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

Kula, Maui

12/14/2023-12/20/2023

Due to ongoing debris removal operations in response to the Maui Wildfires, a community air monitoring and sampling plan (CAMSP, 2023) has been developed and sampling is being performed at three community locations across Kula.

This approach includes ambient community air monitoring and sampling to monitor conditions and ensure debris removal activities, taking place under the U.S. Army Corps of Engineers (USACE), does not significantly impact air quality in the area of Kula. Data collected is made available to HDOH via online shared site and this weekly report. This approach to air monitoring and sampling will continue until debris removal activities are complete or until HDOH CAB advises otherwise.

Air quality monitoring for particulate matter was collected at all three community locations over a 24-hour period each day in accordance with the CAMSP. Additionally, daily air samples were collected at all community locations for asbestos and heavy metals. Summary analytical data is presented in **Tables 1 and 2**. **Figure 1** depicts the community air monitoring and sampling locations. **Appendix 1** provides detailed analytical results for all community locations where air sampling was performed. Analytical results were compared to site-specific screening levels for particulate matter, asbestos, and heavy metals as published in the CAMSP (Tetra Tech 2023; see Table 2).

Results for Community Locations:
Ambient particulate air monitoring was performed to assess for the presence and concentrations of airborne particulates with a particle size aerodynamic diameter of 2.5 micrometers (µm) and less ($PM_{2.5}$), as well as 10 micrometers (µm) and less (PM_{10}). This particle size diameter is recognized for health evaluations and is identified as "$PM_{2.5}$" and "PM_{10}". The particle size diameters of 2.5 micrometers (µm) and 10 micrometers (µm) are small enough to be inhaled into a person's lungs. Monitoring for $PM_{2.5}$ and PM_{10} was conducted 7 days a week at each of the following locations: Top Property (AM-01) (December 14 – 20), Middle Property (AM-02) (December 14 – 20), Lower Property (AM-03) (December 14 – 20).

The results of PM_{10} monitoring found that screening levels were exceeded at the Top Property air monitoring station on December 14. The property owner was observed clearing brush, tree cutting, and wood chipping on the property. The property owner was also observed spreading woodchips. High winds were also documented throughout the day, picking up heavy amounts of dust and disturbed ground cover.

The results of $PM_{2.5}$ monitoring found that screening levels were exceeded at the Top Property air monitoring station on December 14, 15, 16, 18, and 20. The property owner was also observed spreading woodchips and clearing brush on December 14. On Dec 15, USACE crew work was being conducted approximately ¼ mile west of the property. No heavy equipment was moving, or visible dust being produced from their activities. This exceedance is likely due to factors unrelated to debris operations. Hazy conditions were present that day at the site and may have contributed to the exceedance. On December 16, USACE crews were conducting erosion control activities approximately 300 meters (about 984.25 ft) west of the sampling site. These activities along with observed and documented high winds at the site likely contributed to this exceedance. The exceedances on December 18 and 20 appear to be related to property owner activities. The property owners were observed with a large truck dumping woodchips off at the property along with multiple cars driving on the property. Visible dust was being kicked up by property owners and private contractor vehicles.

The results of $PM_{2.5}$ monitoring found that screening levels were exceeded at the Middle Property air monitoring station on December 15, 16, and 17. The property owner was also observed spreading woodchips around the property on December 15 and 17. The exceedance on December 16 is likely due to factors unrelated to debris operations. The exceedances took place in the early morning and late evening outside operational hours of the debris crew. It was also noted by the field teams that the smell of smoke was in the air near the station.

There were twenty-one samples collected for asbestos fibers at community monitoring locations throughout this time frame. Of the twenty-one samples collected, one was voided due to equipment failure. The voided sample was from the Middle Property (AM-02) on December 14. No asbestos sample returned a value above the laboratory's detection limit, indicating fibers were not present in the air sampled. All asbestos results were below the public health screening level of 0.0034 fibers/cc (as well as the laboratory's detection limits).

Some extremely low levels of heavy metals were detected in ambient air samples at community locations. Although detected, all concentrations were below the public health screening levels for heavy metals. Details for particulates, heavy metal and asbestos sampling data for community locations are found in Attachment 1.

Attachments:

Analytical Sampling Results and Particulate Monitoring Results

Air Monitoring and Sampling Locations

Appendix:

Analytical Reports

Attachments

Table 1: HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results
Maui Wildfire, Kula
12/14/2023-12/20/2023

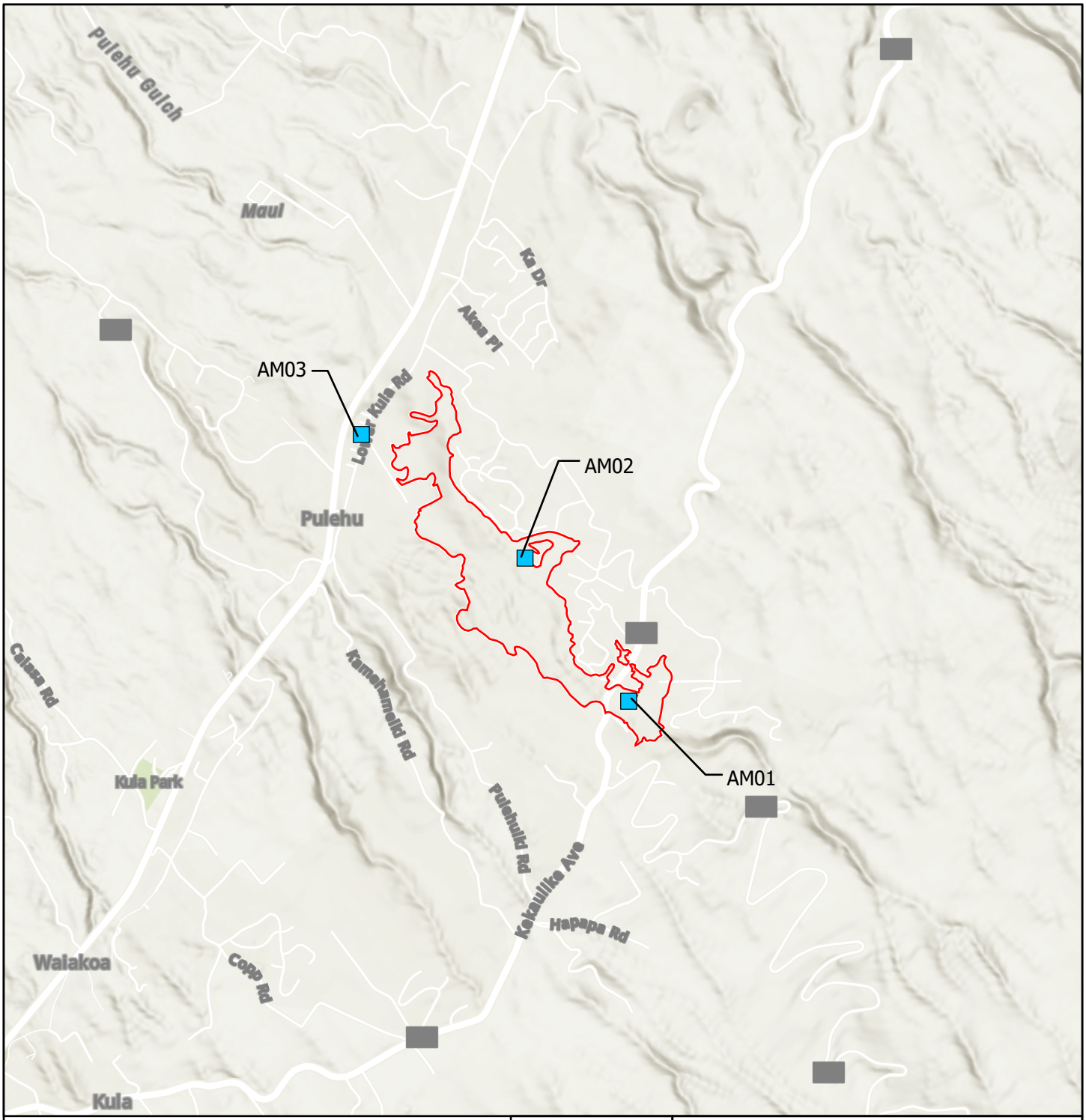
Analyte		Asbestos		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		f/cc	Y/N	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening Level	Location / ID	0.0034 [1]	Confirmed Asbestos [2]	1.4	0.18	2.4	0.1	0.048	24	0.029	480	1.5	0.24	9.6	0.048	96	48	0.48	2400
12/14/2023	Top Property (AM-01)	<0.00040	N	ND	0.000158	0.00417	0.0000164	ND	0.00181	0.000216	0.0141	0.000769	0.014	0.00063	ND	0.000109	0.00000188	0.00126	ND
	Middle Property (AM-02)	NA	NA	ND	0.0000912	0.00348	0.0000111	ND	0.00162	0.00014	0.0109	0.000435	0.00795	0.00056	0.000623	0.0000965	0.00000191	0.000756	ND
	Lower Property (AM-03)	<0.00072	N	0.0000462	0.000142	0.00548	0.0000171	ND	0.00214	0.000203	0.0176	0.000488	0.0142	0.000565	0.000761	0.00013	0.00000265	0.000942	ND
12/15/2023	Top Property (AM-01)	<0.00040	N	ND	0.0000956	0.00282	0.00000639	ND	0.0018	0.000121	0.0165	0.00046	0.00548	0.00088	ND	0.000117	0.00000157	0.000492	ND
	Middle Property (AM-02)	<0.00039	N	ND	0.0001	0.00308	0.00000691	ND	0.00185	0.000117	0.01	0.000296	0.00537	0.000698	ND	0.000127	0.00000162	0.000522	ND
	Lower Property (AM-03)	<0.00050	N	0.0000633	0.000105	0.00478	0.0000119	ND	0.00214	0.000177	0.0272	0.000435	0.00978	0.000798	0.00094	0.000127	0.0000019	0.000683	ND
12/16/2003	Top Property (AM-01)	<0.00036	N	0.0000604	0.000098	0.00403	0.00000826	ND	0.00165	0.000158	0.0166	0.000305	0.00803	0.00105	0.000713	0.000105	0.00000121	0.000712	ND
	Middle Property (AM-02)	<0.00095	N	0.0000588	0.0000969	0.00393	0.00000857	ND	0.00167	0.000169	0.0137	0.00029	0.00742	0.000855	ND	0.0000989	0.00000132	0.000665	ND
	Lower Property (AM-03)	<0.00071	N	0.0000535	0.0000708	0.00434	0.00000989	ND	0.00197	0.000142	0.0366	0.000403	0.00825	0.000935	ND	0.0000987	0.00000154	0.000604	ND
12/17/2023	Top Property (AM-01)	<0.00040	N	0.0000496	0.0000803	0.00397	0.00000861	ND	0.00164	0.00014	0.0199	0.000442	0.00742	0.000976	ND	0.000107	0.00000419	0.000714	ND
	Middle Property (AM-02)	<0.00132	N	0.0000631	0.00009	0.00377	0.00000921	ND	0.00167	0.000141	0.0168	0.000289	0.00714	0.000893	ND	0.000103	0.00000462	0.000655	ND
	Lower Property (AM-03)	<0.00036	N	ND	0.0000661	0.00362	0.00000964	ND	ND	0.000142	0.0218	0.00035	0.00796	0.000802	ND	0.0000804	0.00000377	0.000545	ND
12/18/2023	Top Property (AM-01)	<0.00040	N	0.0000709	0.000156	0.00376	0.00000765	ND	ND	0.000118	0.0191	0.000313	0.00615	0.00106	ND	0.0000676	0.00000116	0.000543	ND
	Middle Property (AM-02)	<0.00077	N	0.0000642	0.000216	0.00378	0.00000747	ND	0.00181	0.000116	0.0162	ND	0.00588	0.000991	ND	0.0000741	0.00000111	0.000558	ND
	Lower Property (AM-03)	<0.00087	N	0.000065	0.000171	0.00362	0.00000772	ND	0.00235	0.000149	0.0244	ND	0.00546	0.00129	ND	0.0000622	0.000000896	0.000441	ND
12/19/2023	Top Property (AM-01)	<0.00037	N	0.0000598	0.000208	0.00522	0.0000156	ND	0.00195	0.000249	0.02	0.000312	0.0135	0.00111	ND	0.000137	0.00000111	0.00126	ND
	Middle Property (AM-02)	<0.00045	N	0.0000613	0.000167	0.00528	0.0000156	ND	0.00182	0.000216	0.0242	0.00036	0.0115	0.00123	ND	0.000134	0.000000953	0.00111	ND
	Lower Property (AM-03)	<0.00053	N	0.0000801	0.000151	0.00568	0.0000145	ND	0.00197	0.000201	0.0359	0.000623	0.0112	0.00126	0.000771	0.000139	0.00000091	0.000937	ND
12/20/2023	Top Property (AM-01)	<0.00037	N	0.000104	0.000303	0.00605	0.0000189	ND	ND	0.0003	0.025	0.000423	0.0167	0.000771	ND	0.000173	0.00000128	0.00153	ND
	Middle Property (AM-02)	<0.00074	N	0.0000535	0.000139	0.0054	0.0000184	ND	0.00177	0.000275	0.0155	0.000347	0.0146	0.000974	0.00067	0.000183	0.00000104	0.0014	ND
	Lower Property (AM-03)	<0.00067	N	0.00013	0.000111	0.0065	0.0000178	ND	ND	0.000249	0.0179	0.000212	0.0141	0.000702	ND	0.000171	0.00000104	0.00134	ND
95% Upper Confidence Limit [3]		0.00069		0.00008	0.00016	0.00484	0.000014	NA	0.00195	0.0002	0.023	0.00045	0.011	0.001	0.00085	0.00013	0.0000022	0.00099	NA

