| **Copper** | **7440-50-8** | **48.6** | | **2.20** |
| **Lead** | **7439-92-1** | **0.382** | | **0.179** |
| **Manganese** | **7439-96-5** | **6.49** | | **1.58** |
| **Molybdenum** | **7439-98-7** | **1.47** | | **0.300** |
| **Nickel** | **7440-02-0** | **1.04** | | **0.545** |
| **Selenium** | **7782-49-2** | **0.116** | | **0.00749** |
| **Thallium** | **7440-28-0** | **9.66E-4** | | **4.92E-4** |
| **Vanadium** | **7440-62-2** | **0.735** | | **0.0442** |
| Zinc | 7440-66-6 | 9.58 | U | 64.2 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-FB01-100524-HM
**Matrix:** Air
**Lab ID:** 4101441-14
**Sample Volume:** 2005.012 m³
**Filter ID:**
**Sampled:** 10/03/24 00:00
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 06:20

**Comments:** Q8522525 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| Antimony | 7440-36-0 | 0.0202 | SL, U | 0.0313 |
| Arsenic | 7440-38-2 | 0.00378 | U | 0.00760 |
| Barium | 7440-39-3 | 0.810 | U | 0.868 |
| Beryllium | 7440-41-7 | 5.50E-4 | U | 0.00260 |
| Cadmium | 7440-43-9 | 0.00106 | U | 0.0601 |
| Chromium | 7440-47-3 | 0.799 | U | 1.79 |
| Cobalt | 7440-48-4 | 0.0148 | U | 0.0354 |
| Copper | 7440-50-8 | 0.337 | U | 2.13 |
| Lead | 7439-92-1 | 0.0253 | U | 0.174 |
| Manganese | 7439-96-5 | 0.304 | U | 1.53 |
| Molybdenum | 7439-98-7 | 0.170 | U | 0.291 |
| Nickel | 7440-02-0 | 0.403 | U | 0.529 |
| Selenium | 7782-49-2 | 0.00385 | U | 0.00727 |
| Thallium | 7440-28-0 | 1.22E-4 | U | 4.78E-4 |
| Vanadium | 7440-62-2 | 0.0240 | U | 0.0429 |
| Zinc | 7440-66-6 | 4.10 | U | 62.3 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM05-100624-HM
**Matrix:** Air
**Lab ID:** 4101441-15
**Sample Volume:** 2048.673 m³
**Filter ID:**
**Sampled:** 10/06/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 06:34

**Comments:** Q8522522 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.152** | SL | **0.0307** |
| **Arsenic** | **7440-38-2** | **0.262** | | **0.00744** |
| **Barium** | **7440-39-3** | **4.55** | | **0.850** |
| **Beryllium** | **7440-41-7** | **0.00668** | | **0.00254** |
| Cadmium | 7440-43-9 | 0.0127 | U | 0.0588 |
| Chromium | 7440-47-3 | 1.58 | U | 1.76 |
| **Cobalt** | **7440-48-4** | **0.192** | | **0.0346** |
| **Copper** | **7440-50-8** | **24.3** | | **2.09** |
| **Lead** | **7439-92-1** | **0.577** | | **0.170** |
| **Manganese** | **7439-96-5** | **6.15** | | **1.50** |
| **Molybdenum** | **7439-98-7** | **1.53** | | **0.285** |
| **Nickel** | **7440-02-0** | **0.888** | | **0.518** |
| **Selenium** | **7782-49-2** | **0.175** | | **0.00712** |
| **Thallium** | **7440-28-0** | **9.41E-4** | | **4.68E-4** |
| **Vanadium** | **7440-62-2** | **0.797** | | **0.0420** |
| Zinc | 7440-66-6 | 12.6 | U | 61.0 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-100624-HM
**Matrix:** Air
**Lab ID:** 4101441-16
**Sample Volume:** 2126.578 m³
**Filter ID:**
**Sampled:** 10/06/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 06:50

**Comments:** Q8522523 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.186** | SL | **0.0295** |
| **Arsenic** | **7440-38-2** | **0.535** | | **0.00717** |
| **Barium** | **7440-39-3** | **4.60** | | **0.819** |
| **Beryllium** | **7440-41-7** | **0.00786** | | **0.00245** |
| Cadmium | 7440-43-9 | 0.0302 | U | 0.0567 |
| **Chromium** | **7440-47-3** | **1.78** | | **1.69** |
| **Cobalt** | **7440-48-4** | **0.260** | | **0.0334** |
| **Copper** | **7440-50-8** | **56.9** | | **2.01** |
| **Lead** | **7439-92-1** | **1.37** | | **0.164** |
| **Manganese** | **7439-96-5** | **8.42** | | **1.45** |
| **Molybdenum** | **7439-98-7** | **2.59** | | **0.275** |
| **Nickel** | **7440-02-0** | **1.02** | | **0.499** |
| **Selenium** | **7782-49-2** | **0.168** | | **0.00686** |
| **Thallium** | **7440-28-0** | **0.00109** | | **4.51E-4** |
| **Vanadium** | **7440-62-2** | **0.971** | | **0.0405** |
| Zinc | 7440-66-6 | 18.4 | U | 58.8 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-100624-HM
**Matrix:** Air
**Lab ID:** 4101441-17
**Sample Volume:** 1992.656 m³
**Filter ID:**
**Sampled:** 10/06/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 07:07

**Comments:** Q8522521 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0671** | SL | **0.0315** |
| **Arsenic** | **7440-38-2** | **0.149** | | **0.00765** |
| **Barium** | **7440-39-3** | **2.79** | | **0.874** |
| **Beryllium** | **7440-41-7** | **0.0153** | | **0.00261** |
| Cadmium | 7440-43-9 | 0.0121 | U | 0.0605 |
| **Chromium** | **7440-47-3** | **2.34** | | **1.80** |
| **Cobalt** | **7440-48-4** | **0.409** | | **0.0356** |
| **Copper** | **7440-50-8** | **72.0** | | **2.15** |
| **Lead** | **7439-92-1** | **0.328** | | **0.175** |
| **Manganese** | **7439-96-5** | **8.97** | | **1.54** |
| **Molybdenum** | **7439-98-7** | **2.97** | | **0.293** |
| **Nickel** | **7440-02-0** | **3.98** | | **0.532** |
| **Selenium** | **7782-49-2** | **0.205** | | **0.00732** |
| **Thallium** | **7440-28-0** | **0.00115** | | **4.81E-4** |
| **Vanadium** | **7440-62-2** | **1.08** | | **0.0432** |
| Zinc | 7440-66-6 | 15.6 | U | 62.7 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM07-100624-HM
**Matrix:** Air
**Lab ID:** 4101441-18
**Sample Volume:** 2034.014 m³
**Filter ID:**
**Sampled:** 10/06/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 07:35

**Comments:** Q8522520 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.246** | SL | **0.0309** |
| **Arsenic** | **7440-38-2** | **0.387** | | **0.00750** |
| **Barium** | **7440-39-3** | **4.84** | | **0.856** |
| **Beryllium** | **7440-41-7** | **0.0240** | | **0.00256** |
| Cadmium | 7440-43-9 | 0.0216 | U | 0.0593 |
| **Chromium** | **7440-47-3** | **4.09** | | **1.77** |
| **Cobalt** | **7440-48-4** | **0.619** | | **0.0349** |
| **Copper** | **7440-50-8** | **35.4** | | **2.10** |
| **Lead** | **7439-92-1** | **0.637** | | **0.171** |
| **Manganese** | **7439-96-5** | **21.3** | | **1.51** |
| **Molybdenum** | **7439-98-7** | **1.67** | | **0.287** |
| **Nickel** | **7440-02-0** | **3.26** | | **0.522** |
| **Selenium** | **7782-49-2** | **0.239** | | **0.00717** |
| **Thallium** | **7440-28-0** | **0.00161** | | **4.71E-4** |
| **Vanadium** | **7440-62-2** | **1.75** | | **0.0423** |
| Zinc | 7440-66-6 | 15.3 | U | 61.4 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM05-100724-HM
**Matrix:** Air
**Lab ID:** 4101441-19
**Sample Volume:** 1940.519 m³
**Filter ID:**
**Sampled:** 10/07/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 07:50

**Comments:** Q8522518 - Received in good condition.

## 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 | **0.0324** |
| **Arsenic** | **7440-38-2** | **0.337** | | **0.00786** |
| **Barium** | **7440-39-3** | **4.17** | | **0.897** |
| **Beryllium** | **7440-41-7** | **0.00940** | | **0.00268** |
| Cadmium | 7440-43-9 | 0.0182 | U | 0.0621 |
| **Chromium** | **7440-47-3** | **2.13** | | **1.85** |
| **Cobalt** | **7440-48-4** | **0.346** | | **0.0366** |
| **Copper** | **7440-50-8** | **69.7** | | **2.21** |
| **Lead** | **7439-92-1** | **0.840** | | **0.179** |
| **Manganese** | **7439-96-5** | **9.52** | | **1.58** |
| **Molybdenum** | **7439-98-7** | **3.26** | | **0.301** |
| **Nickel** | **7440-02-0** | **1.36** | | **0.547** |
| **Selenium** | **7782-49-2** | **0.219** | | **0.00751** |
| **Thallium** | **7440-28-0** | **0.00148** | | **4.94E-4** |
| **Vanadium** | **7440-62-2** | **1.32** | | **0.0444** |
| Zinc | 7440-66-6 | 14.3 | U | 64.4 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-100724-HM
**Matrix:** Air
**Lab ID:** 4101441-20
**Sample Volume:** 2171.119 m³
**Filter ID:**
**Sampled:** 10/07/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 08:58

**Comments:** Q8522517 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.187** | SL | **0.0289** |
| **Arsenic** | **7440-38-2** | **0.301** | | **0.00702** |
| **Barium** | **7440-39-3** | **6.22** | | **0.802** |
| **Beryllium** | **7440-41-7** | **0.0125** | | **0.00240** |
| Cadmium | 7440-43-9 | 0.0136 | U | 0.0555 |
| **Chromium** | **7440-47-3** | **2.27** | | **1.66** |
| **Cobalt** | **7440-48-4** | **0.447** | | **0.0327** |
| **Copper** | **7440-50-8** | **22.4** | | **1.97** |
| **Lead** | **7439-92-1** | **0.760** | | **0.160** |
| **Manganese** | **7439-96-5** | **12.3** | | **1.42** |
| **Molybdenum** | **7439-98-7** | **1.30** | | **0.269** |
| **Nickel** | **7440-02-0** | **1.58** | | **0.489** |
| **Selenium** | **7782-49-2** | **0.212** | | **0.00671** |
| **Thallium** | **7440-28-0** | **0.00163** | | **4.41E-4** |
| **Vanadium** | **7440-62-2** | **1.64** | | **0.0396** |
| Zinc | 7440-66-6 | 15.4 | U | 57.6 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-100724-HM
**Matrix:** Air
**Lab ID:** 4101441-21
**Sample Volume:** 1979.044 m³
**Filter ID:**
**Sampled:** 10/07/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 09:12