Notes:
Asbestos sampling was voided at the Middle Property (AM-02) on 12/14 due to equipment failure.
NA = Not Available
f/cc = fibers per cubic centimeter
µg/m3= micrograms per cubic meter
ND = Not detected at or above the laboratory reporting limit or method detection limit
1 Fiber count sample result via Phase Contrast Microscopy
2 Confirmed asbestos sample result via Transmission Electron Microscopy
3 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

Table 2: HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results
Maui Wildfire, Kula
12/14/2023-12/20/2023

Particulate Size		PM 2.5	PM 10
Screening Level	Location / ID	35 µg/m^3	150 µg/m^3
12/14/2023	Top Property (AM-01)	76	190
	Middle Property (AM-02)	35*	8.0
	Lower Property (AM-03)	4.8	8.7
12/15/2023	Top Property (AM-01)	42	32
	Middle Property (AM-02)	66	7.7
	Lower Property (AM-03)	5.3	9.8
12/16/2003	Top Property (AM-01)	44	39
	Middle Property (AM-02)	42	11
	Lower Property (AM-03)	6.3	7.9
12/17/2023	Top Property (AM-01)	23	34
	Middle Property (AM-02)	66	7.6
	Lower Property (AM-03)	5.6	6.8
12/18/2023	Top Property (AM-01)	41	36
	Middle Property (AM-02)	21	5.1
	Lower Property (AM-03)	6.1	6.2
12/19/2023	Top Property (AM-01)	29	20
	Middle Property (AM-02)	22	4.7
	Lower Property (AM-03)	4.6	6.2
12/20/2023	Top Property (AM-01)	36	26
	Middle Property (AM-02)	15	4.0
	Lower Property (AM-03)	5.1	6.1

Notes:
The exceedances at the Top Property on 12/14, 12/18and 12/20 are a result of private operations on the property.
The exceedances at the Top Property on 12/16 are a result of USACE operations and high winds near the property.
The exceedances at the Middle Property on 12/15 and 12/17 are a result of private operations on the property.
The exceedances on 12/16 at the Middle Property were not related to USACE crew activities, no observations from field members could confirm cause.
The exceedances on 12/15 at the Top Property were not related to USACE crew activities, Hazy conditions were present and likely contributed to the exceedance.
* = The middle Property PM2.5 24hr TWA on 12/14 is rounded up from 34.5 and not considered a true exceedance.
Results are based on 24 hour TWA calculation
24 hour TWA calculation is presented in two significant figures
µg/m3 = micrograms per cubic meter
ND = Not detected at or above the laboratory reporting limit
NA = Not Available



Air Monitoring Locations

Kula Fire Perimeter

N

0 0.25 0.5
Miles

TETRA TECH

Figure 1
Ambient Community
Air Monitoring Locations

Hawaii DOH
2023 Kula Wildfire

Basemap: ESRI ArcGIS World Street Map

Appendix 1

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-121423-AB**

Air Volume:	7225.747
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	TS
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.40365
Analytical Sensitivity: f/cm3:	0.00040
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00040
Concentration of Asbestos (Amphibole) f/cm3:	<0.00040
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00040
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-121423-AB**

Air Volume:	4049.983
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	TS
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.72017
Analytical Sensitivity: f/cm3:	0.00072
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00072
Concentration of Asbestos (Amphibole) f/cm3:	<0.00072
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00072
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.7

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-121423-AB**

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

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-121523-AB**

Air Volume:	7316.594
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	TS
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.39864
Analytical Sensitivity: f/cm3:	0.00040
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00040
Concentration of Asbestos (Amphibole) f/cm3:	<0.00040
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00040
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-121523-AB**

Air Volume:	7445.514
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	ts
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.39173
Analytical Sensitivity: f/cm3:	0.00039
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00039
Concentration of Asbestos (Amphibole) f/cm3:	<0.00039
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00039
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.4

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-121523-AB**

Air Volume:	5853.24
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	ts
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.49830
Analytical Sensitivity: f/cm3:	0.00050
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00050
Concentration of Asbestos (Amphibole) f/cm3:	<0.00050
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00050
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.8
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.8

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-121523-AB**

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

Analyst: Taylor Smylie**:**

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

eurofins | J3 Resources

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-121623-AB**

Air Volume:	8105.184
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	TS
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.35985
Analytical Sensitivity: f/cm3:	0.00036
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00036
Concentration of Asbestos (Amphibole) f/cm3:	<0.00036
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00036
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.3
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.3

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-121623-AB**

Air Volume:	2783.804
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	ts
Number of GO's Examined:	11
Analytical Sensitivity: f/Liter:	0.95248
Analytical Sensitivity: f/cm3:	0.00095
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00095
Concentration of Asbestos (Amphibole) f/cm3:	<0.00095
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00095
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3.5

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-121623-AB**

Air Volume:	4136.605
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	ts
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.70509
Analytical Sensitivity: f/cm3:	0.00071
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00071
Concentration of Asbestos (Amphibole) f/cm3:	<0.00071
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00071
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.6

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-121623-AB**

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

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-121723-AB**

Air Volume:	7339.695
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	TS
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.39738
Analytical Sensitivity: f/cm3:	0.00040
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00040
Concentration of Asbestos (Amphibole) f/cm3:	<0.00040
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00040
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-121723-AB**

Air Volume:	2207.932
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	TS
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.32099
Analytical Sensitivity: f/cm3:	0.00132
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00132
Concentration of Asbestos (Amphibole) f/cm3:	<0.00132
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00132
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	4.9
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	4.9

Analyst: Tyalor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-121723-AB**

Air Volume:	8032.999
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	ts
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.36309
Analytical Sensitivity: f/cm3:	0.00036
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00036
Concentration of Asbestos (Amphibole) f/cm3:	<0.00036
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00036
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.3
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.3

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech
1999 Harrison St, Ste. 500
Oakland, CA 94612

EJ3 Order #: 3488212
Project #: 103S864023141
Receipt Date: 20-Dec-2023
Analysis Date: 27-Dec-2023
Report Date: 27-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-121723-AB**

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

Analyst: Taylor Smylie

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 12/28/2023 & Shanna Vasser 12/28/2023
Laboratory: Eurofins Built Environment Testing – Houston, TX
Analysis date: 12/27/2023
Report No: 3488212

√	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.

Discrepancies:

MFK-AM02-121423-AB was listed on the CoC but crossed off and noted that it was void and not shipped to the laboratory. No results were present in the laboratory report for this sample because it was not shipped. No action was required.

Notes: None

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-121823-AB**

Air Volume:	7331.264
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.39784
Analytical Sensitivity: f/cm3:	0.00040
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00040
Concentration of Asbestos (Amphibole) f/cm3:	<0.00040
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00040
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-121823-AB**

Air Volume:	3776.906
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.77224
Analytical Sensitivity: f/cm3:	0.00077
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00077
Concentration of Asbestos (Amphibole) f/cm3:	<0.00077
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00077
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.8
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.8

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-121823-AB**

Air Volume:	3356.77
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.86889
Analytical Sensitivity: f/cm3:	0.00087
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00087
Concentration of Asbestos (Amphibole) f/cm3:	<0.00087
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00087
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3.2
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3.2

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-121823-AB**

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

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-121923-AB**

Air Volume:	7927.423
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.36792
Analytical Sensitivity: f/cm3:	0.00037
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Amphibole) f/cm3:	<0.00037
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.4

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-121923-AB**

Air Volume:	6446.633
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.45243
Analytical Sensitivity: f/cm3:	0.00045
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00045
Concentration of Asbestos (Amphibole) f/cm3:	<0.00045
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00045
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.7

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-121923-AB**

Air Volume:	5509.867
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.52935
Analytical Sensitivity: f/cm3:	0.00053
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00053
Concentration of Asbestos (Amphibole) f/cm3:	<0.00053
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00053
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-121923-AB**

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

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-122023-AB**

Air Volume:	7875.824
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.37033
Analytical Sensitivity: f/cm3:	0.00037
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Amphibole) f/cm3:	<0.00037
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.4

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-122023-AB**

Air Volume:	3924.248
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.74324
Analytical Sensitivity: f/cm3:	0.00074
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00074
Concentration of Asbestos (Amphibole) f/cm3:	<0.00074
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00074
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.7

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-122023-AB**

Air Volume:	4328.274
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.67386
Analytical Sensitivity: f/cm3:	0.00067
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00067
Concentration of Asbestos (Amphibole) f/cm3:	<0.00067
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00067
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.5

Analyst: Arnold Flores

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

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

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
j3resources.com

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

Maura McAleese
Tetra Tech - Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3492635
Project #: 103S864023141
Receipt Date: 27-Dec-2023
Analysis Date: 2-Jan-2024
Report Date: 2-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-122023-AB**

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

Analyst: Arnold Flores

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 01/03/2024 & Shanna Vasser 1/3/2024
Laboratory: Eurofins Built Environment Testing – Houston, TX
Analysis date: 01/02/2024
Report No: 3492635

√	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.

Discrepancies: None

Notes: None

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

January 03, 2024

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Maui 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 12/26/23 12:07.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9533907	3122607-01	Air	12/18/23 23:59	12/26/23 12:07
TetraTech Q9533906	3122607-02	Air	12/18/23 23:59	12/26/23 12:07
TetraTech Q9533904	3122607-03	Air	12/18/23 23:59	12/26/23 12:07
TetraTech Q9533903 FB	3122607-04	Air	12/18/23 00:00	12/26/23 12:07
TetraTech Q9533902	3122607-05	Air	12/19/23 23:59	12/26/23 12:07
TetraTech Q9533901	3122607-06	Air	12/19/23 23:59	12/26/23 12:07
TetraTech Q9533899	3122607-07	Air	12/19/23 23:59	12/26/23 12:07
TetraTech Q9533897 FB	3122607-08	Air	12/19/23 00:00	12/26/23 12:07
TetraTech Q9524476	3122607-09	Air	12/20/23 23:59	12/26/23 12:07
TetraTech Q9551127	3122607-10	Air	12/20/23 23:59	12/26/23 12:07
TetraTech Q9524475	3122607-11	Air	12/20/23 23:59	12/26/23 12:07
TetraTech Q9524488 FB	3122607-12	Air	12/20/23 00:00	12/26/23 12:07

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533907
Matrix: Air
Comments: MFK-AM01-121823-HM

Lab ID: 3122607-01
Sample Volume: 2014.265 m³
Filter ID:

Sampled: 12/18/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/27/23 22:09

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**221**		**25.9**
Antimony	**7440-36-0**	**0.0709**	SL	**0.0356**
Arsenic	**7440-38-2**	**0.156**		**0.00771**
Barium	**7440-39-3**	**3.76**		**0.766**
Beryllium	**7440-41-7**	**0.00765**		**0.00268**
Cadmium	7440-43-9	0.00600	U	0.0880
Calcium	**7440-70-2**	**415**	LJ, QB-01	**236**
Chromium	7440-47-3	1.62	U	1.64
Cobalt	**7440-48-4**	**0.118**	QB-01	**0.0126**
Copper	**7440-50-8**	**19.1**		**2.42**
Iron	**7439-89-6**	**236**		**19.5**
Lead	**7439-92-1**	**0.313**		**0.223**
Magnesium	**7439-95-4**	**110**		**77.9**
Manganese	**7439-96-5**	**6.15**		**0.961**
Molybdenum	**7439-98-7**	**1.06**	QB-01	**0.172**
Nickel	7440-02-0	0.486	U	0.647
Phosphorus	7723-14-0	297	GC-BS, U	1010
Potassium	**7440-09-7**	**71.9**		**30.7**
Rubidium	**7440-17-7**	**0.108**		**0.0148**
Selenium	**7782-49-2**	**0.0676**		**0.00889**
Sodium	7440-23-5	1080	U	1620
Strontium	**7440-24-6**	**2.07**	QB-01	**0.527**
Thallium	**7440-28-0**	**0.00116**		**4.06E-4**
Thorium	**7440-29-01**	**0.00571**		**0.00242**
Uranium	7440-61-1	0.00591	U	0.0137
Vanadium	**7440-62-2**	**0.543**		**0.0397**
Zinc	7440-66-6	30.5	U	78.9

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533906
Matrix: Air
Comments: MFK-AM02-121823-HM

Lab ID: 3122607-02
Sample Volume: 2035.188 m³
Filter ID:

Sampled: 12/18/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/27/23 22:27

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**219**		**25.7**
Antimony	**7440-36-0**	**0.0642**	SL	**0.0353**
Arsenic	**7440-38-2**	**0.216**		**0.00763**
Barium	**7440-39-3**	**3.78**		**0.758**
Beryllium	**7440-41-7**	**0.00747**		**0.00265**
Cadmium	7440-43-9	0.00904	U	0.0871
Calcium	**7440-70-2**	**426**	LJ, QB-01	**233**
Chromium	**7440-47-3**	**1.81**		**1.62**
Cobalt	**7440-48-4**	**0.116**	QB-01	**0.0125**
Copper	**7440-50-8**	**16.2**		**2.40**
Iron	**7439-89-6**	**239**		**19.3**
Lead	7439-92-1	0.201	U	0.221
Magnesium	**7439-95-4**	**109**		**77.1**
Manganese	**7439-96-5**	**5.88**		**0.951**
Molybdenum	**7439-98-7**	**0.991**	QB-01	**0.170**
Nickel	7440-02-0	0.597	U	0.640
Phosphorus	7723-14-0	291	GC-BS, U	999
Potassium	**7440-09-7**	**104**		**30.4**
Rubidium	**7440-17-7**	**0.190**		**0.0146**
Selenium	**7782-49-2**	**0.0741**		**0.00879**
Sodium	7440-23-5	1090	U	1600
Strontium	**7440-24-6**	**2.08**	QB-01	**0.521**
Thallium	**7440-28-0**	**0.00111**		**4.02E-4**
Thorium	**7440-29-01**	**0.00702**		**0.00240**
Uranium	7440-61-1	0.00590	U	0.0136
Vanadium	**7440-62-2**	**0.558**		**0.0393**
Zinc	7440-66-6	23.4	U	78.1

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533904
Matrix: Air
Comments: MFK-AM03-121823-HM

Lab ID: 3122607-03
Sample Volume: 1629.966 m³
Filter ID:

Sampled: 12/18/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/27/23 22:45

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**160**		**32.0**
Antimony	**7440-36-0**	**0.0650**	SL	**0.0440**
Arsenic	**7440-38-2**	**0.171**		**0.00953**
Barium	**7440-39-3**	**3.62**		**0.946**
Beryllium	**7440-41-7**	**0.00772**		**0.00331**
Cadmium	7440-43-9	0.00650	U	0.109
Calcium	**7440-70-2**	**488**	LJ, QB-01	**291**
Chromium	**7440-47-3**	**2.35**		**2.03**
Cobalt	**7440-48-4**	**0.149**	QB-01	**0.0156**
Copper	**7440-50-8**	**24.4**		**2.99**
Iron	**7439-89-6**	**200**		**24.2**
Lead	7439-92-1	0.250	U	0.275
Magnesium	**7439-95-4**	**118**		**96.2**
Manganese	**7439-96-5**	**5.46**		**1.19**
Molybdenum	**7439-98-7**	**1.29**	QB-01	**0.213**
Nickel	7440-02-0	0.702	U	0.800
Phosphorus	7723-14-0	355	GC-BS, U	1250
Potassium	**7440-09-7**	**69.2**		**37.9**
Rubidium	**7440-17-7**	**0.110**		**0.0183**
Selenium	**7782-49-2**	**0.0622**		**0.0110**
Sodium	7440-23-5	1260	U	2000
Strontium	**7440-24-6**	**2.00**	QB-01	**0.651**
Thallium	**7440-28-0**	**8.96E-4**		**5.02E-4**
Thorium	**7440-29-01**	**0.00650**		**0.00299**
Uranium	7440-61-1	0.00532	U	0.0170
Vanadium	**7440-62-2**	**0.441**		**0.0491**
Zinc	7440-66-6	33.2	U	97.5

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533903 FB
Matrix: Air
Lab ID: 3122607-04
Sample Volume: 2014.265 m³
Filter ID:
Sampled: 12/18/23 00:00
Received: 12/26/23 12:07
Analysis Date: 12/27/23 23:01

Comments: MFK-FB01-121823-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	10.4	U	25.9
Antimony	7440-36-0	0.00680	SL, U	0.0356
Arsenic	7440-38-2	0.00249	U	0.00771
Barium	7440-39-3	0.589	U	0.766
Beryllium	7440-41-7	0.00104	U	0.00268
Cadmium	7440-43-9	0.00271	U	0.0880
Calcium	**7440-70-2**	**364**	FB-01, LJ, QB-01	**236**
Chromium	7440-47-3	1.50	U	1.64
Cobalt	**7440-48-4**	**0.0228**	FB-01, QB-01	**0.0126**
Copper	7440-50-8	0.487	U	2.42
Iron	7439-89-6	11.7	U	19.5
Lead	7439-92-1	0.0511	U	0.223
Magnesium	7439-95-4	38.7	U	77.9
Manganese	7439-96-5	0.162	U	0.961
Molybdenum	**7439-98-7**	**0.240**	FB-01, QB-01	**0.172**
Nickel	7440-02-0	0.279	U	0.647
Phosphorus	7723-14-0	283	GC-BS, U	1010
Potassium	**7440-09-7**	**36.5**	FB-01	**30.7**
Rubidium	7440-17-7	0.0143	U	0.0148
Selenium	7782-49-2	0.00562	U	0.00889
Sodium	7440-23-5	665	U	1620
Strontium	**7440-24-6**	**0.554**	FB-01, QB-01	**0.527**
Thallium	7440-28-0	1.78E-4	U	4.06E-4
Thorium	7440-29-01	0.00197	U	0.00242
Uranium	7440-61-1	0.00171	U	0.0137
Vanadium	7440-62-2	0.0121	U	0.0397
Zinc	7440-66-6	22.0	U	78.9

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533902
Matrix: Air
Lab ID: 3122607-05
Sample Volume: 1946.945 m³
Filter ID:
Sampled: 12/19/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/27/23 19:12
Comments: MFK-AM01-121923-HM

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**477**	QM-4X	**26.8**
Antimony	**7440-36-0**	**0.0598**	SL	**0.0369**
Arsenic	**7440-38-2**	**0.208**		**0.00798**
Barium	**7440-39-3**	**5.22**		**0.792**
Beryllium	**7440-41-7**	**0.0156**		**0.00277**
Cadmium	7440-43-9	0.00878	U	0.0911
Calcium	**7440-70-2**	**551**	A-01, LJ, QB-01, QM-4X	**244**
Chromium	**7440-47-3**	**1.95**		**1.70**
Cobalt	**7440-48-4**	**0.249**	QB-01	**0.0130**
Copper	**7440-50-8**	**20.0**	QM-07	**2.51**
Iron	**7439-89-6**	**516**	QM-4X	**20.2**
Lead	**7439-92-1**	**0.312**		**0.231**
Magnesium	**7439-95-4**	**267**	QM-4X	**80.6**
Manganese	**7439-96-5**	**13.5**		**0.994**
Molybdenum	**7439-98-7**	**1.11**	QB-01	**0.178**
Nickel	7440-02-0	0.597	U	0.669
Phosphorus	7723-14-0	317	A-01, GC-BS, QM-4X, U	1040
Potassium	**7440-09-7**	**118**	QM-07	**31.8**
Rubidium	**7440-17-7**	**0.168**		**0.0153**
Selenium	**7782-49-2**	**0.137**		**0.00919**
Sodium	**7440-23-5**	**2190**	A-01, E, QM-4X	**1670**
Strontium	**7440-24-6**	**3.96**	QB-01	**0.545**
Thallium	**7440-28-0**	**0.00111**		**4.20E-4**
Thorium	**7440-29-01**	**0.0117**	QM-07	**0.00251**
Uranium	7440-61-1	0.0108	U	0.0142
Vanadium	**7440-62-2**	**1.26**		**0.0411**
Zinc	7440-66-6	32.8	U	81.6

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533901
Matrix: Air
Comments: MFK-AM02-121923-HM

Lab ID: 3122607-06
Sample Volume: 2090.356 m³
Filter ID:

Sampled: 12/19/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/27/23 23:15

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**418**		**25.0**
Antimony	**7440-36-0**	**0.0613**	SL	**0.0343**
Arsenic	**7440-38-2**	**0.167**		**0.00743**
Barium	**7440-39-3**	**5.28**		**0.738**
Beryllium	**7440-41-7**	**0.0156**		**0.00258**
Cadmium	7440-43-9	0.0103	U	0.0848
Calcium	**7440-70-2**	**502**	LJ, QB-01	**227**
Chromium	**7440-47-3**	**1.82**		**1.58**
Cobalt	**7440-48-4**	**0.216**	QB-01	**0.0121**
Copper	**7440-50-8**	**24.2**		**2.34**
Iron	**7439-89-6**	**440**		**18.8**
Lead	**7439-92-1**	**0.360**		**0.215**
Magnesium	**7439-95-4**	**262**		**75.0**
Manganese	**7439-96-5**	**11.5**		**0.926**
Molybdenum	**7439-98-7**	**1.23**	QB-01	**0.166**
Nickel	7440-02-0	0.594	U	0.623
Phosphorus	7723-14-0	311	GC-BS, U	973
Potassium	**7440-09-7**	**133**		**29.6**
Rubidium	**7440-17-7**	**0.199**		**0.0142**
Selenium	**7782-49-2**	**0.134**		**0.00856**
Sodium	**7440-23-5**	**2170**	E	**1560**
Strontium	**7440-24-6**	**3.93**	QB-01	**0.507**
Thallium	**7440-28-0**	**9.53E-4**		**3.92E-4**
Thorium	**7440-29-01**	**0.0121**		**0.00234**
Uranium	7440-61-1	0.0103	U	0.0132
Vanadium	**7440-62-2**	**1.11**		**0.0383**
Zinc	7440-66-6	23.3	U	76.0

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533899
Matrix: Air
Comments: MFK-AM03-121923-HM

Lab ID: 3122607-07
Sample Volume: 1814.848 m³
Filter ID:

Sampled: 12/19/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/27/23 23:30

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**319**		**28.8**
Antimony	**7440-36-0**	**0.0801**	SL	**0.0395**
Arsenic	**7440-38-2**	**0.151**		**0.00856**
Barium	**7440-39-3**	**5.68**		**0.850**
Beryllium	**7440-41-7**	**0.0145**		**0.00298**
Cadmium	7440-43-9	0.00900	U	0.0977
Calcium	**7440-70-2**	**538**	LJ, QB-01	**262**
Chromium	**7440-47-3**	**1.97**		**1.82**
Cobalt	**7440-48-4**	**0.201**	QB-01	**0.0140**
Copper	**7440-50-8**	**35.9**		**2.69**
Iron	**7439-89-6**	**380**		**21.7**
Lead	**7439-92-1**	**0.623**		**0.247**
Magnesium	**7439-95-4**	**278**		**86.4**
Manganese	**7439-96-5**	**11.2**		**1.07**
Molybdenum	**7439-98-7**	**1.26**	QB-01	**0.191**
Nickel	**7440-02-0**	**0.771**		**0.718**
Phosphorus	7723-14-0	344	GC-BS, U	1120
Potassium	**7440-09-7**	**128**		**34.1**
Rubidium	**7440-17-7**	**0.164**		**0.0164**
Selenium	**7782-49-2**	**0.139**		**0.00986**
Sodium	**7440-23-5**	**2340**	E	**1790**
Strontium	**7440-24-6**	**3.87**	QB-01	**0.585**
Thallium	**7440-28-0**	**9.10E-4**		**4.51E-4**
Thorium	**7440-29-01**	**0.0112**		**0.00269**
Uranium	7440-61-1	0.00899	U	0.0152
Vanadium	**7440-62-2**	**0.937**		**0.0441**
Zinc	7440-66-6	31.3	U	87.6

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533897 FB
Matrix: Air
Lab ID: 3122607-08
Sample Volume: 1946.945 m³
Filter ID:
Sampled: 12/19/23 00:00
Received: 12/26/23 12:07
Analysis Date: 12/27/23 23:46

Comments: MFK-FB01-121923-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	9.58	U	26.8
Antimony	7440-36-0	0.00728	SL, U	0.0369
Arsenic	7440-38-2	0.00254	U	0.00798
Barium	**7440-39-3**	**0.898**	FB-01	**0.792**
Beryllium	7440-41-7	9.11E-4	U	0.00277
Cadmium	7440-43-9	0.00279	U	0.0911
Calcium	**7440-70-2**	**310**	FB-01, LJ, QB-01	**244**
Chromium	7440-47-3	1.48	U	1.70
Cobalt	**7440-48-4**	**0.0259**	FB-01, QB-01	**0.0130**
Copper	7440-50-8	0.435	U	2.51
Iron	7439-89-6	10.7	U	20.2
Lead	7439-92-1	0.0554	U	0.231
Magnesium	7439-95-4	39.6	U	80.6
Manganese	7439-96-5	0.150	U	0.994
Molybdenum	**7439-98-7**	**0.237**	FB-01, QB-01	**0.178**
Nickel	7440-02-0	0.258	U	0.669
Phosphorus	7723-14-0	288	GC-BS, U	1040
Potassium	7440-09-7	27.8	U	31.8
Rubidium	7440-17-7	0.0135	U	0.0153
Selenium	7782-49-2	0.00264	U	0.00919
Sodium	7440-23-5	672	U	1670
Strontium	**7440-24-6**	**0.561**	FB-01, QB-01	**0.545**
Thallium	7440-28-0	1.23E-4	U	4.20E-4
Thorium	7440-29-01	0.00204	U	0.00251
Uranium	7440-61-1	0.00157	U	0.0142
Vanadium	7440-62-2	0.0203	U	0.0411
Zinc	7440-66-6	19.2	U	81.6