**Comments:** Q8522516 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0853** | SL | **0.0317** |
| **Arsenic** | **7440-38-2** | **0.176** | | **0.00770** |
| **Barium** | **7440-39-3** | **3.00** | | **0.880** |
| **Beryllium** | **7440-41-7** | **0.0156** | | **0.00263** |
| Cadmium | 7440-43-9 | 0.0132 | U | 0.0609 |
| **Chromium** | **7440-47-3** | **2.00** | | **1.82** |
| **Cobalt** | **7440-48-4** | **0.318** | | **0.0358** |
| **Copper** | **7440-50-8** | **53.0** | | **2.16** |
| **Lead** | **7439-92-1** | **0.394** | | **0.176** |
| **Manganese** | **7439-96-5** | **9.06** | | **1.55** |
| **Molybdenum** | **7439-98-7** | **2.66** | | **0.295** |
| **Nickel** | **7440-02-0** | **1.29** | | **0.536** |
| **Selenium** | **7782-49-2** | **0.219** | | **0.00737** |
| **Thallium** | **7440-28-0** | **0.00141** | | **4.84E-4** |
| **Vanadium** | **7440-62-2** | **1.13** | | **0.0435** |
| Zinc | 7440-66-6 | 9.17 | U | 63.1 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM07-100724-HM
**Matrix:** Air
**Lab ID:** 4101441-22
**Sample Volume:** 1894.39 m³
**Filter ID:**
**Sampled:** 10/07/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 09:28

**Comments:** Q8522515 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.146** | SL | **0.0332** |
| **Arsenic** | **7440-38-2** | **0.274** | | **0.00805** |
| **Barium** | **7440-39-3** | **4.39** | | **0.919** |
| **Beryllium** | **7440-41-7** | **0.0223** | | **0.00275** |
| Cadmium | 7440-43-9 | 0.0173 | U | 0.0636 |
| **Chromium** | **7440-47-3** | **2.64** | | **1.90** |
| **Cobalt** | **7440-48-4** | **0.466** | | **0.0374** |
| **Copper** | **7440-50-8** | **45.8** | | **2.26** |
| **Lead** | **7439-92-1** | **1.03** | | **0.184** |
| **Manganese** | **7439-96-5** | **16.8** | | **1.62** |
| **Molybdenum** | **7439-98-7** | **2.02** | | **0.308** |
| **Nickel** | **7440-02-0** | **1.52** | | **0.560** |
| **Selenium** | **7782-49-2** | **0.226** | | **0.00770** |
| **Thallium** | **7440-28-0** | **0.00171** | | **5.06E-4** |
| **Vanadium** | **7440-62-2** | **1.58** | | **0.0454** |
| Zinc | 7440-66-6 | 17.9 | U | 66.0 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-FB01-100724-HM
**Matrix:** Air
**Lab ID:** 4101441-23
**Sample Volume:** 1940.519 m³
**Filter ID:**
**Sampled:** 10/07/24 00:00
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 09:44

**Comments:** Q8522508 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| Antimony | 7440-36-0 | 0.0190 | SL, U | 0.0324 |
| Arsenic | 7440-38-2 | 0.00273 | U | 0.00786 |
| Barium | 7440-39-3 | 0.801 | U | 0.897 |
| Beryllium | 7440-41-7 | 3.51E-4 | U | 0.00268 |
| Cadmium | 7440-43-9 | 6.10E-4 | U | 0.0621 |
| Chromium | 7440-47-3 | 0.850 | U | 1.85 |
| Cobalt | 7440-48-4 | 0.0121 | U | 0.0366 |
| Copper | 7440-50-8 | 0.290 | U | 2.21 |
| Lead | 7439-92-1 | 0.0244 | U | 0.179 |
| Manganese | 7439-96-5 | 0.191 | U | 1.58 |
| Molybdenum | 7439-98-7 | 0.133 | U | 0.301 |
| Nickel | 7440-02-0 | 0.377 | U | 0.547 |
| Selenium | 7782-49-2 | 0.00147 | U | 0.00751 |
| Thallium | 7440-28-0 | 7.01E-5 | U | 4.94E-4 |
| Vanadium | 7440-62-2 | 0.0137 | U | 0.0444 |
| Zinc | 7440-66-6 | 3.12 | U | 64.4 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM05-100824-HM
**Matrix:** Air
**Lab ID:** 4101441-24
**Sample Volume:** 1979.948 m³
**Filter ID:**
**Sampled:** 10/08/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 09:58

**Comments:** Q8522513 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.134** | SL | **0.0317** |
| **Arsenic** | **7440-38-2** | **0.410** | | **0.00770** |
| **Barium** | **7440-39-3** | **5.29** | | **0.879** |
| **Beryllium** | **7440-41-7** | **0.0111** | | **0.00263** |
| Cadmium | 7440-43-9 | 0.0211 | U | 0.0609 |
| **Chromium** | **7440-47-3** | **2.46** | | **1.82** |
| **Cobalt** | **7440-48-4** | **0.456** | | **0.0358** |
| **Copper** | **7440-50-8** | **70.0** | | **2.16** |
| **Lead** | **7439-92-1** | **1.12** | | **0.176** |
| **Manganese** | **7439-96-5** | **13.5** | | **1.55** |
| **Molybdenum** | **7439-98-7** | **3.60** | | **0.295** |
| **Nickel** | **7440-02-0** | **1.38** | | **0.536** |
| **Selenium** | **7782-49-2** | **0.209** | | **0.00736** |
| **Thallium** | **7440-28-0** | **0.00120** | | **4.84E-4** |
| **Vanadium** | **7440-62-2** | **1.58** | | **0.0435** |
| Zinc | 7440-66-6 | 17.2 | U | 63.1 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-100824-HM
**Matrix:** Air
**Lab ID:** 4101441-25
**Sample Volume:** 2180.953 m³
**Filter ID:**
**Sampled:** 10/08/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 10:14

**Comments:** Q8522511 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.159** | SL | **0.0288** |
| **Arsenic** | **7440-38-2** | **0.385** | | **0.00699** |
| **Barium** | **7440-39-3** | **7.02** | | **0.798** |
| **Beryllium** | **7440-41-7** | **0.0192** | | **0.00239** |
| Cadmium | 7440-43-9 | 0.0108 | U | 0.0553 |
| **Chromium** | **7440-47-3** | **3.57** | | **1.65** |
| **Cobalt** | **7440-48-4** | **0.779** | | **0.0325** |
| **Copper** | **7440-50-8** | **23.0** | | **1.96** |
| **Lead** | **7439-92-1** | **0.746** | | **0.160** |
| **Manganese** | **7439-96-5** | **19.3** | | **1.41** |
| **Molybdenum** | **7439-98-7** | **1.40** | | **0.268** |
| **Nickel** | **7440-02-0** | **2.39** | | **0.486** |
| **Selenium** | **7782-49-2** | **0.220** | | **0.00668** |
| **Thallium** | **7440-28-0** | **0.00146** | | **4.39E-4** |
| **Vanadium** | **7440-62-2** | **2.43** | | **0.0395** |
| Zinc | 7440-66-6 | 15.0 | U | 57.3 |

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1777 Sentry Pkwy, Bldg 12
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**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-100824-HM
**Matrix:** Air
**Lab ID:** 4101441-26
**Sample Volume:** 1988.484 m³
**Filter ID:**
**Sampled:** 10/08/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 10:30

**Comments:** Q8522507 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0671** | SL | **0.0316** |
| **Arsenic** | **7440-38-2** | **0.222** | | **0.00767** |
| **Barium** | **7440-39-3** | **3.84** | | **0.875** |
| **Beryllium** | **7440-41-7** | **0.0221** | | **0.00262** |
| Cadmium | 7440-43-9 | 0.0120 | U | 0.0606 |
| **Chromium** | **7440-47-3** | **2.88** | | **1.81** |
| **Cobalt** | **7440-48-4** | **0.600** | | **0.0357** |
| **Copper** | **7440-50-8** | **67.8** | | **2.15** |
| **Lead** | **7439-92-1** | **0.389** | | **0.175** |
| **Manganese** | **7439-96-5** | **14.9** | | **1.55** |
| **Molybdenum** | **7439-98-7** | **2.62** | | **0.294** |
| **Nickel** | **7440-02-0** | **1.83** | | **0.533** |
| **Selenium** | **7782-49-2** | **0.197** | | **0.00733** |
| **Thallium** | **7440-28-0** | **0.00116** | | **4.82E-4** |
| **Vanadium** | **7440-62-2** | **1.56** | | **0.0433** |
| Zinc | 7440-66-6 | 12.9 | U | 62.8 |

# CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
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**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM07-100824-HM
**Matrix:** Air
**Lab ID:** 4101441-27
**Sample Volume:** 1880.949 m³
**Filter ID:**
**Sampled:** 10/08/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 10:45

**Comments:** Q8522505 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.124** | SL | **0.0334** |
| **Arsenic** | **7440-38-2** | **0.528** | | **0.00810** |
| **Barium** | **7440-39-3** | **7.77** | | **0.926** |
| **Beryllium** | **7440-41-7** | **0.0400** | | **0.00277** |
| Cadmium | 7440-43-9 | 0.0173 | U | 0.0641 |
| **Chromium** | **7440-47-3** | **4.79** | | **1.91** |
| **Cobalt** | **7440-48-4** | **1.15** | | **0.0377** |
| **Copper** | **7440-50-8** | **75.3** | | **2.27** |
| **Lead** | **7439-92-1** | **0.624** | | **0.185** |
| **Manganese** | **7439-96-5** | **35.9** | | **1.63** |
| **Molybdenum** | **7439-98-7** | **2.17** | | **0.311** |
| **Nickel** | **7440-02-0** | **2.67** | | **0.564** |
| **Selenium** | **7782-49-2** | **0.295** | | **0.00775** |
| **Thallium** | **7440-28-0** | **0.00195** | | **5.09E-4** |
| **Vanadium** | **7440-62-2** | **2.98** | | **0.0458** |
| Zinc | 7440-66-6 | 17.9 | U | 66.4 |

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**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM05-100924-HM
**Matrix:** Air
**Lab ID:** 4101441-28
**Sample Volume:** 1946.229 m³
**Filter ID:**
**Sampled:** 10/09/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 11:00

**Comments:** Q8522504 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.144** | SL | **0.0323** |
| **Arsenic** | **7440-38-2** | **1.11** | | **0.00783** |
| **Barium** | **7440-39-3** | **17.6** | | **0.894** |
| **Beryllium** | **7440-41-7** | **0.0740** | | **0.00268** |
| **Cadmium** | **7440-43-9** | **0.116** | | **0.0619** |
| **Chromium** | **7440-47-3** | **13.5** | | **1.85** |
| **Cobalt** | **7440-48-4** | **3.40** | | **0.0364** |
| **Copper** | **7440-50-8** | **61.0** | | **2.20** |
| **Lead** | **7439-92-1** | **2.43** | | **0.179** |
| **Manganese** | **7439-96-5** | **78.8** | | **1.58** |
| **Molybdenum** | **7439-98-7** | **2.19** | | **0.300** |
| **Nickel** | **7440-02-0** | **9.37** | | **0.545** |
| **Selenium** | **7782-49-2** | **0.414** | | **0.00749** |
| **Thallium** | **7440-28-0** | **0.00407** | | **4.92E-4** |
| Zinc | 7440-66-6 | 47.2 | U | 64.2 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM05-100924-HM
**Matrix:** Air
**Lab ID:** 4101441-28RE1
**Sample Volume:** 1946.229 m³
**Filter ID:**
**Sampled:** 10/09/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 13:03

**Comments:** Q8522504 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Vanadium** | **7440-62-2** | **9.90** | D | **0.0884** |

# CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
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**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-100924-HM
**Matrix:** Air
**Lab ID:** 4101441-29
**Sample Volume:** 2137.35 m³
**Filter ID:**
**Sampled:** 10/09/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 11:19

**Comments:** Q8522503 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.146** | SL | **0.0294** |
| **Arsenic** | **7440-38-2** | **1.33** | | **0.00713** |
| **Barium** | **7440-39-3** | **39.4** | | **0.815** |
| **Beryllium** | **7440-41-7** | **0.0876** | | **0.00244** |
| **Cadmium** | **7440-43-9** | **0.101** | | **0.0564** |
| **Chromium** | **7440-47-3** | **14.9** | | **1.68** |
| **Cobalt** | **7440-48-4** | **3.77** | | **0.0332** |
| **Copper** | **7440-50-8** | **31.4** | | **2.00** |
| **Lead** | **7439-92-1** | **3.05** | | **0.163** |
| **Manganese** | **7439-96-5** | **85.6** | | **1.44** |
| **Molybdenum** | **7439-98-7** | **1.13** | | **0.273** |
| **Nickel** | **7440-02-0** | **9.74** | | **0.496** |
| **Selenium** | **7782-49-2** | **0.442** | | **0.00682** |
| **Thallium** | **7440-28-0** | **0.00379** | | **4.48E-4** |
| Zinc | 7440-66-6 | 41.5 | U | 58.5 |

# CERTIFICATE OF ANALYSIS

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**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM02-100924-HM
**Matrix:** Air
**Lab ID:** 4101441-29RE1
**Sample Volume:** 2137.35 m³
**Filter ID:**
**Sampled:** 10/09/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 13:22

**Comments:** Q8522503 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Vanadium** | **7440-62-2** | **11.3** | D | **0.0805** |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM03-100924-HM
**Matrix:** Air
**Lab ID:** 4101441-30
**Sample Volume:** 2005.173 m³
**Filter ID:**
**Sampled:** 10/09/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 12:32

**Comments:** Q8522502 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.0420** | SL | **0.0313** |
| **Arsenic** | **7440-38-2** | **0.264** | | **0.00760** |
| **Barium** | **7440-39-3** | **5.79** | | **0.868** |
| **Beryllium** | **7440-41-7** | **0.0601** | | **0.00260** |
| Cadmium | 7440-43-9 | 0.0280 | U | 0.0601 |
| **Chromium** | **7440-47-3** | **5.54** | | **1.79** |
| **Cobalt** | **7440-48-4** | **1.19** | | **0.0354** |
| **Copper** | **7440-50-8** | **73.2** | | **2.13** |
| **Lead** | **7439-92-1** | **0.715** | | **0.174** |
| **Manganese** | **7439-96-5** | **26.9** | | **1.53** |
| **Molybdenum** | **7439-98-7** | **2.76** | | **0.291** |
| **Nickel** | **7440-02-0** | **3.24** | | **0.529** |
| **Selenium** | **7782-49-2** | **0.274** | | **0.00727** |
| **Thallium** | **7440-28-0** | **0.00181** | | **4.78E-4** |
| **Vanadium** | **7440-62-2** | **2.97** | | **0.0429** |
| Zinc | 7440-66-6 | 14.7 | U | 62.3 |

# 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:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-AM07-100924-HM
**Matrix:** Air
**Lab ID:** 4101441-31
**Sample Volume:** 1938.659 m³
**Filter ID:**
**Sampled:** 10/09/24 23:59
**Received:** 10/14/24 10:20
**Analysis Date:** 10/15/24 23:17

**Comments:** Q8522500 MS/MSD - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| **Antimony** | **7440-36-0** | **0.122** | SL | **0.0324** |
| **Arsenic** | **7440-38-2** | **0.622** | | **0.00786** |
| **Barium** | **7440-39-3** | **6.55** | | **0.898** |
| **Beryllium** | **7440-41-7** | **0.0401** | | **0.00269** |
| Cadmium | 7440-43-9 | 0.0304 | U | 0.0622 |
| **Chromium** | **7440-47-3** | **5.17** | | **1.85** |
| **Cobalt** | **7440-48-4** | **1.22** | | **0.0366** |
| **Copper** | **7440-50-8** | **56.9** | QM-07 | **2.21** |
| **Lead** | **7439-92-1** | **1.06** | | **0.180** |
| **Manganese** | **7439-96-5** | **37.6** | | **1.59** |
| **Molybdenum** | **7439-98-7** | **1.66** | | **0.301** |
| **Nickel** | **7440-02-0** | **2.94** | | **0.547** |
| **Selenium** | **7782-49-2** | **0.292** | | **0.00752** |
| **Thallium** | **7440-28-0** | **0.00195** | | **4.94E-4** |
| **Vanadium** | **7440-62-2** | **3.40** | | **0.0444** |
| Zinc | 7440-66-6 | 16.5 | U | 64.5 |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**AQS SITE CODE:**
**SITE CODE:** Lahaina fires

**Description:** MFL-FB01-100924-HM
**Matrix:** Air
**Lab ID:** 4101441-32
**Sample Volume:** 1946.229 m³
**Filter ID:**
**Sampled:** 10/09/24 00:00
**Received:** 10/14/24 10:20
**Analysis Date:** 10/16/24 12:49

**Comments:** Q8522499 - Received in good condition.

## Inorganics by Compendium Method IO-3.5

| Analyte | CAS Number | Results ng/m³ Air | Flag | MDL ng/m³ Air |
|---|---|---|---|---|
| Antimony | 7440-36-0 | 0.0203 | SL, U | 0.0323 |
| Arsenic | 7440-38-2 | 0.00346 | U | 0.00783 |
| Barium | 7440-39-3 | 0.845 | U | 0.894 |
| Beryllium | 7440-41-7 | 5.50E-4 | U | 0.00268 |
| Cadmium | 7440-43-9 | 7.11E-4 | U | 0.0619 |
| Chromium | 7440-47-3 | 0.837 | U | 1.85 |
| Cobalt | 7440-48-4 | 0.0162 | U | 0.0364 |
| Copper | 7440-50-8 | 0.357 | U | 2.20 |
| Lead | 7439-92-1 | 0.0281 | U | 0.179 |
| Manganese | 7439-96-5 | 0.303 | U | 1.58 |
| Molybdenum | 7439-98-7 | 0.148 | U | 0.300 |
| Nickel | 7440-02-0 | 0.385 | U | 0.545 |
| Selenium | 7782-49-2 | 5.36E-4 | U | 0.00749 |
| Thallium | 7440-28-0 | 1.33E-4 | U | 4.92E-4 |
| Vanadium | 7440-62-2 | 0.0233 | U | 0.0442 |
| Zinc | 7440-66-6 | 6.43 | U | 64.2 |