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524476
Matrix: Air
Comments: MFK-AM01-122023-HM

Lab ID: 3122607-09
Sample Volume: 1858.198 m³
Filter ID:

Sampled: 12/20/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/28/23 00:00

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**533**		**28.1**
Antimony	**7440-36-0**	**0.104**	SL	**0.0386**
Arsenic	**7440-38-2**	**0.303**		**0.00836**
Barium	**7440-39-3**	**6.05**		**0.830**
Beryllium	**7440-41-7**	**0.0189**		**0.00291**
Cadmium	7440-43-9	0.00886	U	0.0954
Calcium	**7440-70-2**	**488**	LJ, QB-01	**256**
Chromium	7440-47-3	1.26	U	1.78
Cobalt	**7440-48-4**	**0.300**	QB-01	**0.0137**
Copper	**7440-50-8**	**25.0**		**2.63**
Iron	**7439-89-6**	**599**		**21.2**
Lead	**7439-92-1**	**0.423**		**0.242**
Magnesium	**7439-95-4**	**301**		**84.4**
Manganese	**7439-96-5**	**16.7**		**1.04**
Molybdenum	**7439-98-7**	**0.771**	QB-01	**0.186**
Nickel	7440-02-0	0.600	U	0.701
Phosphorus	7723-14-0	230	GC-BS, U	1090
Potassium	**7440-09-7**	**114**		**33.3**
Rubidium	**7440-17-7**	**0.195**		**0.0160**
Selenium	**7782-49-2**	**0.173**		**0.00963**
Sodium	**7440-23-5**	**2360**	E	**1750**
Strontium	**7440-24-6**	**4.47**	QB-01	**0.571**
Thallium	**7440-28-0**	**0.00128**		**4.40E-4**
Thorium	**7440-29-01**	**0.0163**		**0.00263**
Uranium	7440-61-1	0.0112	U	0.0149
Vanadium	**7440-62-2**	**1.53**		**0.0431**
Zinc	7440-66-6	28.5	U	85.5

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9551127
Matrix: Air
Comments: MFK-AM02-122023-HM

Lab ID: 3122607-10
Sample Volume: 1997.516 m³
Filter ID:

Sampled: 12/20/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/28/23 00:14

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**473**		**26.1**
Antimony	**7440-36-0**	**0.0535**	SL	**0.0359**
Arsenic	**7440-38-2**	**0.139**		**0.00778**
Barium	**7440-39-3**	**5.40**		**0.772**
Beryllium	**7440-41-7**	**0.0184**		**0.00270**
Cadmium	7440-43-9	0.00646	U	0.0888
Calcium	**7440-70-2**	**706**	LJ, QB-01	**238**
Chromium	**7440-47-3**	**1.77**		**1.65**
Cobalt	**7440-48-4**	**0.275**	QB-01	**0.0127**
Copper	**7440-50-8**	**15.5**		**2.44**
Iron	**7439-89-6**	**525**		**19.7**
Lead	**7439-92-1**	**0.347**		**0.225**
Magnesium	**7439-95-4**	**307**		**78.5**
Manganese	**7439-96-5**	**14.6**		**0.969**
Molybdenum	**7439-98-7**	**0.974**	QB-01	**0.173**
Nickel	**7440-02-0**	**0.670**		**0.652**
Phosphorus	7723-14-0	476	GC-BS, U	1020
Potassium	**7440-09-7**	**111**		**31.0**
Rubidium	**7440-17-7**	**0.189**		**0.0149**
Selenium	**7782-49-2**	**0.183**		**0.00896**
Sodium	**7440-23-5**	**2480**	E	**1630**
Strontium	**7440-24-6**	**4.57**	QB-01	**0.531**
Thallium	**7440-28-0**	**0.00104**		**4.10E-4**
Thorium	**7440-29-01**	**0.0150**		**0.00244**
Uranium	7440-61-1	0.0111	U	0.0138
Vanadium	**7440-62-2**	**1.40**		**0.0401**
Zinc	7440-66-6	19.6	U	79.6

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524475
Matrix: Air
Comments: MFK-AM03-122023-HM

Lab ID: 3122607-11
Sample Volume: 2229.577 m³
Filter ID:

Sampled: 12/20/23 23:59
Received: 12/26/23 12:07
Analysis Date: 12/28/23 01:38

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**388**		**23.4**
Antimony	**7440-36-0**	**0.130**	SL	**0.0322**
Arsenic	**7440-38-2**	**0.111**		**0.00697**
Barium	**7440-39-3**	**6.50**		**0.692**
Beryllium	**7440-41-7**	**0.0178**		**0.00242**
Cadmium	7440-43-9	0.00679	U	0.0795
Calcium	**7440-70-2**	**405**	LJ, QB-01	**213**
Chromium	7440-47-3	0.988	U	1.48
Cobalt	**7440-48-4**	**0.249**	QB-01	**0.0114**
Copper	**7440-50-8**	**17.9**		**2.19**
Iron	**7439-89-6**	**480**		**17.7**
Lead	**7439-92-1**	**0.212**		**0.201**
Magnesium	**7439-95-4**	**278**		**70.3**
Manganese	**7439-96-5**	**14.1**		**0.868**
Molybdenum	**7439-98-7**	**0.702**	QB-01	**0.155**
Nickel	7440-02-0	0.528	U	0.585
Phosphorus	7723-14-0	183	GC-BS, U	912
Potassium	**7440-09-7**	**110**		**27.7**
Rubidium	**7440-17-7**	**0.172**		**0.0134**
Selenium	**7782-49-2**	**0.171**		**0.00803**
Sodium	**7440-23-5**	**2140**	E	**1460**
Strontium	**7440-24-6**	**4.12**	QB-01	**0.476**
Thallium	**7440-28-0**	**0.00104**		**3.67E-4**
Thorium	**7440-29-01**	**0.0142**		**0.00219**
Uranium	7440-61-1	0.00948	U	0.0124
Vanadium	**7440-62-2**	**1.34**		**0.0359**
Zinc	7440-66-6	19.3	U	71.3

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524488 FB
Matrix: Air
Lab ID: 3122607-12
Sample Volume: 1858.198 m³
Filter ID:
Sampled: 12/20/23 00:00
Received: 12/26/23 12:07
Analysis Date: 12/28/23 01:56

Comments: MFK-FB01-122023-HM - Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	9.27	U	28.1
Antimony	7440-36-0	0.0147	SL, U	0.0386
Arsenic	7440-38-2	0.00233	U	0.00836
Barium	7440-39-3	0.678	U	0.830
Beryllium	7440-41-7	5.23E-4	U	0.00291
Cadmium	7440-43-9	4.59E-4	U	0.0954
Calcium	7440-70-2	112	LJ, QB-01, U	256
Chromium	7440-47-3	0.634	U	1.78
Cobalt	7440-48-4	0.00449	QB-01, U	0.0137
Copper	7440-50-8	0.203	U	2.63
Iron	7439-89-6	6.22	U	21.2
Lead	7439-92-1	0.0286	U	0.242
Magnesium	7439-95-4	22.9	U	84.4
Manganese	7439-96-5	0.104	U	1.04
Molybdenum	7439-98-7	0.0847	QB-01, U	0.186
Nickel	7440-02-0	0.180	U	0.701
Phosphorus	7723-14-0	171	GC-BS, U	1090
Potassium	7440-09-7	13.1	U	33.3
Rubidium	7440-17-7	0.00758	U	0.0160
Selenium	7782-49-2	3.99E-4	U	0.00963
Sodium	7440-23-5	567	U	1750
Strontium	7440-24-6	0.231	QB-01, U	0.571
Thallium	7440-28-0	1.64E-4	U	4.40E-4
Thorium	7440-29-01	0.00222	U	0.00263
Uranium	7440-61-1	7.30E-4	U	0.0149
Vanadium	7440-62-2	0.0102	U	0.0431
Zinc	7440-66-6	15.5	U	85.5

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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Calibration Blank (2312074-CCB1)				Prepared & Analyzed: 12/27/23						
Aluminum	-4.37		ng/l							U
Antimony	1.09		ng/l							
Arsenic	3.89		ng/l							
Barium	1.50		ng/l							
Beryllium	0.0904		ng/l							
Cadmium	0.319		ng/l							
Calcium	530		ng/l							
Chromium	4.99		ng/l							
Cobalt	0.249		ng/l							
Copper	24.0		ng/l							
Iron	-8.19		ng/l							U
Lead	6.35		ng/l							
Magnesium	25.9		ng/l							
Manganese	3.81		ng/l							
Molybdenum	13.4		ng/l							
Nickel	0.213		ng/l							
Phosphorus	-199		ng/l							U
Potassium	805		ng/l							
Rubidium	-0.0276		ng/l							U
Selenium	0.319		ng/l							
Sodium	109		ng/l							
Strontium	1.30		ng/l							
Thallium	0.518		ng/l							
Thorium	0.0273		ng/l							
Uranium	0.0171		ng/l							
Vanadium	-16.4		ng/l							U
Zinc	-65.5		ng/l							U
Calibration Blank (2312074-CCB2)				Prepared & Analyzed: 12/27/23						
Aluminum	-25.1		ng/l							U
Antimony	0.303		ng/l							
Arsenic	1.90		ng/l							
Barium	0.735		ng/l							
Beryllium	0.114		ng/l							
Cadmium	0.123		ng/l							
Calcium	31.4		ng/l							
Chromium	3.94		ng/l							
Cobalt	0.140		ng/l							
Copper	10.1		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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Calibration Blank (2312074-CCB2) Contin				Prepared & Analyzed: 12/27/23						
Iron	59.5		ng/l							
Lead	3.86		ng/l							
Magnesium	2.32		ng/l							
Manganese	1.07		ng/l							
Molybdenum	3.22		ng/l							
Nickel	-0.833		ng/l							U
Phosphorus	210		ng/l							
Potassium	105		ng/l							
Rubidium	-9.30E-4		ng/l							U
Selenium	3.37		ng/l							
Sodium	-6.40		ng/l							U
Strontium	0.672		ng/l							
Thallium	0.523		ng/l							
Thorium	0.518		ng/l							
Uranium	0.0101		ng/l							
Vanadium	-20.6		ng/l							U
Zinc	-89.6		ng/l							U
Calibration Blank (2312074-CCB3)				Prepared: 12/27/23 Analyzed: 12/28/23						
Aluminum	42.4		ng/l							
Antimony	0.286		ng/l							
Arsenic	-0.929		ng/l							U
Barium	1.99		ng/l							
Beryllium	0.135		ng/l							
Cadmium	-0.0538		ng/l							U
Calcium	205		ng/l							
Chromium	2.35		ng/l							
Cobalt	0.0790		ng/l							
Copper	7.30		ng/l							
Iron	41.9		ng/l							
Lead	2.55		ng/l							
Magnesium	23.0		ng/l							
Manganese	2.05		ng/l							
Molybdenum	2.92		ng/l							
Nickel	-0.270		ng/l							U
Phosphorus	-148		ng/l							U
Potassium	-145		ng/l							U
Rubidium	-0.575		ng/l							U
Selenium	-1.33		ng/l							U