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**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 2410049 - B4J1506* | | | | | | | | | | |
| **Calibration Blank (2410049-CCB1)** | | | | Prepared & Analyzed: 10/15/24 | | | | | | |
| Antimony | 0.815 | | ng/l | | | | | | | |
| Arsenic | -2.41 | | ng/l | | | | | | | U |
| Barium | 0.960 | | ng/l | | | | | | | |
| Beryllium | -0.214 | | ng/l | | | | | | | U |
| Cadmium | 0.103 | | ng/l | | | | | | | |
| Chromium | -0.268 | | ng/l | | | | | | | U |
| Cobalt | -0.0867 | | ng/l | | | | | | | U |
| Copper | 25.2 | | ng/l | | | | | | | |
| Lead | 6.83 | | ng/l | | | | | | | |
| Manganese | 2.20 | | ng/l | | | | | | | |
| Molybdenum | 28.2 | | ng/l | | | | | | | |
| Nickel | 3.54 | | ng/l | | | | | | | |
| Selenium | 11.1 | | ng/l | | | | | | | |
| Thallium | 1.27 | | ng/l | | | | | | | |
| Vanadium | -69.1 | | ng/l | | | | | | | U |
| Zinc | -31.5 | | ng/l | | | | | | | U |
| **Calibration Blank (2410049-CCB2)** | | | | Prepared & Analyzed: 10/15/24 | | | | | | |
| Antimony | 0.465 | | ng/l | | | | | | | |
| Arsenic | -3.73 | | ng/l | | | | | | | U |
| Barium | 0.506 | | ng/l | | | | | | | |
| Beryllium | -0.330 | | ng/l | | | | | | | U |
| Cadmium | 0.0462 | | ng/l | | | | | | | |
| Chromium | -1.19 | | ng/l | | | | | | | U |
| Cobalt | 0.0234 | | ng/l | | | | | | | |
| Copper | 8.87 | | ng/l | | | | | | | |
| Lead | 2.47 | | ng/l | | | | | | | |
| Manganese | 0.923 | | ng/l | | | | | | | |
| Molybdenum | 5.35 | | ng/l | | | | | | | |
| Nickel | -0.0482 | | ng/l | | | | | | | U |
| Selenium | 10.6 | | ng/l | | | | | | | |
| Thallium | 0.946 | | ng/l | | | | | | | |
| Vanadium | -70.4 | | ng/l | | | | | | | U |
| Zinc | -41.8 | | ng/l | | | | | | | U |
| **Calibration Blank (2410049-CCB3)** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 0.563 | | ng/l | | | | | | | |
| Arsenic | -3.99 | | ng/l | | | | | | | U |
| Barium | 0.0823 | | ng/l | | | | | | | |
| Beryllium | -0.836 | | ng/l | | | | | | | U |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2410049 - B4J1506* | | | | | | | | | | |
| **Calibration Blank (2410049-CCB3) Contin** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Cadmium | 0.0675 | | ng/l | | | | | | | |
| Chromium | -0.947 | | ng/l | | | | | | | U |
| Cobalt | -0.107 | | ng/l | | | | | | | U |
| Copper | 5.28 | | ng/l | | | | | | | |
| Lead | 2.27 | | ng/l | | | | | | | |
| Manganese | 0.739 | | ng/l | | | | | | | |
| Molybdenum | 6.14 | | ng/l | | | | | | | |
| Nickel | 0.860 | | ng/l | | | | | | | |
| Selenium | -0.737 | | ng/l | | | | | | | U |
| Thallium | 1.22 | | ng/l | | | | | | | |
| Vanadium | -74.5 | | ng/l | | | | | | | U |
| Zinc | -35.0 | | ng/l | | | | | | | U |
| **Calibration Blank (2410049-CCB4)** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 0.504 | | ng/l | | | | | | | |
| Arsenic | -5.30 | | ng/l | | | | | | | U |
| Barium | 0.0909 | | ng/l | | | | | | | |
| Beryllium | -0.910 | | ng/l | | | | | | | U |
| Cadmium | 0.00911 | | ng/l | | | | | | | |
| Chromium | -0.752 | | ng/l | | | | | | | U |
| Cobalt | -0.0220 | | ng/l | | | | | | | U |
| Copper | 4.68 | | ng/l | | | | | | | |
| Lead | 1.55 | | ng/l | | | | | | | |
| Manganese | 0.667 | | ng/l | | | | | | | |
| Molybdenum | 5.15 | | ng/l | | | | | | | |
| Nickel | 2.28 | | ng/l | | | | | | | |
| Selenium | 7.09 | | ng/l | | | | | | | |
| Thallium | 0.757 | | ng/l | | | | | | | |
| Vanadium | -76.2 | | ng/l | | | | | | | U |
| Zinc | -45.4 | | ng/l | | | | | | | U |
| **Calibration Blank (2410049-CCB5)** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 0.425 | | ng/l | | | | | | | |
| Arsenic | -1.98 | | ng/l | | | | | | | U |
| Barium | 1.12 | | ng/l | | | | | | | |
| Beryllium | -1.24 | | ng/l | | | | | | | U |
| Cadmium | -0.0185 | | ng/l | | | | | | | U |
| Chromium | -0.834 | | ng/l | | | | | | | U |
| Cobalt | -0.00575 | | ng/l | | | | | | | U |
| Copper | 5.48 | | ng/l | | | | | | | |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2410049 - B4J1506* | | | | | | | | | | |
| **Calibration Blank (2410049-CCB5) Contin** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Lead | 1.31 | | ng/l | | | | | | | |
| Manganese | 0.280 | | ng/l | | | | | | | |
| Molybdenum | 5.72 | | ng/l | | | | | | | |
| Nickel | 2.52 | | ng/l | | | | | | | |
| Selenium | 3.91 | | ng/l | | | | | | | |
| Thallium | 0.869 | | ng/l | | | | | | | |
| Vanadium | -72.7 | | ng/l | | | | | | | U |
| Zinc | -46.5 | | ng/l | | | | | | | U |
| **Calibration Blank (2410049-CCB6)** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 0.443 | | ng/l | | | | | | | |
| Arsenic | -3.01 | | ng/l | | | | | | | U |
| Barium | 1.01 | | ng/l | | | | | | | |
| Beryllium | -1.10 | | ng/l | | | | | | | U |
| Cadmium | -0.00272 | | ng/l | | | | | | | U |
| Chromium | -0.719 | | ng/l | | | | | | | U |
| Cobalt | 0.111 | | ng/l | | | | | | | |
| Copper | 6.23 | | ng/l | | | | | | | |
| Lead | 1.44 | | ng/l | | | | | | | |
| Manganese | 0.0709 | | ng/l | | | | | | | |
| Molybdenum | 6.71 | | ng/l | | | | | | | |
| Nickel | 0.381 | | ng/l | | | | | | | |
| Selenium | 12.3 | | ng/l | | | | | | | |
| Thallium | 0.794 | | ng/l | | | | | | | |
| Vanadium | -74.1 | | ng/l | | | | | | | U |
| Zinc | -34.1 | | ng/l | | | | | | | U |
| **Calibration Blank (2410049-CCB7)** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 0.582 | | ng/l | | | | | | | |
| Arsenic | -6.48 | | ng/l | | | | | | | U |
| Barium | 0.826 | | ng/l | | | | | | | |
| Beryllium | -1.12 | | ng/l | | | | | | | U |
| Cadmium | 0.0611 | | ng/l | | | | | | | |
| Chromium | -1.11 | | ng/l | | | | | | | U |
| Cobalt | -0.0699 | | ng/l | | | | | | | U |
| Copper | 5.27 | | ng/l | | | | | | | |
| Lead | 1.72 | | ng/l | | | | | | | |
| Manganese | 0.910 | | ng/l | | | | | | | |
| Molybdenum | 6.09 | | ng/l | | | | | | | |
| Nickel | 0.236 | | ng/l | | | | | | | |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2410049 - B4J1506* | | | | | | | | | | |
| **Calibration Blank (2410049-CCB7) Contin** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Selenium | 15.6 | | ng/l | | | | | | | |
| Thallium | 0.874 | | ng/l | | | | | | | |
| Vanadium | -78.9 | | ng/l | | | | | | | U |
| Zinc | -34.9 | | ng/l | | | | | | | U |
| **Calibration Check (2410049-CCV1)** | | | | Prepared & Analyzed: 10/15/24 | | | | | | |
| Antimony | 19700 | | ng/l | 20000 | | 98.5 | 90-110 | | | |
| Arsenic | 19700 | | ng/l | 20000 | | 98.7 | 90-110 | | | |
| Barium | 197000 | | ng/l | 200000 | | 98.3 | 90-110 | | | |
| Beryllium | 5020 | | ng/l | 5000.0 | | 100 | 90-110 | | | |
| Cadmium | 19800 | | ng/l | 20000 | | 99.2 | 90-110 | | | |
| Chromium | 238000 | | ng/l | 240000 | | 99.4 | 90-110 | | | |
| Cobalt | 49800 | | ng/l | 50000 | | 99.7 | 90-110 | | | |
| Copper | 2.02E6 | | ng/l | 2.0000E6 | | 101 | 90-110 | | | |
| Lead | 196000 | | ng/l | 200000 | | 98.2 | 90-110 | | | |
| Manganese | 490000 | | ng/l | 500000 | | 97.9 | 90-110 | | | |
| Molybdenum | 49200 | | ng/l | 50000 | | 98.5 | 90-110 | | | |
| Nickel | 120000 | | ng/l | 120000 | | 99.9 | 90-110 | | | |
| Selenium | 19700 | | ng/l | 20000 | | 98.5 | 90-110 | | | |
| Thallium | 485 | | ng/l | 500.00 | | 97.0 | 90-110 | | | |
| Vanadium | 19400 | | ng/l | 20000 | | 97.0 | 90-110 | | | |
| Zinc | 516000 | | ng/l | 500000 | | 103 | 90-110 | | | |
| **Calibration Check (2410049-CCV2)** | | | | Prepared & Analyzed: 10/15/24 | | | | | | |
| Antimony | 20100 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Arsenic | 20000 | | ng/l | 20000 | | 99.8 | 90-110 | | | |
| Barium | 201000 | | ng/l | 200000 | | 101 | 90-110 | | | |
| Beryllium | 5130 | | ng/l | 5000.0 | | 103 | 90-110 | | | |
| Cadmium | 20200 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Chromium | 241000 | | ng/l | 240000 | | 100 | 90-110 | | | |
| Cobalt | 50300 | | ng/l | 50000 | | 101 | 90-110 | | | |
| Copper | 2.05E6 | | ng/l | 2.0000E6 | | 102 | 90-110 | | | |
| Lead | 200000 | | ng/l | 200000 | | 99.8 | 90-110 | | | |
| Manganese | 501000 | | ng/l | 500000 | | 100 | 90-110 | | | |
| Molybdenum | 50400 | | ng/l | 50000 | | 101 | 90-110 | | | |
| Nickel | 121000 | | ng/l | 120000 | | 101 | 90-110 | | | |
| Selenium | 20200 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Thallium | 490 | | ng/l | 500.00 | | 97.9 | 90-110 | | | |
| Vanadium | 19900 | | ng/l | 20000 | | 99.7 | 90-110 | | | |
| Zinc | 524000 | | ng/l | 500000 | | 105 | 90-110 | | | |

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**FILE #:** 4205.00.003.001
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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2410049 - B4J1506* | | | | | | | | | | |
| **Calibration Check (2410049-CCV3)** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 19900 | | ng/l | 20000 | | 99.3 | 90-110 | | | |
| Arsenic | 19800 | | ng/l | 20000 | | 98.9 | 90-110 | | | |
| Barium | 196000 | | ng/l | 200000 | | 98.1 | 90-110 | | | |
| Beryllium | 5070 | | ng/l | 5000.0 | | 101 | 90-110 | | | |
| Cadmium | 20100 | | ng/l | 20000 | | 100 | 90-110 | | | |
| Chromium | 244000 | | ng/l | 240000 | | 102 | 90-110 | | | |
| Cobalt | 49600 | | ng/l | 50000 | | 99.2 | 90-110 | | | |
| Copper | 2.02E6 | | ng/l | 2.0000E6 | | 101 | 90-110 | | | |
| Lead | 198000 | | ng/l | 200000 | | 99.1 | 90-110 | | | |
| Manganese | 495000 | | ng/l | 500000 | | 99.0 | 90-110 | | | |
| Molybdenum | 49500 | | ng/l | 50000 | | 99.1 | 90-110 | | | |
| Nickel | 120000 | | ng/l | 120000 | | 99.8 | 90-110 | | | |
| Selenium | 19800 | | ng/l | 20000 | | 98.9 | 90-110 | | | |
| Thallium | 484 | | ng/l | 500.00 | | 96.7 | 90-110 | | | |
| Vanadium | 19900 | | ng/l | 20000 | | 99.4 | 90-110 | | | |
| Zinc | 519000 | | ng/l | 500000 | | 104 | 90-110 | | | |
| **Calibration Check (2410049-CCV4)** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 20300 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Arsenic | 20200 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Barium | 203000 | | ng/l | 200000 | | 102 | 90-110 | | | |
| Beryllium | 5050 | | ng/l | 5000.0 | | 101 | 90-110 | | | |
| Cadmium | 20600 | | ng/l | 20000 | | 103 | 90-110 | | | |
| Chromium | 251000 | | ng/l | 240000 | | 105 | 90-110 | | | |
| Cobalt | 51100 | | ng/l | 50000 | | 102 | 90-110 | | | |
| Copper | 2.09E6 | | ng/l | 2.0000E6 | | 105 | 90-110 | | | |
| Lead | 203000 | | ng/l | 200000 | | 101 | 90-110 | | | |
| Manganese | 509000 | | ng/l | 500000 | | 102 | 90-110 | | | |
| Molybdenum | 51500 | | ng/l | 50000 | | 103 | 90-110 | | | |
| Nickel | 123000 | | ng/l | 120000 | | 103 | 90-110 | | | |
| Selenium | 20400 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Thallium | 490 | | ng/l | 500.00 | | 98.0 | 90-110 | | | |
| Vanadium | 20300 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Zinc | 532000 | | ng/l | 500000 | | 106 | 90-110 | | | |
| **Calibration Check (2410049-CCV5)** | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 20400 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Arsenic | 20300 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Barium | 211000 | | ng/l | 200000 | | 106 | 90-110 | | | |
| Beryllium | 5160 | | ng/l | 5000.0 | | 103 | 90-110 | | | |

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| *Batch 2410049 - B4J1506* | | | | | | | | | | |
| **Calibration Check (2410049-CCV5) Contin** | | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | |
| Cadmium | 20700 | | ng/l | 20000 | | 104 | 90-110 | | | |
| Chromium | 252000 | | ng/l | 240000 | | 105 | 90-110 | | | |
| Cobalt | 51400 | | ng/l | 50000 | | 103 | 90-110 | | | |
| Copper | 2.10E6 | | ng/l | 2.0000E6 | | 105 | 90-110 | | | |
| Lead | 204000 | | ng/l | 200000 | | 102 | 90-110 | | | |
| Manganese | 511000 | | ng/l | 500000 | | 102 | 90-110 | | | |
| Molybdenum | 52900 | | ng/l | 50000 | | 106 | 90-110 | | | |
| Nickel | 123000 | | ng/l | 120000 | | 103 | 90-110 | | | |
| Selenium | 20200 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Thallium | 488 | | ng/l | 500.00 | | 97.6 | 90-110 | | | |
| Vanadium | 20200 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Zinc | 532000 | | ng/l | 500000 | | 106 | 90-110 | | | |
| **Calibration Check (2410049-CCV6)** | | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | |
| Antimony | 20500 | | ng/l | 20000 | | 103 | 90-110 | | | |
| Arsenic | 20500 | | ng/l | 20000 | | 103 | 90-110 | | | |
| Barium | 217000 | | ng/l | 200000 | | 108 | 90-110 | | | |
| Beryllium | 5270 | | ng/l | 5000.0 | | 105 | 90-110 | | | |
| Cadmium | 20800 | | ng/l | 20000 | | 104 | 90-110 | | | |
| Chromium | 258000 | | ng/l | 240000 | | 108 | 90-110 | | | |
| Cobalt | 52300 | | ng/l | 50000 | | 105 | 90-110 | | | |
| Copper | 2.15E6 | | ng/l | 2.0000E6 | | 107 | 90-110 | | | |
| Lead | 204000 | | ng/l | 200000 | | 102 | 90-110 | | | |
| Manganese | 520000 | | ng/l | 500000 | | 104 | 90-110 | | | |
| Molybdenum | 53800 | | ng/l | 50000 | | 108 | 90-110 | | | |
| Nickel | 125000 | | ng/l | 120000 | | 104 | 90-110 | | | |
| Selenium | 20400 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Thallium | 488 | | ng/l | 500.00 | | 97.6 | 90-110 | | | |
| Vanadium | 20500 | | ng/l | 20000 | | 103 | 90-110 | | | |
| Zinc | 536000 | | ng/l | 500000 | | 107 | 90-110 | | | |
| **Calibration Check (2410049-CCV7)** | | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | |
| Antimony | 20500 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Arsenic | 20400 | | ng/l | 20000 | | 102 | 90-110 | | | |
| Barium | 216000 | | ng/l | 200000 | | 108 | 90-110 | | | |
| Beryllium | 5300 | | ng/l | 5000.0 | | 106 | 90-110 | | | |
| Cadmium | 20900 | | ng/l | 20000 | | 105 | 90-110 | | | |
| Chromium | 257000 | | ng/l | 240000 | | 107 | 90-110 | | | |
| Cobalt | 51700 | | ng/l | 50000 | | 103 | 90-110 | | | |
| Copper | 2.13E6 | | ng/l | 2.0000E6 | | 107 | 90-110 | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2410049 - B4J1506* | | | | | | | | | | |
| **Calibration Check (2410049-CCV7) Contin** | | | | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | |
| Lead | 206000 | | ng/l | 200000 | | 103 | 90-110 | | | |
| Manganese | 516000 | | ng/l | 500000 | | 103 | 90-110 | | | |
| Molybdenum | 54100 | | ng/l | 50000 | | 108 | 90-110 | | | |
| Nickel | 124000 | | ng/l | 120000 | | 103 | 90-110 | | | |
| Selenium | 20100 | | ng/l | 20000 | | 100 | 90-110 | | | |
| Thallium | 493 | | ng/l | 500.00 | | 98.5 | 90-110 | | | |
| Vanadium | 20700 | | ng/l | 20000 | | 103 | 90-110 | | | |
| Zinc | 534000 | | ng/l | 500000 | | 107 | 90-110 | | | |
| **High Cal Check (2410049-HCV1)** | | | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | 39300 | | ng/l | 40000 | | 98.1 | 95-105 | | | |
| Arsenic | 39700 | | ng/l | 40000 | | 99.4 | 95-105 | | | |
| Barium | 392000 | | ng/l | 400000 | | 97.9 | 95-105 | | | |
| Beryllium | 9860 | | ng/l | 10000 | | 98.6 | 95-105 | | | |
| Cadmium | 39300 | | ng/l | 40000 | | 98.2 | 95-105 | | | |
| Chromium | 477000 | | ng/l | 480000 | | 99.4 | 95-105 | | | |
| Cobalt | 98700 | | ng/l | 100000 | | 98.7 | 95-105 | | | |
| Copper | 3.95E6 | | ng/l | 4.0000E6 | | 98.8 | 95-105 | | | |
| Lead | 395000 | | ng/l | 400000 | | 98.9 | 95-105 | | | |
| Manganese | 990000 | | ng/l | 1.0000E6 | | 99.0 | 95-105 | | | |
| Molybdenum | 98800 | | ng/l | 100000 | | 98.8 | 95-105 | | | |
| Nickel | 235000 | | ng/l | 240000 | | 98.0 | 95-105 | | | |
| Selenium | 39600 | | ng/l | 40000 | | 99.0 | 95-105 | | | |
| Thallium | 987 | | ng/l | 1000.0 | | 98.7 | 95-105 | | | |
| Vanadium | 39700 | | ng/l | 40000 | | 99.3 | 95-105 | | | |
| Zinc | 989000 | | ng/l | 1.0000E6 | | 98.9 | 95-105 | | | |
| **Initial Cal Blank (2410049-ICB1)** | | | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | 0.759 | | ng/l | | | | | | | |
| Arsenic | -8.45 | | ng/l | | | | | | | U |
| Barium | 0.621 | | ng/l | | | | | | | |
| Beryllium | -0.208 | | ng/l | | | | | | | U |
| Cadmium | 4.13E-4 | | ng/l | | | | | | | |
| Chromium | -1.94 | | ng/l | | | | | | | U |
| Cobalt | -0.0519 | | ng/l | | | | | | | U |
| Copper | 11.1 | | ng/l | | | | | | | |
| Lead | 5.89 | | ng/l | | | | | | | |
| Manganese | 2.16 | | ng/l | | | | | | | |
| Molybdenum | 10.1 | | ng/l | | | | | | | |
| Nickel | 0.986 | | ng/l | | | | | | | |

# CERTIFICATE OF ANALYSIS

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**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 2410049 - B4J1506* | | | | | | | | | | |
| **Initial Cal Blank (2410049-ICB1) Continu** | | | | Prepared & Analyzed: 10/15/24 | | | | | | |
| Selenium | 7.55 | | ng/l | | | | | | | |
| Thallium | 1.07 | | ng/l | | | | | | | |
| Vanadium | -70.3 | | ng/l | | | | | | | U |
| Zinc | -12.1 | | ng/l | | | | | | | U |
| **Initial Cal Check (2410049-ICV1)** | | | | Prepared & Analyzed: 10/15/24 | | | | | | |
| Antimony | 19400 | | ng/l | 20000 | | 96.9 | 90-110 | | | |
| Arsenic | 19000 | | ng/l | 20000 | | 95.0 | 90-110 | | | |
| Barium | 190000 | | ng/l | 200000 | | 95.1 | 90-110 | | | |
| Beryllium | 4930 | | ng/l | 5000.0 | | 98.6 | 90-110 | | | |
| Cadmium | 20100 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Chromium | 234000 | | ng/l | 240000 | | 97.5 | 90-110 | | | |
| Cobalt | 49100 | | ng/l | 50000 | | 98.3 | 90-110 | | | |
| Copper | 2.04E6 | | ng/l | 2.0000E6 | | 102 | 90-110 | | | |
| Lead | 198000 | | ng/l | 200000 | | 98.9 | 90-110 | | | |
| Manganese | 490000 | | ng/l | 500000 | | 98.1 | 90-110 | | | |
| Molybdenum | 49100 | | ng/l | 50000 | | 98.1 | 90-110 | | | |
| Nickel | 120000 | | ng/l | 120000 | | 100 | 90-110 | | | |
| Selenium | 20100 | | ng/l | 20000 | | 101 | 90-110 | | | |
| Thallium | 493 | | ng/l | 500.00 | | 98.7 | 90-110 | | | |
| Vanadium | 20000 | | ng/l | 20000 | | 99.9 | 90-110 | | | |
| Zinc | 534000 | | ng/l | 500000 | | 107 | 90-110 | | | |
| **Interference Check A (2410049-IFA1)** | | | | Prepared & Analyzed: 10/15/24 | | | | | | |
| Antimony | 0.00 | | ng/l | | | | 80-120 | | | U |
| Arsenic | 0.00 | | ng/l | | | | 80-120 | | | U |
| Barium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Beryllium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Cadmium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Chromium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Cobalt | 0.00 | | ng/l | | | | 80-120 | | | U |
| Copper | 0.00 | | ng/l | | | | 80-120 | | | U |
| Lead | 0.00 | | ng/l | | | | 80-120 | | | U |
| Manganese | 0.00 | | ng/l | | | | 80-120 | | | U |
| Molybdenum | 306000 | | ng/l | 300000 | | 102 | 80-120 | | | |
| Nickel | 0.00 | | ng/l | | | | 80-120 | | | U |
| Selenium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Thallium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Vanadium | 0.00 | | ng/l | | | | 80-120 | | | U |
| Zinc | 0.00 | | ng/l | | | | 80-120 | | | U |