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Calibration Blank (2312074-CCB3) Contin				Prepared: 12/27/23 Analyzed: 12/28/23						
Sodium	78.7		ng/l							
Strontium	0.729		ng/l							
Thallium	0.608		ng/l							
Thorium	0.329		ng/l							
Uranium	0.00407		ng/l							
Vanadium	-24.9		ng/l							U
Zinc	-87.9		ng/l							U
Calibration Blank (2312074-CCB4)				Prepared: 12/27/23 Analyzed: 12/28/23						
Aluminum	-47.6		ng/l							U
Antimony	0.275		ng/l							
Arsenic	-1.11		ng/l							U
Barium	1.47		ng/l							
Beryllium	0.0825		ng/l							
Cadmium	0.0851		ng/l							
Calcium	149		ng/l							
Chromium	2.52		ng/l							
Cobalt	0.0894		ng/l							
Copper	8.42		ng/l							
Iron	191		ng/l							
Lead	2.80		ng/l							
Magnesium	-0.551		ng/l							U
Manganese	1.26		ng/l							
Molybdenum	2.95		ng/l							
Nickel	-0.314		ng/l							U
Phosphorus	534		ng/l							
Potassium	408		ng/l							
Rubidium	0.276		ng/l							
Selenium	4.67		ng/l							
Sodium	-2.48		ng/l							U
Strontium	0.260		ng/l							
Thallium	0.484		ng/l							
Thorium	0.346		ng/l							
Uranium	-0.00811		ng/l							U
Vanadium	-29.1		ng/l							U
Zinc	-93.5		ng/l							U
Calibration Check (2312074-CCV1)				Prepared & Analyzed: 12/27/23						
Aluminum	1.55E6		ng/l	1.5000E6		103	90-110			
Antimony	19800		ng/l	20000		99.0	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Calibration Check (2312074-CCV1) Contin					Prepared & Analyzed: 12/27/23					
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	5100		ng/l	5000.0		102	90-110			
Cadmium	19900		ng/l	20000		99.3	90-110			
Calcium	2.52E7		ng/l	2.5000E7		101	90-110			
Chromium	235000		ng/l	240000		97.7	90-110			
Cobalt	51000		ng/l	50000		102	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Iron	2.54E6		ng/l	2.5000E6		102	90-110			
Lead	196000		ng/l	200000		98.2	90-110			
Magnesium	1.04E6		ng/l	1.0000E6		104	90-110			
Manganese	506000		ng/l	500000		101	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Phosphorus	202000		ng/l	200000		101	90-110			
Potassium	2.55E6		ng/l	2.5000E6		102	90-110			
Rubidium	10000		ng/l	10000		100	90-110			
Selenium	19800		ng/l	20000		99.1	90-110			
Sodium	2.63E6		ng/l	2.5000E6		105	90-110			
Strontium	49500		ng/l	50000		99.1	90-110			
Thallium	485		ng/l	500.00		97.1	90-110			
Thorium	488		ng/l	500.00		97.6	90-110			
Uranium	486		ng/l	500.00		97.2	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	512000		ng/l	500000		102	90-110			
Calibration Check (2312074-CCV2)					Prepared & Analyzed: 12/27/23					
Aluminum	1.55E6		ng/l	1.5000E6		103	90-110			
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		102	90-110			
Beryllium	5400		ng/l	5000.0		108	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Calcium	2.59E7		ng/l	2.5000E7		103	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Iron	2.58E6		ng/l	2.5000E6		103	90-110			
Lead	203000		ng/l	200000		101	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Calibration Check (2312074-CCV2) Contin					Prepared & Analyzed: 12/27/23					
Magnesium	1.05E6		ng/l	1.0000E6		105	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Phosphorus	203000		ng/l	200000		102	90-110			
Potassium	2.56E6		ng/l	2.5000E6		102	90-110			
Rubidium	10200		ng/l	10000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Sodium	2.63E6		ng/l	2.5000E6		105	90-110			
Strontium	51200		ng/l	50000		102	90-110			
Thallium	491		ng/l	500.00		98.2	90-110			
Thorium	500		ng/l	500.00		99.9	90-110			
Uranium	501		ng/l	500.00		100	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	525000		ng/l	500000		105	90-110			
Calibration Check (2312074-CCV3)					Prepared: 12/27/23 Analyzed: 12/28/23					
Aluminum	1.53E6		ng/l	1.5000E6		102	90-110			
Antimony	20100		ng/l	20000		101	90-110			
Arsenic	20000		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	5120		ng/l	5000.0		102	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Calcium	2.54E7		ng/l	2.5000E7		102	90-110			
Chromium	245000		ng/l	240000		102	90-110			
Cobalt	50800		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Iron	2.53E6		ng/l	2.5000E6		101	90-110			
Lead	201000		ng/l	200000		101	90-110			
Magnesium	1.03E6		ng/l	1.0000E6		103	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	50400		ng/l	50000		101	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Phosphorus	199000		ng/l	200000		99.6	90-110			
Potassium	2.52E6		ng/l	2.5000E6		101	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Sodium	2.61E6		ng/l	2.5000E6		104	90-110			
Strontium	50200		ng/l	50000		100	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Calibration Check (2312074-CCV3) Contin					Prepared: 12/27/23 Analyzed: 12/28/23					
Thallium	486		ng/l	500.00		97.2	90-110			
Thorium	491		ng/l	500.00		98.2	90-110			
Uranium	498		ng/l	500.00		99.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Calibration Check (2312074-CCV4)					Prepared: 12/27/23 Analyzed: 12/28/23					
Aluminum	1.55E6		ng/l	1.5000E6		103	90-110			
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5260		ng/l	5000.0		105	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Calcium	2.54E7		ng/l	2.5000E7		102	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Iron	2.55E6		ng/l	2.5000E6		102	90-110			
Lead	203000		ng/l	200000		101	90-110			
Magnesium	1.04E6		ng/l	1.0000E6		104	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Phosphorus	199000		ng/l	200000		99.7	90-110			
Potassium	2.54E6		ng/l	2.5000E6		102	90-110			
Rubidium	10000		ng/l	10000		100	90-110			
Selenium	20300		ng/l	20000		101	90-110			
Sodium	2.62E6		ng/l	2.5000E6		105	90-110			
Strontium	50500		ng/l	50000		101	90-110			
Thallium	494		ng/l	500.00		98.9	90-110			
Thorium	498		ng/l	500.00		99.6	90-110			
Uranium	499		ng/l	500.00		99.8	90-110			
Vanadium	20300		ng/l	20000		102	90-110			
Zinc	520000		ng/l	500000		104	90-110			
High Cal Check (2312074-HCV1)					Prepared & Analyzed: 12/27/23					
Aluminum	3.05E6		ng/l	3.0000E6		102	95-105			
Antimony	40600		ng/l	40000		102	95-105			
Arsenic	40300		ng/l	40000		101	95-105			
Barium	409000		ng/l	400000		102	95-105			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
High Cal Check (2312074-HCV1) Continue				Prepared & Analyzed: 12/27/23						
Beryllium	9780		ng/l	10000		97.8	95-105			
Cadmium	40000		ng/l	40000		100	95-105			
Calcium	5.08E7		ng/l	5.0000E7		102	95-105			
Chromium	474000		ng/l	480000		98.8	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	3.97E6		ng/l	4.0000E6		99.2	95-105			
Iron	5.05E6		ng/l	5.0000E6		101	95-105			
Lead	400000		ng/l	400000		100	95-105			
Magnesium	2.03E6		ng/l	2.0000E6		102	95-105			
Manganese	997000		ng/l	1.0000E6		99.7	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	241000		ng/l	240000		100	95-105			
Phosphorus	397000		ng/l	400000		99.2	95-105			
Potassium	5.03E6		ng/l	5.0000E6		101	95-105			
Rubidium	20200		ng/l	20000		101	95-105			
Selenium	40600		ng/l	40000		101	95-105			
Sodium	4.98E6		ng/l	5.0000E6		99.7	95-105			
Strontium	101000		ng/l	100000		101	95-105			
Thallium	1010		ng/l	1000.0		101	95-105			
Thorium	1020		ng/l	1000.0		102	95-105			
Uranium	1010		ng/l	1000.0		101	95-105			
Vanadium	40400		ng/l	40000		101	95-105			
Zinc	1.02E6		ng/l	1.0000E6		102	95-105			
Initial Cal Blank (2312074-ICB1)				Prepared & Analyzed: 12/27/23						
Aluminum	-47.0		ng/l							U
Antimony	1.39		ng/l							
Arsenic	-0.839		ng/l							U
Barium	3.81		ng/l							
Beryllium	0.356		ng/l							
Cadmium	0.458		ng/l							
Calcium	22.6		ng/l							
Chromium	9.66		ng/l							
Cobalt	0.835		ng/l							
Copper	61.5		ng/l							
Iron	92.2		ng/l							
Lead	13.7		ng/l							
Magnesium	26.7		ng/l							
Manganese	11.1		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 #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Initial Cal Blank (2312074-ICB1) Continu				Prepared & Analyzed: 12/27/23						
Molybdenum	15.1		ng/l							
Nickel	1.37		ng/l							
Phosphorus	-403		ng/l							U
Potassium	35.2		ng/l							
Rubidium	0.602		ng/l							
Selenium	-0.0289		ng/l							U
Sodium	-68.5		ng/l							U
Strontium	1.77		ng/l							
Thallium	0.459		ng/l							
Thorium	0.687		ng/l							
Uranium	0.0112		ng/l							
Vanadium	-25.5		ng/l							U
Zinc	-41.9		ng/l							U
Initial Cal Check (2312074-ICV1)				Prepared & Analyzed: 12/27/23						
Aluminum	1.46E6		ng/l	1.5000E6		97.5	90-110			
Antimony	19400		ng/l	20000		97.2	90-110			
Arsenic	19800		ng/l	20000		99.1	90-110			
Barium	197000		ng/l	200000		98.7	90-110			
Beryllium	5370		ng/l	5000.0		107	90-110			
Cadmium	20300		ng/l	20000		101	90-110			
Calcium	2.44E7		ng/l	2.5000E7		97.7	90-110			
Chromium	234000		ng/l	240000		97.4	90-110			
Cobalt	49600		ng/l	50000		99.1	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Iron	2.50E6		ng/l	2.5000E6		99.9	90-110			
Lead	195000		ng/l	200000		97.7	90-110			
Magnesium	986000		ng/l	1.0000E6		98.6	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	49400		ng/l	50000		98.8	90-110			
Nickel	118000		ng/l	120000		98.7	90-110			
Phosphorus	189000		ng/l	200000		94.7	90-110			
Potassium	2.51E6		ng/l	2.5000E6		100	90-110			
Rubidium	9610		ng/l	10000		96.1	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Sodium	2.50E6		ng/l	2.5000E6		100	90-110			
Strontium	49400		ng/l	50000		98.8	90-110			
Thallium	483		ng/l	500.00		96.6	90-110			
Thorium	474		ng/l	500.00		94.7	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Initial Cal Check (2312074-ICV1) Continu				Prepared & Analyzed: 12/27/23						
Uranium	484		ng/l	500.00		96.8	90-110			
Vanadium	19900		ng/l	20000		99.7	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Interference Check A (2312074-IFA1)				Prepared & Analyzed: 12/27/23						
Aluminum	1.45E7		ng/l	1.5000E7		96.5	80-120			
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
Calcium	9.91E7		ng/l	1.0040E8		98.7	80-120			
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Iron	1.43E7		ng/l	1.5000E7		95.4	80-120			
Lead	0.00		ng/l				80-120			U
Magnesium	1.50E7		ng/l	1.5000E7		100	80-120			
Manganese	0.00		ng/l				80-120			U
Molybdenum	291000		ng/l	300000		97.1	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.57E7		ng/l	1.5000E7		104	80-120			
Potassium	1.44E7		ng/l	1.5000E7		96.2	80-120			
Rubidium	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Sodium	1.51E7		ng/l	1.5000E7		101	80-120			
Strontium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Thorium	0.00		ng/l				80-120			U
Uranium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2312074-IFB1)				Prepared & Analyzed: 12/27/23						
Aluminum	1.60E7		ng/l	1.6500E7		97.1	80-120			
Antimony	19700		ng/l	20000		98.4	80-120			
Arsenic	19800		ng/l	20000		99.2	80-120			
Barium	197000		ng/l	200000		98.6	80-120			
Beryllium	5600		ng/l	5000.0		112	80-120			
Cadmium	18900		ng/l	20000		94.4	80-120			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 2312074 - B3K2705										
Interference Check B (2312074-IFB1) Co				Prepared & Analyzed: 12/27/23						
Calcium	1.15E8		ng/l	1.2540E8		91.7	80-120			
Chromium	223000		ng/l	240000		92.8	80-120			
Cobalt	48400		ng/l	50000		96.7	80-120			
Copper	1.85E6		ng/l	2.0000E6		92.6	80-120			
Iron	1.68E7		ng/l	1.7500E7		95.9	80-120			
Lead	199000		ng/l	200000		99.5	80-120			
Magnesium	1.61E7		ng/l	1.6000E7		101	80-120			
Manganese	510000		ng/l	500000		102	80-120			
Molybdenum	334000		ng/l	350000		95.6	80-120			
Nickel	114000		ng/l	120000		94.6	80-120			
Phosphorus	1.59E7		ng/l	1.5200E7		105	80-120			
Potassium	1.70E7		ng/l	1.7500E7		97.3	80-120			
Rubidium	9900		ng/l	10000		99.0	80-120			
Selenium	19000		ng/l	20000		94.8	80-120			
Sodium	1.81E7		ng/l	1.7500E7		103	80-120			
Strontium	48900		ng/l	50000		97.8	80-120			
Thallium	506		ng/l	500.00		101	80-120			
Thorium	520		ng/l	500.00		104	80-120			
Uranium	522		ng/l	500.00		104	80-120			
Vanadium	18600		ng/l	20000		93.1	80-120			
Zinc	460000		ng/l	500000		92.0	80-120			
Batch B3L2703 - ICP-MS Extraction										
Blank (B3L2703-BLK1)				Prepared & Analyzed: 12/27/23						
Aluminum	ND	32.1	ng/m³ Air							U
Antimony	ND	0.0441	ng/m³ Air							SL, U
Arsenic	ND	0.00955	ng/m³ Air							U
Barium	ND	0.948	ng/m³ Air							U
Beryllium	ND	0.00332	ng/m³ Air							U
Cadmium	ND	0.109	ng/m³ Air							U
Calcium	ND	292	ng/m³ Air							LJ, QB-01, U
Chromium	ND	2.03	ng/m³ Air							U
Cobalt	ND	0.0156	ng/m³ Air							QB-01, U
Copper	ND	3.00	ng/m³ Air							U
Iron	ND	24.2	ng/m³ Air							U
Lead	ND	0.276	ng/m³ Air							U
Magnesium	ND	96.4	ng/m³ Air							U
Manganese	ND	1.19	ng/m³ Air							U
Molybdenum	ND	0.213	ng/m³ Air							QB-01, U