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**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
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**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch 2410049 - B4J1506* | | | | | | | | | | |
| **Interference Check B (2410049-IFB1)** | | | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | 20400 | | ng/l | 20000 | | 102 | 80-120 | | | |
| Arsenic | 20000 | | ng/l | 20000 | | 100 | 80-120 | | | |
| Barium | 199000 | | ng/l | 200000 | | 99.6 | 80-120 | | | |
| Beryllium | 4850 | | ng/l | 5000.0 | | 97.0 | 80-120 | | | |
| Cadmium | 19800 | | ng/l | 20000 | | 98.8 | 80-120 | | | |
| Chromium | 232000 | | ng/l | 240000 | | 96.7 | 80-120 | | | |
| Cobalt | 51600 | | ng/l | 50000 | | 103 | 80-120 | | | |
| Copper | 1.92E6 | | ng/l | 2.0000E6 | | 96.0 | 80-120 | | | |
| Lead | 208000 | | ng/l | 200000 | | 104 | 80-120 | | | |
| Manganese | 504000 | | ng/l | 500000 | | 101 | 80-120 | | | |
| Molybdenum | 360000 | | ng/l | 350000 | | 103 | 80-120 | | | |
| Nickel | 117000 | | ng/l | 120000 | | 97.7 | 80-120 | | | |
| Selenium | 19300 | | ng/l | 20000 | | 96.3 | 80-120 | | | |
| Thallium | 522 | | ng/l | 500.00 | | 104 | 80-120 | | | |
| Vanadium | 19000 | | ng/l | 20000 | | 95.1 | 80-120 | | | |
| Zinc | 498000 | | ng/l | 500000 | | 99.6 | 80-120 | | | |
| *Batch B4J1506 - ICP-MS Extraction* | | | | | | | | | | |
| **Blank (B4J1506-BLK1)** | | | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | ND | 0.0386 | ng/m³ Air | | | | | | | SL, U |
| Arsenic | ND | 0.00937 | ng/m³ Air | | | | | | | U |
| Barium | ND | 1.07 | ng/m³ Air | | | | | | | U |
| Beryllium | ND | 0.00320 | ng/m³ Air | | | | | | | U |
| Cadmium | ND | 0.0741 | 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 (B4J1506-BS1)** | | | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | 0.796 | 0.0386 | ng/m³ Air | 1.3829 | | 57.6 | 80-120 | | | SL |
| Arsenic | 2.66 | 0.00937 | ng/m³ Air | 2.7658 | | 96.3 | 80-120 | | | |
| Barium | 27.0 | 1.07 | ng/m³ Air | 27.658 | | 97.6 | 80-120 | | | |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4J1506 - ICP-MS Extraction* | | | | | | | | | | |
| **LCS (B4J1506-BS1) Continued** | | | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Beryllium | 1.32 | 0.00320 | ng/m³ Air | 1.3829 | | 95.5 | 80-120 | | | |
| Cadmium | 1.39 | 0.0741 | ng/m³ Air | 1.3829 | | 100 | 80-120 | | | |
| Chromium | 14.6 | 2.21 | ng/m³ Air | 13.829 | | 106 | 80-120 | | | |
| Cobalt | 1.36 | 0.0436 | ng/m³ Air | 1.3829 | | 98.2 | 80-120 | | | |
| Copper | 28.8 | 2.63 | ng/m³ Air | 27.658 | | 104 | 80-120 | | | |
| Lead | 13.5 | 0.214 | ng/m³ Air | 13.829 | | 97.9 | 80-120 | | | |
| Manganese | 8.29 | 1.89 | ng/m³ Air | 8.2975 | | 99.9 | 80-120 | | | |
| Molybdenum | 1.46 | 0.359 | ng/m³ Air | 1.3829 | | 105 | 80-120 | | | |
| Nickel | 3.18 | 0.652 | ng/m³ Air | 2.7658 | | 115 | 80-120 | | | |
| Selenium | 2.75 | 0.00896 | ng/m³ Air | 2.7658 | | 99.5 | 80-120 | | | |
| Thallium | 0.134 | 5.89E-4 | ng/m³ Air | 0.13829 | | 96.9 | 80-120 | | | |
| Vanadium | 2.72 | 0.0529 | ng/m³ Air | 2.7658 | | 98.2 | 80-120 | | | |
| Zinc | 92.5 | 76.8 | ng/m³ Air | 82.975 | | 111 | 80-120 | | | |
| **LCS (B4J1506-BS2)** | | | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | 0.820 | 0.0386 | ng/m³ Air | 1.3829 | | 59.3 | 80-120 | | | SL |
| Arsenic | 2.68 | 0.00937 | ng/m³ Air | 2.7658 | | 97.0 | 80-120 | | | |
| Barium | 27.8 | 1.07 | ng/m³ Air | 27.658 | | 100 | 80-120 | | | |
| Beryllium | 1.34 | 0.00320 | ng/m³ Air | 1.3829 | | 96.9 | 80-120 | | | |
| Cadmium | 1.41 | 0.0741 | ng/m³ Air | 1.3829 | | 102 | 80-120 | | | |
| Chromium | 14.9 | 2.21 | ng/m³ Air | 13.829 | | 108 | 80-120 | | | |
| Cobalt | 1.37 | 0.0436 | ng/m³ Air | 1.3829 | | 99.4 | 80-120 | | | |
| Copper | 29.0 | 2.63 | ng/m³ Air | 27.658 | | 105 | 80-120 | | | |
| Lead | 13.7 | 0.214 | ng/m³ Air | 13.829 | | 99.4 | 80-120 | | | |
| Manganese | 8.37 | 1.89 | ng/m³ Air | 8.2975 | | 101 | 80-120 | | | |
| Molybdenum | 1.48 | 0.359 | ng/m³ Air | 1.3829 | | 107 | 80-120 | | | |
| Nickel | 3.18 | 0.652 | ng/m³ Air | 2.7658 | | 115 | 80-120 | | | |
| Selenium | 2.70 | 0.00896 | ng/m³ Air | 2.7658 | | 97.6 | 80-120 | | | |
| Thallium | 0.136 | 5.89E-4 | ng/m³ Air | 0.13829 | | 98.5 | 80-120 | | | |
| Vanadium | 2.78 | 0.0529 | ng/m³ Air | 2.7658 | | 100 | 80-120 | | | |
| Zinc | 93.0 | 76.8 | ng/m³ Air | 82.975 | | 112 | 80-120 | | | |
| **Duplicate (B4J1506-DUP1)** | | **Source: 4101441-11** | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | 0.147 | 0.0303 | ng/m³ Air | | 0.145 | | | 1.68 | 10 | SL |
| Arsenic | 0.226 | 0.00734 | ng/m³ Air | | 0.246 | | | 8.45 | 10 | |
| Barium | 4.65 | 0.839 | ng/m³ Air | | 4.67 | | | 0.628 | 10 | |
| Beryllium | 0.00892 | 0.00251 | ng/m³ Air | | 0.00947 | | | 5.99 | 10 | |
| Cadmium | ND | 0.0581 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | 2.28 | 1.73 | ng/m³ Air | | 2.04 | | | 11.1 | 10 | |
| Cobalt | 0.324 | 0.0342 | ng/m³ Air | | 0.337 | | | 3.84 | 10 | |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4J1506 - ICP-MS Extraction* | | | | | | | | | | |
| **Duplicate (B4J1506-DUP1) Continued** | | | **Source: 4101441-11** | | Prepared & Analyzed: 10/15/24 | | | | | |
| Copper | 21.4 | 2.06 | ng/m³ Air | | 19.8 | | | 7.69 | 10 | |
| Lead | 0.556 | 0.168 | ng/m³ Air | | 0.558 | | | 0.200 | 10 | |
| Manganese | 9.24 | 1.48 | ng/m³ Air | | 9.51 | | | 2.85 | 10 | |
| Molybdenum | 1.28 | 0.281 | ng/m³ Air | | 1.25 | | | 2.42 | 10 | |
| Nickel | 1.13 | 0.511 | ng/m³ Air | | 1.16 | | | 3.17 | 10 | |
| Selenium | 0.129 | 0.00702 | ng/m³ Air | | 0.133 | | | 3.27 | 10 | |
| Thallium | 0.00124 | 4.62E-4 | ng/m³ Air | | 0.00131 | | | 5.29 | 10 | |
| Vanadium | 1.11 | 0.0415 | ng/m³ Air | | 1.14 | | | 2.29 | 10 | |
| Zinc | ND | 60.2 | ng/m³ Air | | ND | | | | 10 | U |
| **Duplicate (B4J1506-DUP2)** | | | **Source: 4101441-31** | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | 0.0984 | 0.0324 | ng/m³ Air | | 0.122 | | | 21.3 | 10 | SL |
| Arsenic | 0.615 | 0.00786 | ng/m³ Air | | 0.622 | | | 1.19 | 10 | |
| Barium | 6.34 | 0.898 | ng/m³ Air | | 6.55 | | | 3.18 | 10 | |
| Beryllium | 0.0404 | 0.00269 | ng/m³ Air | | 0.0401 | | | 0.828 | 10 | |
| Cadmium | ND | 0.0622 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | 5.17 | 1.85 | ng/m³ Air | | 5.17 | | | 0.0661 | 10 | |
| Cobalt | 1.19 | 0.0366 | ng/m³ Air | | 1.22 | | | 2.32 | 10 | |
| Copper | 56.5 | 2.21 | ng/m³ Air | | 56.9 | | | 0.792 | 10 | |
| Lead | 1.10 | 0.180 | ng/m³ Air | | 1.06 | | | 3.77 | 10 | |
| Manganese | 36.2 | 1.59 | ng/m³ Air | | 37.6 | | | 3.77 | 10 | |
| Molybdenum | 1.60 | 0.301 | ng/m³ Air | | 1.66 | | | 3.62 | 10 | |
| Nickel | 2.89 | 0.547 | ng/m³ Air | | 2.94 | | | 1.61 | 10 | |
| Selenium | 0.290 | 0.00752 | ng/m³ Air | | 0.292 | | | 0.472 | 10 | |
| Thallium | 0.00206 | 4.94E-4 | ng/m³ Air | | 0.00195 | | | 5.55 | 10 | |
| Vanadium | 3.12 | 0.0444 | ng/m³ Air | | 3.40 | | | 8.56 | 10 | |
| Zinc | ND | 64.5 | ng/m³ Air | | ND | | | | 10 | U |
| **Duplicate (B4J1506-DUP3)** | | | **Source: 4101441-01** | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | |
| Antimony | 0.125 | 0.0301 | ng/m³ Air | | 0.126 | | | 0.434 | 10 | SL |
| Arsenic | 0.222 | 0.00730 | ng/m³ Air | | 0.228 | | | 2.63 | 10 | |
| Barium | 4.07 | 0.834 | ng/m³ Air | | 4.11 | | | 0.917 | 10 | |
| Beryllium | 0.0100 | 0.00249 | ng/m³ Air | | 0.00991 | | | 1.06 | 10 | |
| Cadmium | ND | 0.0578 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | 2.03 | 1.72 | ng/m³ Air | | 2.04 | | | 0.714 | 10 | |
| Cobalt | 0.343 | 0.0340 | ng/m³ Air | | 0.341 | | | 0.516 | 10 | |
| Copper | 32.6 | 2.05 | ng/m³ Air | | 32.8 | | | 0.548 | 10 | |
| Lead | 0.601 | 0.167 | ng/m³ Air | | 0.602 | | | 0.235 | 10 | |
| Manganese | 9.99 | 1.47 | ng/m³ Air | | 10.0 | | | 0.570 | 10 | |
| Molybdenum | 1.78 | 0.280 | ng/m³ Air | | 1.80 | | | 0.785 | 10 | |

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| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4J1506 - ICP-MS Extraction* | | | | | | | | | | |
| **Duplicate (B4J1506-DUP3) Continued** | | **Source: 4101441-01** | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Nickel | 1.32 | 0.508 | ng/m³ Air | | 1.32 | | | 0.585 | 10 | |
| Selenium | 0.172 | 0.00698 | ng/m³ Air | | 0.177 | | | 3.25 | 10 | |
| Thallium | 0.00124 | 4.59E-4 | ng/m³ Air | | 0.00131 | | | 5.90 | 10 | |
| Vanadium | 1.29 | 0.0412 | ng/m³ Air | | 1.30 | | | 1.11 | 10 | |
| Zinc | ND | 59.9 | ng/m³ Air | | ND | | | | 10 | U |
| **Duplicate (B4J1506-DUP4)** | | **Source: 4101441-17** | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | |
| Antimony | 0.0675 | 0.0315 | ng/m³ Air | | 0.0671 | | | 0.599 | 10 | SL |
| Arsenic | 0.150 | 0.00765 | ng/m³ Air | | 0.149 | | | 0.376 | 10 | |
| Barium | 2.81 | 0.874 | ng/m³ Air | | 2.79 | | | 0.969 | 10 | |
| Beryllium | 0.0154 | 0.00261 | ng/m³ Air | | 0.0153 | | | 0.375 | 10 | |
| Cadmium | ND | 0.0605 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | 2.33 | 1.80 | ng/m³ Air | | 2.34 | | | 0.419 | 10 | |
| Cobalt | 0.408 | 0.0356 | ng/m³ Air | | 0.409 | | | 0.175 | 10 | |
| Copper | 71.2 | 2.15 | ng/m³ Air | | 72.0 | | | 1.10 | 10 | |
| Lead | 0.327 | 0.175 | ng/m³ Air | | 0.328 | | | 0.175 | 10 | |
| Manganese | 8.88 | 1.54 | ng/m³ Air | | 8.97 | | | 1.02 | 10 | |
| Molybdenum | 2.99 | 0.293 | ng/m³ Air | | 2.97 | | | 0.719 | 10 | |
| Nickel | 3.97 | 0.532 | ng/m³ Air | | 3.98 | | | 0.327 | 10 | |
| Selenium | 0.193 | 0.00732 | ng/m³ Air | | 0.205 | | | 6.05 | 10 | |
| Thallium | 0.00116 | 4.81E-4 | ng/m³ Air | | 0.00115 | | | 0.850 | 10 | |
| Vanadium | 1.07 | 0.0432 | ng/m³ Air | | 1.08 | | | 0.299 | 10 | |
| Zinc | ND | 62.7 | ng/m³ Air | | ND | | | | 10 | U |
| **Matrix Spike (B4J1506-MS1)** | | **Source: 4101441-11** | | Prepared & Analyzed: 10/15/24 | | | | | | |
| Antimony | 0.774 | 0.0303 | ng/m³ Air | 1.0840 | 0.145 | 58.0 | 80-120 | | | SL |
| Arsenic | 2.28 | 0.00734 | ng/m³ Air | 2.1680 | 0.246 | 94.0 | 80-120 | | | |
| Barium | 24.9 | 0.839 | ng/m³ Air | 21.680 | 4.67 | 93.1 | 80-120 | | | |
| Beryllium | 1.06 | 0.00251 | ng/m³ Air | 1.0840 | 0.00947 | 97.3 | 80-120 | | | |
| Cadmium | 1.08 | 0.0581 | ng/m³ Air | 1.0840 | ND | 99.7 | 80-120 | | | |
| Chromium | 13.2 | 1.73 | ng/m³ Air | 10.840 | 2.04 | 103 | 80-120 | | | |
| Cobalt | 1.39 | 0.0342 | ng/m³ Air | 1.0840 | 0.337 | 96.8 | 80-120 | | | |
| Copper | 42.5 | 2.06 | ng/m³ Air | 21.680 | 19.8 | 105 | 80-120 | | | |
| Lead | 11.3 | 0.168 | ng/m³ Air | 10.840 | 0.558 | 99.4 | 80-120 | | | |
| Manganese | 15.5 | 1.48 | ng/m³ Air | 6.5041 | 9.51 | 92.5 | 80-120 | | | |
| Molybdenum | 2.27 | 0.281 | ng/m³ Air | 1.0840 | 1.25 | 94.8 | 80-120 | | | |
| Nickel | 3.55 | 0.511 | ng/m³ Air | 2.1680 | 1.16 | 110 | 80-120 | | | |
| Selenium | 2.22 | 0.00702 | ng/m³ Air | 2.1680 | 0.133 | 96.1 | 80-120 | | | |
| Thallium | 0.105 | 4.62E-4 | ng/m³ Air | 0.10840 | 0.00131 | 95.3 | 80-120 | | | |
| Vanadium | 3.19 | 0.0415 | ng/m³ Air | 2.1680 | 1.14 | 94.6 | 80-120 | | | |

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

**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**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 B4J1506 - ICP-MS Extraction* | | | | | | | | | | |
| **Matrix Spike (B4J1506-MS1) Continued Source: 4101441-11** Prepared & Analyzed: 10/15/24 | | | | | | | | | | |
| Zinc | 80.8 | 60.2 | ng/m³ Air | 65.041 | ND | 124 | 80-120 | | | |
| **Matrix Spike (B4J1506-MS2) Source: 4101441-31** Prepared & Analyzed: 10/15/24 | | | | | | | | | | |
| Antimony | 0.687 | 0.0324 | ng/m³ Air | 1.1606 | 0.122 | 48.7 | 80-120 | | | SL |
| Arsenic | 2.81 | 0.00786 | ng/m³ Air | 2.3212 | 0.622 | 94.4 | 80-120 | | | |
| Barium | 29.4 | 0.898 | ng/m³ Air | 23.212 | 6.55 | 98.4 | 80-120 | | | |
| Beryllium | 1.18 | 0.00269 | ng/m³ Air | 1.1606 | 0.0401 | 98.4 | 80-120 | | | |
| Cadmium | 1.19 | 0.0622 | ng/m³ Air | 1.1606 | ND | 103 | 80-120 | | | |
| Chromium | 16.6 | 1.85 | ng/m³ Air | 11.606 | 5.17 | 98.3 | 80-120 | | | |
| Cobalt | 2.37 | 0.0366 | ng/m³ Air | 1.1606 | 1.22 | 99.0 | 80-120 | | | |
| Copper | 82.5 | 2.21 | ng/m³ Air | 23.212 | 56.9 | 110 | 80-120 | | | |
| Lead | 13.0 | 0.180 | ng/m³ Air | 11.606 | 1.06 | 103 | 80-120 | | | |
| Manganese | 44.0 | 1.59 | ng/m³ Air | 6.9636 | 37.6 | 92.9 | 80-120 | | | |
| Molybdenum | 2.76 | 0.301 | ng/m³ Air | 1.1606 | 1.66 | 95.2 | 80-120 | | | |
| Nickel | 5.16 | 0.547 | ng/m³ Air | 2.3212 | 2.94 | 95.7 | 80-120 | | | |
| Selenium | 2.47 | 0.00752 | ng/m³ Air | 2.3212 | 0.292 | 93.8 | 80-120 | | | |
| Thallium | 0.113 | 4.94E-4 | ng/m³ Air | 0.11606 | 0.00195 | 95.7 | 80-120 | | | |
| Vanadium | 5.57 | 0.0444 | ng/m³ Air | 2.3212 | 3.40 | 93.4 | 80-120 | | | |
| Zinc | 87.9 | 64.5 | ng/m³ Air | 69.636 | ND | 126 | 80-120 | | | |
| **Matrix Spike Dup (B4J1506-MSD1) Source: 4101441-11** Prepared & Analyzed: 10/15/24 | | | | | | | | | | |
| Antimony | 0.781 | 0.0303 | ng/m³ Air | 1.0840 | 0.145 | 58.7 | 80-120 | 0.843 | 20 | SL |
| Arsenic | 2.26 | 0.00734 | ng/m³ Air | 2.1680 | 0.246 | 93.1 | 80-120 | 0.900 | 20 | |
| Barium | 24.7 | 0.839 | ng/m³ Air | 21.680 | 4.67 | 92.3 | 80-120 | 0.749 | 20 | |
| Beryllium | 1.06 | 0.00251 | ng/m³ Air | 1.0840 | 0.00947 | 96.7 | 80-120 | 0.609 | 20 | |
| Cadmium | 1.08 | 0.0581 | ng/m³ Air | 1.0840 | ND | 100 | 80-120 | 0.319 | 20 | |
| Chromium | 12.4 | 1.73 | ng/m³ Air | 10.840 | 2.04 | 95.5 | 80-120 | 6.12 | 20 | |
| Cobalt | 1.36 | 0.0342 | ng/m³ Air | 1.0840 | 0.337 | 94.7 | 80-120 | 1.70 | 20 | |
| Copper | 41.4 | 2.06 | ng/m³ Air | 21.680 | 19.8 | 99.5 | 80-120 | 2.58 | 20 | |
| Lead | 11.2 | 0.168 | ng/m³ Air | 10.840 | 0.558 | 98.3 | 80-120 | 1.07 | 20 | |
| Manganese | 15.2 | 1.48 | ng/m³ Air | 6.5041 | 9.51 | 87.0 | 80-120 | 2.32 | 20 | |
| Molybdenum | 2.25 | 0.281 | ng/m³ Air | 1.0840 | 1.25 | 92.2 | 80-120 | 1.22 | 20 | |
| Nickel | 3.19 | 0.511 | ng/m³ Air | 2.1680 | 1.16 | 93.6 | 80-120 | 10.7 | 20 | |
| Selenium | 2.21 | 0.00702 | ng/m³ Air | 2.1680 | 0.133 | 96.0 | 80-120 | 0.118 | 20 | |
| Thallium | 0.105 | 4.62E-4 | ng/m³ Air | 0.10840 | 0.00131 | 95.4 | 80-120 | 0.167 | 20 | |
| Vanadium | 3.14 | 0.0415 | ng/m³ Air | 2.1680 | 1.14 | 92.4 | 80-120 | 1.51 | 20 | |
| Zinc | 79.1 | 60.2 | ng/m³ Air | 65.041 | ND | 122 | 80-120 | 2.16 | 20 | |
| **Matrix Spike Dup (B4J1506-MSD2) Source: 4101441-31** Prepared: 10/15/24 Analyzed: 10/16/24 | | | | | | | | | | |
| Antimony | 0.666 | 0.0324 | ng/m³ Air | 1.1606 | 0.122 | 46.9 | 80-120 | 3.04 | 20 | SL |
| Arsenic | 2.76 | 0.00786 | ng/m³ Air | 2.3212 | 0.622 | 92.1 | 80-120 | 1.85 | 20 | |