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2703 - ICP-MS Extraction										
Blank (B3L2703-BLK1) Continued				Prepared & Analyzed: 12/27/23						
Nickel	ND	0.801	ng/m³ Air							U
Phosphorus	ND	1250	ng/m³ Air							GC-BS, U
Potassium	ND	38.0	ng/m³ Air							U
Rubidium	ND	0.0183	ng/m³ Air							U
Selenium	ND	0.0110	ng/m³ Air							U
Sodium	ND	2000	ng/m³ Air							U
Strontium	ND	0.652	ng/m³ Air							QB-01, U
Thallium	ND	5.03E-4	ng/m³ Air							U
Thorium	ND	0.00300	ng/m³ Air							U
Uranium	ND	0.0170	ng/m³ Air							U
Vanadium	ND	0.0492	ng/m³ Air							U
Zinc	ND	97.7	ng/m³ Air							U
LCS (B3L2703-BS1)				Prepared & Analyzed: 12/27/23						
Aluminum	93.7	32.1	ng/m³ Air	82.975		113	80-120			
Antimony	0.519	0.0441	ng/m³ Air	1.3829		37.5	80-120			SL
Arsenic	2.71	0.00955	ng/m³ Air	2.7658		98.0	80-120			
Barium	28.0	0.948	ng/m³ Air	27.658		101	80-120			
Beryllium	1.44	0.00332	ng/m³ Air	1.3829		104	80-120			
Cadmium	1.38	0.109	ng/m³ Air	1.3829		100	80-120			
Calcium	647	292	ng/m³ Air	69.146		935	80-120			LJ, QB-01
Chromium	15.9	2.03	ng/m³ Air	13.829		115	80-120			
Cobalt	1.41	0.0156	ng/m³ Air	1.3829		102	80-120			QB-01
Copper	31.2	3.00	ng/m³ Air	27.658		113	80-120			
Iron	40.7	24.2	ng/m³ Air	27.658		147	80-120			
Lead	13.5	0.276	ng/m³ Air	13.829		97.6	80-120			
Magnesium	ND	96.4	ng/m³ Air	27.658			80-120			U
Manganese	8.82	1.19	ng/m³ Air	8.2975		106	80-120			
Molybdenum	1.63	0.213	ng/m³ Air	1.3829		118	80-120			QB-01
Nickel	3.01	0.801	ng/m³ Air	2.7658		109	80-120			
Phosphorus	ND	1250	ng/m³ Air	13.829			80-120			GC-BS, U
Potassium	68.0	38.0	ng/m³ Air	55.317		123	80-120			
Rubidium	1.34	0.0183	ng/m³ Air	1.3829		96.7	80-120			
Selenium	2.71	0.0110	ng/m³ Air	2.7658		98.0	80-120			
Sodium	ND	2000	ng/m³ Air	55.317			80-120			U
Strontium	2.28	0.652	ng/m³ Air	1.3829		165	80-120			QB-01
Thallium	0.133	5.03E-4	ng/m³ Air	0.13829		96.1	80-120			
Thorium	0.130	0.00300	ng/m³ Air	0.13829		94.0	80-120			
Uranium	0.129	0.0170	ng/m³ Air	0.13829		93.3	80-120			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2703 - ICP-MS Extraction										
LCS (B3L2703-BS1) Continued				Prepared & Analyzed: 12/27/23						
Vanadium	2.75	0.0492	ng/m³ Air	2.7658		99.4	80-120			
Zinc	124	97.7	ng/m³ Air	82.975		150	80-120			
Duplicate (B3L2703-DUP1)			**Source: 3122607-05**	Prepared & Analyzed: 12/27/23						
Aluminum	466	26.8	ng/m³ Air		477			2.35	10	
Antimony	0.0556	0.0369	ng/m³ Air		0.0598			7.22	10	SL
Arsenic	0.179	0.00798	ng/m³ Air		0.208			15.2	10	
Barium	5.00	0.792	ng/m³ Air		5.22			4.39	10	
Beryllium	0.0160	0.00277	ng/m³ Air		0.0156			2.14	10	
Cadmium	ND	0.0911	ng/m³ Air		ND				10	U
Calcium	519	244	ng/m³ Air		551			5.86	10	LJ, QB-01
Chromium	1.89	1.70	ng/m³ Air		1.95			3.03	10	
Cobalt	0.233	0.0130	ng/m³ Air		0.249			6.68	10	QB-01
Copper	21.1	2.51	ng/m³ Air		20.0			5.31	10	
Iron	500	20.2	ng/m³ Air		516			2.98	10	
Lead	0.365	0.231	ng/m³ Air		0.312			15.7	10	
Magnesium	264	80.6	ng/m³ Air		267			1.14	10	
Manganese	13.1	0.994	ng/m³ Air		13.5			2.62	10	
Molybdenum	1.18	0.178	ng/m³ Air		1.11			6.07	10	QB-01
Nickel	ND	0.669	ng/m³ Air		ND				10	U
Phosphorus	ND	1040	ng/m³ Air		ND				10	GC-BS, U
Potassium	104	31.8	ng/m³ Air		118			11.9	10	
Rubidium	0.162	0.0153	ng/m³ Air		0.168			3.77	10	
Selenium	0.130	0.00919	ng/m³ Air		0.137			5.56	10	
Sodium	2190	1670	ng/m³ Air		2190			0.0622	10	E
Strontium	3.90	0.545	ng/m³ Air		3.96			1.49	10	QB-01
Thallium	0.00103	4.20E-4	ng/m³ Air		0.00111			7.62	10	
Thorium	0.0109	0.00251	ng/m³ Air		0.0117			6.63	10	
Uranium	ND	0.0142	ng/m³ Air		ND				10	U
Vanadium	1.23	0.0411	ng/m³ Air		1.26			2.42	10	
Zinc	ND	81.6	ng/m³ Air		ND				10	U
Duplicate (B3L2703-DUP2)			**Source: 3122607-10**	Prepared: 12/27/23 Analyzed: 12/28/23						
Aluminum	466	26.1	ng/m³ Air		473			1.53	10	
Antimony	0.0533	0.0359	ng/m³ Air		0.0535			0.378	10	SL
Arsenic	0.143	0.00778	ng/m³ Air		0.139			3.22	10	
Barium	5.39	0.772	ng/m³ Air		5.40			0.144	10	
Beryllium	0.0174	0.00270	ng/m³ Air		0.0184			5.55	10	
Cadmium	ND	0.0888	ng/m³ Air		ND				10	U
Calcium	703	238	ng/m³ Air		706			0.453	10	LJ, QB-01

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B3L2703 - ICP-MS Extraction

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Duplicate (B3L2703-DUP2) Continued	**Source: 3122607-10**		Prepared: 12/27/23 Analyzed: 12/28/23							
Chromium	1.76	1.65	ng/m³ Air		1.77			0.594	10	
Cobalt	0.274	0.0127	ng/m³ Air		0.275			0.157	10	QB-01
Copper	15.4	2.44	ng/m³ Air		15.5			0.936	10	
Iron	524	19.7	ng/m³ Air		525			0.0519	10	
Lead	0.346	0.225	ng/m³ Air		0.347			0.286	10	
Magnesium	307	78.5	ng/m³ Air		307			0.0793	10	
Manganese	14.6	0.969	ng/m³ Air		14.6			0.0235	10	
Molybdenum	0.979	0.173	ng/m³ Air		0.974			0.482	10	QB-01
Nickel	0.666	0.652	ng/m³ Air		0.670			0.643	10	
Phosphorus	ND	1020	ng/m³ Air		ND				10	GC-BS, U
Potassium	110	31.0	ng/m³ Air		111			1.45	10	
Rubidium	0.192	0.0149	ng/m³ Air		0.189			1.93	10	
Selenium	0.169	0.00896	ng/m³ Air		0.183			7.76	10	
Sodium	2490	1630	ng/m³ Air		2480			0.288	10	E
Strontium	4.52	0.531	ng/m³ Air		4.57			1.07	10	QB-01
Thallium	9.71E-4	4.10E-4	ng/m³ Air		0.00104			7.17	10	
Thorium	0.0149	0.00244	ng/m³ Air		0.0150			0.753	10	
Uranium	ND	0.0138	ng/m³ Air		ND				10	U
Vanadium	1.38	0.0401	ng/m³ Air		1.40			1.16	10	
Zinc	ND	79.6	ng/m³ Air		ND				10	U
Matrix Spike (B3L2703-MS1)	**Source: 3122607-05**		Prepared & Analyzed: 12/27/23							
Aluminum	544	26.8	ng/m³ Air	69.339	477	97.0	80-120			
Antimony	0.569	0.0369	ng/m³ Air	1.1557	0.0598	44.1	80-120			SL
Arsenic	2.47	0.00798	ng/m³ Air	2.3113	0.208	98.0	80-120			
Barium	28.7	0.792	ng/m³ Air	23.113	5.22	102	80-120			
Beryllium	1.19	0.00277	ng/m³ Air	1.1557	0.0156	101	80-120			
Cadmium	1.17	0.0911	ng/m³ Air	1.1557	ND	102	80-120			
Calcium	603	244	ng/m³ Air	57.783	551	89.9	80-120			LJ, QB-01
Chromium	14.0	1.70	ng/m³ Air	11.557	1.95	104	80-120			
Cobalt	1.39	0.0130	ng/m³ Air	1.1557	0.249	98.3	80-120			QB-01
Copper	48.3	2.51	ng/m³ Air	23.113	20.0	122	80-120			QM-07
Iron	529	20.2	ng/m³ Air	23.113	516	56.3	80-120			QM-4X
Lead	12.0	0.231	ng/m³ Air	11.557	0.312	101	80-120			
Magnesium	297	80.6	ng/m³ Air	23.113	267	127	80-120			QM-4X
Manganese	20.8	0.994	ng/m³ Air	6.9339	13.5	105	80-120			
Molybdenum	2.23	0.178	ng/m³ Air	1.1557	1.11	97.3	80-120			QB-01
Nickel	2.85	0.669	ng/m³ Air	2.3113	ND	123	80-120			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2703 - ICP-MS Extraction										
Matrix Spike (B3L2703-MS1) Continued Source: 3122607-05 Prepared & Analyzed: 12/27/23										
Phosphorus	ND	1040	ng/m³ Air	11.557	ND		80-120			GC-BS, QM-4X, U
Potassium	152	31.8	ng/m³ Air	46.226	118	75.2	80-120			QM-07
Rubidium	1.25	0.0153	ng/m³ Air	1.1557	0.168	93.7	80-120			
Selenium	2.40	0.00919	ng/m³ Air	2.3113	0.137	98.0	80-120			
Sodium	2310	1670	ng/m³ Air	46.226	2190	261	80-120			E, QM-4X
Strontium	5.06	0.545	ng/m³ Air	1.1557	3.96	95.4	80-120			QB-01
Thallium	0.115	4.20E-4	ng/m³ Air	0.11557	0.00111	98.2	80-120			
Thorium	0.0479	0.00251	ng/m³ Air	0.11557	0.0117	31.4	80-120			QM-07
Uranium	0.121	0.0142	ng/m³ Air	0.11557	ND	104	80-120			
Vanadium	3.55	0.0411	ng/m³ Air	2.3113	1.26	98.9	80-120			
Zinc	98.9	81.6	ng/m³ Air	69.339	ND	143	80-120			
Matrix Spike Dup (B3L2703-MSD1) Source: 3122607-05 Prepared & Analyzed: 12/27/23										
Aluminum	514	26.8	ng/m³ Air	69.339	477	53.8	80-120	5.66	20	QM-4X
Antimony	0.586	0.0369	ng/m³ Air	1.1557	0.0598	45.5	80-120	2.89	20	SL
Arsenic	2.44	0.00798	ng/m³ Air	2.3113	0.208	96.7	80-120	1.20	20	
Barium	28.1	0.792	ng/m³ Air	23.113	5.22	99.0	80-120	2.14	20	
Beryllium	1.28	0.00277	ng/m³ Air	1.1557	0.0156	109	80-120	7.43	20	
Cadmium	1.15	0.0911	ng/m³ Air	1.1557	ND	99.7	80-120	1.87	20	
Calcium	591	244	ng/m³ Air	57.783	551	69.3	80-120	2.00	20	LJ, QB-01, QM-4X
Chromium	13.9	1.70	ng/m³ Air	11.557	1.95	103	80-120	0.686	20	
Cobalt	1.37	0.0130	ng/m³ Air	1.1557	0.249	97.1	80-120	1.02	20	QB-01
Copper	49.8	2.51	ng/m³ Air	23.113	20.0	129	80-120	3.17	20	QM-07
Iron	504	20.2	ng/m³ Air	23.113	516	NR	80-120	4.76	20	QM-4X
Lead	11.8	0.231	ng/m³ Air	11.557	0.312	99.7	80-120	1.41	20	
Magnesium	281	80.6	ng/m³ Air	23.113	267	60.9	80-120	5.32	20	QM-4X
Manganese	19.8	0.994	ng/m³ Air	6.9339	13.5	91.6	80-120	4.59	20	
Molybdenum	2.24	0.178	ng/m³ Air	1.1557	1.11	97.6	80-120	0.186	20	QB-01
Nickel	2.99	0.669	ng/m³ Air	2.3113	ND	129	80-120	4.71	20	
Phosphorus	ND	1040	ng/m³ Air	11.557	ND		80-120		20	GC-BS, QM-4X, U
Potassium	148	31.8	ng/m³ Air	46.226	118	65.0	80-120	3.15	20	QM-07
Rubidium	1.24	0.0153	ng/m³ Air	1.1557	0.168	93.1	80-120	0.596	20	
Selenium	2.41	0.00919	ng/m³ Air	2.3113	0.137	98.4	80-120	0.437	20	
Sodium	2210	1670	ng/m³ Air	46.226	2190	30.5	80-120	4.70	20	QM-4X
Strontium	4.91	0.545	ng/m³ Air	1.1557	3.96	82.2	80-120	3.08	20	QB-01
Thallium	0.113	4.20E-4	ng/m³ Air	0.11557	0.00111	97.0	80-120	1.17	20	
Thorium	0.0537	0.00251	ng/m³ Air	0.11557	0.0117	36.3	80-120	11.3	20	QM-07