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**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
**SUBMITTED:** 10/14/24
**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 B4J1506 - ICP-MS Extraction* | | | | | | | | | | |
| **Matrix Spike Dup (B4J1506-MSD2) Contir** | | | **Source: 4101441-31** | | Prepared: 10/15/24 | | Analyzed: 10/16/24 | | | |
| Barium | 29.5 | 0.898 | ng/m³ Air | 23.212 | 6.55 | 98.7 | 80-120 | 0.304 | 20 | |
| Beryllium | 1.18 | 0.00269 | ng/m³ Air | 1.1606 | 0.0401 | 98.4 | 80-120 | 0.0171 | 20 | |
| Cadmium | 1.16 | 0.0622 | ng/m³ Air | 1.1606 | ND | 100 | 80-120 | 2.38 | 20 | |
| Chromium | 16.3 | 1.85 | ng/m³ Air | 11.606 | 5.17 | 95.9 | 80-120 | 1.71 | 20 | |
| Cobalt | 2.40 | 0.0366 | ng/m³ Air | 1.1606 | 1.22 | 101 | 80-120 | 1.09 | 20 | |
| Copper | 84.9 | 2.21 | ng/m³ Air | 23.212 | 56.9 | 120 | 80-120 | 2.84 | 20 | QM-07 |
| Lead | 12.7 | 0.180 | ng/m³ Air | 11.606 | 1.06 | 101 | 80-120 | 2.13 | 20 | |
| Manganese | 45.3 | 1.59 | ng/m³ Air | 6.9636 | 37.6 | 112 | 80-120 | 2.93 | 20 | |
| Molybdenum | 2.85 | 0.301 | ng/m³ Air | 1.1606 | 1.66 | 103 | 80-120 | 3.35 | 20 | |
| Nickel | 5.10 | 0.547 | ng/m³ Air | 2.3212 | 2.94 | 92.8 | 80-120 | 1.30 | 20 | |
| Selenium | 2.45 | 0.00752 | ng/m³ Air | 2.3212 | 0.292 | 92.8 | 80-120 | 0.895 | 20 | |
| Thallium | 0.111 | 4.94E-4 | ng/m³ Air | 0.11606 | 0.00195 | 93.8 | 80-120 | 1.97 | 20 | |
| Vanadium | 5.60 | 0.0444 | ng/m³ Air | 2.3212 | 3.40 | 94.5 | 80-120 | 0.468 | 20 | |
| Zinc | 86.5 | 64.5 | ng/m³ Air | 69.636 | ND | 124 | 80-120 | 1.64 | 20 | |
| **Post Spike (B4J1506-PS1)** | | | **Source: 4101441-11** | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | 0.353 | 0.0303 | ng/m³ Air | 0.21680 | 0.145 | 95.9 | 75-125 | | | SL |
| Arsenic | 1.23 | 0.00734 | ng/m³ Air | 1.0840 | 0.246 | 91.1 | 75-125 | | | |
| Barium | 6.65 | 0.839 | ng/m³ Air | 2.1680 | 4.67 | 91.0 | 75-125 | | | |
| Beryllium | 0.219 | 0.00251 | ng/m³ Air | 0.21680 | 0.00947 | 96.5 | 75-125 | | | |
| Cadmium | 0.119 | 0.0581 | ng/m³ Air | 0.10840 | ND | 110 | 75-125 | | | |
| Chromium | 3.06 | 1.73 | ng/m³ Air | 1.0840 | 2.04 | 94.3 | 75-125 | | | |
| Cobalt | 0.547 | 0.0342 | ng/m³ Air | 0.21680 | 0.337 | 97.1 | 75-125 | | | |
| Copper | 31.0 | 2.06 | ng/m³ Air | 10.840 | 19.8 | 103 | 75-125 | | | |
| Lead | 21.8 | 0.168 | ng/m³ Air | 21.680 | 0.558 | 97.8 | 75-125 | | | |
| Manganese | 11.5 | 1.48 | ng/m³ Air | 2.1680 | 9.51 | 93.6 | 75-125 | | | |
| Molybdenum | 2.27 | 0.281 | ng/m³ Air | 1.0840 | 1.25 | 94.1 | 75-125 | | | |
| Nickel | 3.26 | 0.511 | ng/m³ Air | 2.1680 | 1.16 | 96.5 | 75-125 | | | |
| Selenium | 1.16 | 0.00702 | ng/m³ Air | 1.0840 | 0.133 | 94.6 | 75-125 | | | |
| Thallium | 0.0537 | 4.62E-4 | ng/m³ Air | 5.4201E-2 | 0.00131 | 96.6 | 75-125 | | | |
| Vanadium | 2.16 | 0.0415 | ng/m³ Air | 1.0840 | 1.14 | 94.0 | 75-125 | | | |
| Zinc | ND | 60.2 | ng/m³ Air | 21.680 | ND | | 75-125 | | | U |
| **Post Spike (B4J1506-PS2)** | | | **Source: 4101441-31** | | Prepared: 10/15/24 | | Analyzed: 10/16/24 | | | |
| Antimony | 0.354 | 0.0324 | ng/m³ Air | 0.23212 | 0.122 | 99.8 | 75-125 | | | SL |
| Arsenic | 1.70 | 0.00786 | ng/m³ Air | 1.1606 | 0.622 | 92.8 | 75-125 | | | |
| Barium | 8.78 | 0.898 | ng/m³ Air | 2.3212 | 6.55 | 96.4 | 75-125 | | | |
| Beryllium | 0.243 | 0.00269 | ng/m³ Air | 0.23212 | 0.0401 | 87.4 | 75-125 | | | |
| Cadmium | 0.145 | 0.0622 | ng/m³ Air | 0.11606 | ND | 125 | 75-125 | | | |
| Chromium | 6.35 | 1.85 | ng/m³ Air | 1.1606 | 5.17 | 102 | 75-125 | | | |

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**FILE #:** 4205.00.003.001
**REPORTED:** 10/22/24 13:34
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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 B4J1506 - ICP-MS Extraction* | | | | | | | | | | |
| **Post Spike (B4J1506-PS2) Continued** | | **Source: 4101441-31** | | | Prepared: 10/15/24 | | Analyzed: 10/16/24 | | | |
| Cobalt | 1.47 | 0.0366 | ng/m³ Air | 0.23212 | 1.22 | 107 | 75-125 | | | |
| Copper | 69.6 | 2.21 | ng/m³ Air | 11.606 | 56.9 | 110 | 75-125 | | | |
| Lead | 24.5 | 0.180 | ng/m³ Air | 23.212 | 1.06 | 101 | 75-125 | | | |
| Manganese | 39.9 | 1.59 | ng/m³ Air | 2.3212 | 37.6 | 101 | 75-125 | | | |
| Molybdenum | 2.72 | 0.301 | ng/m³ Air | 1.1606 | 1.66 | 91.7 | 75-125 | | | |
| Nickel | 5.26 | 0.547 | ng/m³ Air | 2.3212 | 2.94 | 99.7 | 75-125 | | | |
| Selenium | 1.38 | 0.00752 | ng/m³ Air | 1.1606 | 0.292 | 93.7 | 75-125 | | | |
| Thallium | 0.0579 | 4.94E-4 | ng/m³ Air | 5.8030E-2 | 0.00195 | 96.3 | 75-125 | | | |
| Vanadium | 4.54 | 0.0444 | ng/m³ Air | 1.1606 | 3.40 | 97.6 | 75-125 | | | |
| Zinc | ND | 64.5 | ng/m³ Air | 23.212 | ND | | 75-125 | | | U |
| **Dilution Check (B4J1506-SRL1)** | | **Source: 4101441-11** | | | Prepared & Analyzed: 10/15/24 | | | | | |
| Antimony | ND | 0.151 | ng/m³ Air | | ND | | | | 10 | SL, U |
| Arsenic | 0.243 | 0.0367 | ng/m³ Air | | 0.246 | | | 1.20 | 10 | |
| Barium | 4.71 | 4.19 | ng/m³ Air | | 4.67 | | | 0.749 | 10 | |
| Beryllium | ND | 0.0125 | ng/m³ Air | | ND | | | | 10 | U |
| Cadmium | ND | 0.290 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | ND | 8.66 | ng/m³ Air | | ND | | | | 10 | U |
| Cobalt | 0.343 | 0.171 | ng/m³ Air | | 0.337 | | | 1.96 | 10 | |
| Copper | 20.1 | 10.3 | ng/m³ Air | | 19.8 | | | 1.59 | 10 | |
| Lead | ND | 0.839 | ng/m³ Air | | ND | | | | 10 | U |
| Manganese | 9.67 | 7.41 | ng/m³ Air | | 9.51 | | | 1.64 | 10 | |
| Molybdenum | ND | 1.41 | ng/m³ Air | | ND | | | | 10 | U |
| Nickel | ND | 2.56 | ng/m³ Air | | ND | | | | 10 | U |
| Selenium | 0.154 | 0.0351 | ng/m³ Air | | 0.133 | | | 14.9 | 10 | |
| Thallium | ND | 0.00231 | ng/m³ Air | | ND | | | | 10 | U |
| Vanadium | 1.10 | 0.207 | ng/m³ Air | | 1.14 | | | 3.41 | 10 | |
| Zinc | ND | 301 | ng/m³ Air | | ND | | | | 10 | U |
| **Dilution Check (B4J1506-SRL2)** | | **Source: 4101441-31** | | | Prepared: 10/15/24 | | Analyzed: 10/16/24 | | | |
| Antimony | ND | 0.162 | ng/m³ Air | | ND | | | | 10 | SL, U |
| Arsenic | 0.629 | 0.0393 | ng/m³ Air | | 0.622 | | | 1.11 | 10 | |
| Barium | 6.54 | 4.49 | ng/m³ Air | | 6.55 | | | 0.132 | 10 | |
| Beryllium | 0.0423 | 0.0134 | ng/m³ Air | | 0.0401 | | | 5.33 | 10 | |
| Cadmium | ND | 0.311 | ng/m³ Air | | ND | | | | 10 | U |
| Chromium | ND | 9.27 | ng/m³ Air | | ND | | | | 10 | U |
| Cobalt | 1.26 | 0.183 | ng/m³ Air | | 1.22 | | | 3.35 | 10 | |
| Copper | 58.8 | 11.0 | ng/m³ Air | | 56.9 | | | 3.31 | 10 | |
| Lead | 1.03 | 0.898 | ng/m³ Air | | 1.06 | | | 2.86 | 10 | |
| Manganese | 38.5 | 7.93 | ng/m³ Air | | 37.6 | | | 2.39 | 10 | |

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**SITE CODE:** Lahaina fires

| Analyte | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics by Compendium Method IO-3.5 - Quality Control** | | | | | | | | | | |
| *Batch B4J1506 - ICP-MS Extraction* | | | | | | | | | | |
| **Dilution Check (B4J1506-SRL2) Continued** | | | | **Source: 4101441-31** | | Prepared: 10/15/24 Analyzed: 10/16/24 | | | | |
| Molybdenum | 1.70 | 1.51 | ng/m³ Air | | 1.66 | | | 2.51 | 10 | |
| Nickel | 3.03 | 2.74 | ng/m³ Air | | 2.94 | | | 3.04 | 10 | |
| Selenium | 0.293 | 0.0376 | ng/m³ Air | | 0.292 | | | 0.531 | 10 | |
| Thallium | 0.00503 | 0.00247 | ng/m³ Air | | ND | | | 88.3 | 10 | |
| Vanadium | 3.40 | 0.222 | ng/m³ Air | | 3.40 | | | 0.0775 | 10 | |
| Zinc | ND | 322 | ng/m³ Air | | ND | | | | 10 | U |

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**Notes and Definitions**

| | |
|---|---|
| U | Under Detection Limit |
| SL | The spike recovery was outside acceptance limits. Reported value may be biased low. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. |
| D | This result obtained by dilution. |
| ND | Analyte NOT DETECTED |
| NR | Not Reported |
| MDL | Method Detection Limit |
| RPD | Relative Percent Difference |

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

**Stage 1 Data Verification Checklist – Metals**

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

**Task Order No. 23141**

Reviewed by:
Kierra Johnson 10/22/2024 and Shanna Vasser 10/23/2024
Laboratory: Eastern Research Group – Morrisville, NC
Collection date(s): 10/03/2024 – 10/09/2024
Report No: 4101441

| | | |
|---|---|---|
| √ | 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:

1. A revised lab report and EDD were issued on 10/23/2024 to correct a typographical error in the sample ID for MFL-AM0**3**-100924-HM, which originally listed the sample ID as a duplicate MFL-AM0**2**-100924-HM.

Notes:

7. MFL-AM05-100924-HM and MFL-AM02-100924-HM were analyzed at a two-fold dilution for vanadium.