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2703 - ICP-MS Extraction										
Matrix Spike Dup (B3L2703-MSD1) Contir			**Source: 3122607-05**		Prepared & Analyzed: 12/27/23					
Uranium	0.119	0.0142	ng/m³ Air	0.11557	ND	103	80-120	1.71	20	
Vanadium	3.45	0.0411	ng/m³ Air	2.3113	1.26	94.6	80-120	2.85	20	
Zinc	103	81.6	ng/m³ Air	69.339	ND	148	80-120	3.72	20	
Post Spike (B3L2703-PS1)			**Source: 3122607-05**		Prepared & Analyzed: 12/27/23					
Aluminum	504	26.8	ng/m³ Air	23.113	477	118	75-125			
Antimony	0.286	0.0369	ng/m³ Air	0.23113	0.0598	97.8	75-125			SL
Arsenic	1.31	0.00798	ng/m³ Air	1.1557	0.208	95.7	75-125			
Barium	7.53	0.792	ng/m³ Air	2.3113	5.22	99.8	75-125			
Beryllium	0.250	0.00277	ng/m³ Air	0.23113	0.0156	101	75-125			
Cadmium	0.122	0.0911	ng/m³ Air	0.11557	ND	105	75-125			
Calcium	587	244	ng/m³ Air		551		75-125			A-01, LJ, QB-01
Chromium	3.09	1.70	ng/m³ Air	1.1557	1.95	98.2	75-125			
Cobalt	0.481	0.0130	ng/m³ Air	0.23113	0.249	100	75-125			QB-01
Copper	32.3	2.51	ng/m³ Air	11.557	20.0	107	75-125			
Iron	544	20.2	ng/m³ Air	23.113	516	121	75-125			
Lead	23.2	0.231	ng/m³ Air	23.113	0.312	98.8	75-125			
Magnesium	292	80.6	ng/m³ Air	23.113	267	108	75-125			
Manganese	16.0	0.994	ng/m³ Air	2.3113	13.5	109	75-125			
Molybdenum	2.20	0.178	ng/m³ Air	1.1557	1.11	94.4	75-125			QB-01
Nickel	2.87	0.669	ng/m³ Air	2.3113	ND	124	75-125			
Phosphorus	ND	1040	ng/m³ Air	4.6226	ND		75-125			A-01, GC-BS, U
Potassium	141	31.8	ng/m³ Air	23.113	118	101	75-125			
Rubidium	0.278	0.0153	ng/m³ Air	0.11557	0.168	95.6	75-125			
Selenium	1.23	0.00919	ng/m³ Air	1.1557	0.137	94.7	75-125			
Sodium	2260	1670	ng/m³ Air	23.113	2190	263	75-125			A-01
Strontium	5.04	0.545	ng/m³ Air	1.1557	3.96	93.3	75-125			QB-01
Thallium	0.0561	4.20E-4	ng/m³ Air	5.7783E-2	0.00111	95.2	75-125			
Thorium	0.0637	0.00251	ng/m³ Air	5.7783E-2	0.0117	89.9	75-125			
Uranium	0.0647	0.0142	ng/m³ Air	5.7783E-2	ND	112	75-125			
Vanadium	2.39	0.0411	ng/m³ Air	1.1557	1.26	97.9	75-125			
Zinc	ND	81.6	ng/m³ Air	23.113	ND		75-125			U
Dilution Check (B3L2703-SRL1)			**Source: 3122607-05**		Prepared & Analyzed: 12/27/23					
Aluminum	467	134	ng/m³ Air		477			2.04	10	
Antimony	ND	0.184	ng/m³ Air		ND				10	SL, U
Arsenic	0.207	0.0399	ng/m³ Air		0.208			0.569	10	
Barium	5.37	3.96	ng/m³ Air		5.22			2.80	10	

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2703 - ICP-MS Extraction										
Dilution Check (B3L2703-SRL1) Continue				**Source: 3122607-05**			Prepared & Analyzed: 12/27/23			
Beryllium	0.0152	0.0139	ng/m³ Air		0.0156			2.41	10	
Cadmium	ND	0.455	ng/m³ Air		ND				10	U
Calcium	ND	1220	ng/m³ Air		ND				10	LJ, QB-01, U
Chromium	ND	8.48	ng/m³ Air		ND				10	U
Cobalt	0.249	0.0652	ng/m³ Air		0.249			0.123	10	QB-01
Copper	20.1	12.5	ng/m³ Air		20.0			0.675	10	
Iron	514	101	ng/m³ Air		516			0.328	10	
Lead	ND	1.15	ng/m³ Air		ND				10	U
Magnesium	ND	403	ng/m³ Air		ND				10	U
Manganese	13.5	4.97	ng/m³ Air		13.5			0.127	10	
Molybdenum	1.11	0.890	ng/m³ Air		1.11			0.287	10	QB-01
Nickel	ND	3.35	ng/m³ Air		ND				10	U
Phosphorus	ND	5220	ng/m³ Air		ND				10	GC-BS, U
Potassium	ND	159	ng/m³ Air		ND				10	U
Rubidium	0.161	0.0765	ng/m³ Air		0.168			4.42	10	
Selenium	0.152	0.0460	ng/m³ Air		0.137			10.1	10	
Sodium	ND	8360	ng/m³ Air		ND				10	U
Strontium	4.02	2.72	ng/m³ Air		3.96			1.67	10	QB-01
Thallium	ND	0.00210	ng/m³ Air		ND				10	U
Thorium	ND	0.0125	ng/m³ Air		ND				10	U
Uranium	ND	0.0710	ng/m³ Air		ND				10	U
Vanadium	1.29	0.206	ng/m³ Air		1.26			2.12	10	
Zinc	ND	408	ng/m³ Air		ND				10	U

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/03/24 09:12
SUBMITTED: 12/26/23
AQS SITE CODE:
SITE CODE: Maui fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration. Sample results for the QC batch were accepted based on acceptable BS/BSD recoveries.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
A-01	Parent sample >4x spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

Stage 1 Data Verification Checklist - Metals

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 01/03/2024 & Shanna Vasser 1/3/2024
Laboratory: Eastern Research Group – Morrisville, NC
Analysis Date: 12/27/2023 and 12/28/2023
Report No: 3122607

√	1.	Chain of custody (CoC) documentation is present.
X	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.

Discrepancies: None

Notes:

10. No reporting limits were included in the data package.

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

December 28, 2023

Ms. Chelsea Saber
Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
Project Name: Maui 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 12/20/23 13:27.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9533938	3122052-01	Air	12/14/23 23:59	12/20/23 13:27
TetraTech Q9533937	3122052-02	Air	12/14/23 23:59	12/20/23 13:27
TetraTech Q9533935	3122052-03	Air	12/14/23 23:59	12/20/23 13:27
TetraTech Q9533934 FB	3122052-04	Air	12/14/23 00:00	12/20/23 13:27
TetraTech Q9543029	3122052-05	Air	12/15/23 23:59	12/20/23 13:27
TetraTech Q9533895	3122052-06	Air	12/15/23 23:59	12/20/23 13:27
TetraTech Q9533893	3122052-07	Air	12/15/23 23:59	12/20/23 13:27
TetraTech Q9533890 FB	3122052-08	Air	12/15/23 00:00	12/20/23 13:27
TetraTech Q9533892	3122052-09	Air	12/16/23 23:59	12/20/23 13:27
TetraTech Q9533888	3122052-10	Air	12/16/23 23:59	12/20/23 13:27
TetraTech Q9533885	3122052-11	Air	12/16/23 23:59	12/20/23 13:27
TetraTech Q9533884 FB	3122052-12	Air	12/16/23 00:00	12/20/23 13:27
TetraTech Q9533883	3122052-13	Air	12/17/23 23:59	12/20/23 13:27
TetraTech Q9533881	3122052-14	Air	12/17/23 23:59	12/20/23 13:27
TetraTech Q9533910	3122052-15	Air	12/17/23 23:59	12/20/23 13:27
TetraTech Q9533908 FB	3122052-16	Air	12/17/23 00:00	12/20/23 13:27

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533938
Matrix: Air
Comments: MFK-AM01-121423-HM

Lab ID: 3122052-01
Sample Volume: 2222.149 m³
Filter ID:

Sampled: 12/14/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 19:16

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**567**		**23.5**
Antimony	7440-36-0	0.0243	SL, U	0.0323
Arsenic	**7440-38-2**	**0.158**		**0.00699**
Barium	**7440-39-3**	**4.17**		**0.694**
Beryllium	**7440-41-7**	**0.0164**		**0.00243**
Cadmium	7440-43-9	0.0132	U	0.0798
Calcium	**7440-70-2**	**474**	LJ, QB-01	**214**
Chromium	**7440-47-3**	**1.81**		**1.49**
Cobalt	**7440-48-4**	**0.216**	QB-01	**0.0114**
Copper	**7440-50-8**	**14.1**		**2.20**
Iron	**7439-89-6**	**532**		**17.7**
Lead	**7439-92-1**	**0.769**		**0.202**
Magnesium	**7439-95-4**	**134**		**70.6**
Manganese	**7439-96-5**	**14.0**		**0.871**
Molybdenum	**7439-98-7**	**0.630**	QB-01	**0.156**
Nickel	7440-02-0	0.548	U	0.586
Phosphorus	7723-14-0	302	GC-BS, U	915
Potassium	**7440-09-7**	**118**		**27.8**
Rubidium	**7440-17-7**	**0.163**		**0.0134**
Selenium	**7782-49-2**	**0.109**		**0.00805**
Sodium	7440-23-5	1130	GC-BS, U	1460
Strontium	**7440-24-6**	**3.67**	QB-01	**0.477**
Thallium	**7440-28-0**	**0.00188**		**3.68E-4**
Thorium	**7440-29-01**	**0.0135**		**0.00220**
Uranium	**7440-61-1**	**0.0128**		**0.0124**
Vanadium	**7440-62-2**	**1.26**		**0.0360**
Zinc	7440-66-6	24.5	U	71.5

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533937
Matrix: Air
Comments: MFK-AM02-121423-HM

Lab ID: 3122052-02
Sample Volume: 2205.002 m³
Filter ID:

Sampled: 12/14/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 19:34

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**318**		**23.7**
Antimony	7440-36-0	0.0257	SL, U	0.0325
Arsenic	**7440-38-2**	**0.0912**		**0.00705**
Barium	**7440-39-3**	**3.48**		**0.699**
Beryllium	**7440-41-7**	**0.0111**		**0.00245**
Cadmium	7440-43-9	0.0226	U	0.0804
Calcium	**7440-70-2**	**389**	LJ, QB-01	**215**
Chromium	**7440-47-3**	**1.62**		**1.50**
Cobalt	**7440-48-4**	**0.140**	QB-01	**0.0115**
Copper	**7440-50-8**	**10.9**		**2.21**
Iron	**7439-89-6**	**322**		**17.9**
Lead	**7439-92-1**	**0.435**		**0.204**
Magnesium	**7439-95-4**	**150**		**71.1**
Manganese	**7439-96-5**	**7.95**		**0.878**
Molybdenum	**7439-98-7**	**0.560**	QB-01	**0.157**
Nickel	**7440-02-0**	**0.623**		**0.591**
Phosphorus	7723-14-0	285	GC-BS, U	922
Potassium	**7440-09-7**	**82.6**		**28.0**
Rubidium	**7440-17-7**	**0.121**		**0.0135**
Selenium	**7782-49-2**	**0.0965**		**0.00812**
Sodium	7440-23-5	1300	GC-BS, U	1480
Strontium	**7440-24-6**	**2.48**	QB-01	**0.481**
Thallium	**7440-28-0**	**0.00191**		**3.71E-4**
Thorium	**7440-29-01**	**0.00974**		**0.00221**
Uranium	7440-61-1	0.00798	U	0.0125
Vanadium	**7440-62-2**	**0.756**		**0.0363**
Zinc	7440-66-6	19.8	U	72.1

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533935
Matrix: Air
Comments: MFK-AM03-121423-HM

Lab ID: 3122052-03
Sample Volume: 1852.809 m³
Filter ID:

Sampled: 12/14/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 19:49

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**381**		**28.2**
Antimony	**7440-36-0**	**0.0462**	SL	**0.0387**
Arsenic	**7440-38-2**	**0.142**		**0.00839**
Barium	**7440-39-3**	**5.48**		**0.832**
Beryllium	**7440-41-7**	**0.0171**		**0.00292**
Cadmium	7440-43-9	0.0129	U	0.0957
Calcium	**7440-70-2**	**488**	LJ, QB-01	**256**
Chromium	**7440-47-3**	**2.14**		**1.78**
Cobalt	**7440-48-4**	**0.203**	QB-01	**0.0137**
Copper	**7440-50-8**	**17.6**		**2.63**
Iron	**7439-89-6**	**438**		**21.3**
Lead	**7439-92-1**	**0.488**		**0.242**
Magnesium	**7439-95-4**	**207**		**84.7**
Manganese	**7439-96-5**	**14.2**		**1.04**
Molybdenum	**7439-98-7**	**0.565**	QB-01	**0.187**
Nickel	**7440-02-0**	**0.761**		**0.703**
Phosphorus	7723-14-0	342	GC-BS, U	1100
Potassium	**7440-09-7**	**106**		**33.4**
Rubidium	**7440-17-7**	**0.177**		**0.0161**
Selenium	**7782-49-2**	**0.130**		**0.00966**
Sodium	7440-23-5	1680	GC-BS, U	1760
Strontium	**7440-24-6**	**3.89**	QB-01	**0.573**
Thallium	**7440-28-0**	**0.00265**		**4.42E-4**
Thorium	**7440-29-01**	**0.0134**		**0.00263**
Uranium	7440-61-1	0.0107	U	0.0149
Vanadium	**7440-62-2**	**0.942**		**0.0432**
Zinc	7440-66-6	22.7	U	85.8

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533934 FB
Matrix: Air
Lab ID: 3122052-04
Sample Volume: 2222.149 m³
Filter ID:
Sampled: 12/14/23 00:00
Received: 12/20/23 13:27
Analysis Date: 12/21/23 20:04

Comments: MFK-FB01-121423-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	10.5	U	23.5
Antimony	7440-36-0	0.00714	SL, U	0.0323
Arsenic	7440-38-2	0.00231	U	0.00699
Barium	7440-39-3	0.608	U	0.694
Beryllium	7440-41-7	9.04E-4	U	0.00243
Cadmium	7440-43-9	0.00346	U	0.0798
Calcium	**7440-70-2**	**294**	FB-01, LJ, QB-01	**214**
Chromium	7440-47-3	1.38	U	1.49
Cobalt	**7440-48-4**	**0.0240**	FB-01, QB-01	**0.0114**
Copper	7440-50-8	0.833	U	2.20
Iron	7439-89-6	14.5	U	17.7
Lead	7439-92-1	0.0590	U	0.202
Magnesium	7439-95-4	34.9	U	70.6
Manganese	7439-96-5	0.195	U	0.871
Molybdenum	**7439-98-7**	**0.213**	FB-01, QB-01	**0.156**
Nickel	7440-02-0	0.231	U	0.586
Phosphorus	7723-14-0	256	GC-BS, U	915
Potassium	**7440-09-7**	**35.3**	FB-01	**27.8**
Rubidium	7440-17-7	0.0131	U	0.0134
Selenium	7782-49-2	0.00599	U	0.00805
Sodium	7440-23-5	568	GC-BS, U	1460
Strontium	**7440-24-6**	**0.542**	FB-01, QB-01	**0.477**
Thallium	7440-28-0	1.34E-4	U	3.68E-4
Thorium	7440-29-01	0.00200	U	0.00220
Uranium	7440-61-1	0.00146	U	0.0124
Vanadium	7440-62-2	0.0180	U	0.0360
Zinc	7440-66-6	19.4	U	71.5

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9543029
Matrix: Air
Comments: MFK-AM01-121523-HM

Lab ID: 3122052-05
Sample Volume: 1884.781 m³
Filter ID:

Sampled: 12/15/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 20:18

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**197**		**27.7**
Antimony	7440-36-0	0.0313	SL, U	0.0381
Arsenic	**7440-38-2**	**0.0956**		**0.00824**
Barium	**7440-39-3**	**2.82**		**0.818**
Beryllium	**7440-41-7**	**0.00639**		**0.00287**
Cadmium	7440-43-9	0.00835	U	0.0941
Calcium	**7440-70-2**	**617**	LJ, QB-01	**252**
Chromium	**7440-47-3**	**1.80**		**1.75**
Cobalt	**7440-48-4**	**0.121**	QB-01	**0.0135**
Copper	**7440-50-8**	**16.5**		**2.59**
Iron	**7439-89-6**	**217**		**20.9**
Lead	**7439-92-1**	**0.460**		**0.238**
Magnesium	**7439-95-4**	**351**		**83.2**
Manganese	**7439-96-5**	**5.48**		**1.03**
Molybdenum	**7439-98-7**	**0.880**	QB-01	**0.184**
Nickel	7440-02-0	0.611	U	0.691
Phosphorus	7723-14-0	408	GC-BS, U	1080
Potassium	**7440-09-7**	**129**		**32.8**
Rubidium	**7440-17-7**	**0.118**		**0.0158**
Selenium	**7782-49-2**	**0.117**		**0.00950**
Sodium	**7440-23-5**	**3180**	E, GC-BS	**1730**
Strontium	**7440-24-6**	**3.49**	QB-01	**0.563**
Thallium	**7440-28-0**	**0.00157**		**4.34E-4**
Thorium	**7440-29-01**	**0.00641**		**0.00259**
Uranium	7440-61-1	0.00671	U	0.0147
Vanadium	**7440-62-2**	**0.492**		**0.0425**
Zinc	7440-66-6	22.8	U	84.3

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533895
Matrix: Air
Comments: MFK-AM02-121523-HM

Lab ID: 3122052-06
Sample Volume: 1899.853 m³
Filter ID:

Sampled: 12/15/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 20:49

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**212**		**27.5**
Antimony	7440-36-0	0.0370	SL, U	0.0378
Arsenic	**7440-38-2**	**0.100**		**0.00818**
Barium	**7440-39-3**	**3.08**		**0.812**
Beryllium	**7440-41-7**	**0.00691**		**0.00284**
Cadmium	7440-43-9	0.0254	U	0.0933
Calcium	**7440-70-2**	**486**	LJ, QB-01	**250**
Chromium	**7440-47-3**	**1.85**		**1.74**
Cobalt	**7440-48-4**	**0.117**	QB-01	**0.0134**
Copper	**7440-50-8**	**10.0**		**2.57**
Iron	**7439-89-6**	**228**		**20.7**
Lead	**7439-92-1**	**0.296**		**0.236**
Magnesium	**7439-95-4**	**362**		**82.6**
Manganese	**7439-96-5**	**5.37**		**1.02**
Molybdenum	**7439-98-7**	**0.698**	QB-01	**0.182**
Nickel	7440-02-0	0.560	U	0.686
Phosphorus	7723-14-0	319	GC-BS, U	1070
Potassium	**7440-09-7**	**135**		**32.5**
Rubidium	**7440-17-7**	**0.126**		**0.0157**
Selenium	**7782-49-2**	**0.127**		**0.00942**
Sodium	**7440-23-5**	**3210**	E, GC-BS	**1710**
Strontium	**7440-24-6**	**3.39**	QB-01	**0.558**
Thallium	**7440-28-0**	**0.00162**		**4.31E-4**
Thorium	**7440-29-01**	**0.00856**		**0.00257**
Uranium	7440-61-1	0.00650	U	0.0146
Vanadium	**7440-62-2**	**0.522**		**0.0421**
Zinc	7440-66-6	17.2	U	83.7

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533893
Matrix: Air
Comments: MFK-AM03-121523-HM

Lab ID: 3122052-07
Sample Volume: 1569.877 m³
Filter ID:

Sampled: 12/15/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 21:03

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**259**		**33.3**
Antimony	**7440-36-0**	**0.0633**	SL	**0.0457**
Arsenic	**7440-38-2**	**0.105**		**0.00990**
Barium	**7440-39-3**	**4.78**		**0.982**
Beryllium	**7440-41-7**	**0.0119**		**0.00344**
Cadmium	7440-43-9	0.0104	U	0.113
Calcium	**7440-70-2**	**578**	LJ, QB-01	**303**
Chromium	**7440-47-3**	**2.14**		**2.10**
Cobalt	**7440-48-4**	**0.177**	QB-01	**0.0162**
Copper	**7440-50-8**	**27.2**		**3.11**
Iron	**7439-89-6**	**316**		**25.1**
Lead	**7439-92-1**	**0.435**		**0.286**
Magnesium	**7439-95-4**	**418**		**99.9**
Manganese	**7439-96-5**	**9.78**		**1.23**
Molybdenum	**7439-98-7**	**0.798**	QB-01	**0.221**
Nickel	**7440-02-0**	**0.940**		**0.830**
Phosphorus	7723-14-0	394	GC-BS, U	1300
Potassium	**7440-09-7**	**194**		**39.4**
Rubidium	**7440-17-7**	**0.157**		**0.0190**
Selenium	**7782-49-2**	**0.127**		**0.0114**
Sodium	**7440-23-5**	**3630**	E, GC-BS	**2070**
Strontium	**7440-24-6**	**4.52**	QB-01	**0.676**
Thallium	**7440-28-0**	**0.00190**		**5.21E-4**
Thorium	**7440-29-01**	**0.0107**		**0.00311**
Uranium	7440-61-1	0.00854	U	0.0176
Vanadium	**7440-62-2**	**0.683**		**0.0510**
Zinc	7440-66-6	21.6	U	101

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533890 FB
Matrix: Air
Lab ID: 3122052-08
Sample Volume: 1884.781 m³
Filter ID:
Sampled: 12/15/23 00:00
Received: 12/20/23 13:27
Analysis Date: 12/21/23 21:18

Comments: MFK-FB01-121523-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	12.3	U	27.7
Antimony	7440-36-0	0.00847	SL, U	0.0381
Arsenic	7440-38-2	0.00475	U	0.00824
Barium	7440-39-3	0.676	U	0.818
Beryllium	7440-41-7	0.00108	U	0.00287
Cadmium	7440-43-9	0.00276	U	0.0941
Calcium	**7440-70-2**	**311**	FB-01, LJ, QB-01	**252**
Chromium	7440-47-3	1.68	U	1.75
Cobalt	**7440-48-4**	**0.0276**	FB-01, QB-01	**0.0135**
Copper	7440-50-8	0.826	U	2.59
Iron	7439-89-6	15.6	U	20.9
Lead	7439-92-1	0.0631	U	0.238
Magnesium	7439-95-4	40.3	U	83.2
Manganese	7439-96-5	0.245	U	1.03
Molybdenum	**7439-98-7**	**0.282**	FB-01, QB-01	**0.184**
Nickel	7440-02-0	0.360	U	0.691
Phosphorus	7723-14-0	309	GC-BS, U	1080
Potassium	**7440-09-7**	**40.1**	FB-01	**32.8**
Rubidium	**7440-17-7**	**0.0166**	FB-01	**0.0158**
Selenium	7782-49-2	0.00488	U	0.00950
Sodium	7440-23-5	707	GC-BS, U	1730
Strontium	**7440-24-6**	**0.609**	FB-01, QB-01	**0.563**
Thallium	7440-28-0	1.03E-4	U	4.34E-4
Thorium	7440-29-01	0.00232	U	0.00259
Uranium	7440-61-1	0.00177	U	0.0147
Vanadium	7440-62-2	0.0282	U	0.0425
Zinc	7440-66-6	16.7	U	84.3

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533892
Matrix: Air
Comments: MFK-AM01-121623-HM

Lab ID: 3122052-09
Sample Volume: 2060.35 m³
Filter ID:

Sampled: 12/16/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 21:32

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**254**		**25.3**
Antimony	**7440-36-0**	**0.0604**	SL	**0.0348**
Arsenic	**7440-38-2**	**0.0980**		**0.00754**
Barium	**7440-39-3**	**4.03**		**0.749**
Beryllium	**7440-41-7**	**0.00826**		**0.00262**
Cadmium	7440-43-9	0.0229	U	0.0861
Calcium	**7440-70-2**	**476**	LJ, QB-01	**231**
Chromium	**7440-47-3**	**1.65**		**1.60**
Cobalt	**7440-48-4**	**0.158**	QB-01	**0.0123**
Copper	**7440-50-8**	**16.6**		**2.37**
Iron	**7439-89-6**	**308**		**19.1**
Lead	**7439-92-1**	**0.305**		**0.218**
Magnesium	**7439-95-4**	**282**		**76.1**
Manganese	**7439-96-5**	**8.03**		**0.940**
Molybdenum	**7439-98-7**	**1.05**	QB-01	**0.168**
Nickel	**7440-02-0**	**0.713**		**0.633**
Phosphorus	7723-14-0	307	GC-BS, U	987
Potassium	**7440-09-7**	**130**		**30.0**
Rubidium	**7440-17-7**	**0.149**		**0.0145**
Selenium	**7782-49-2**	**0.105**		**0.00869**
Sodium	**7440-23-5**	**2500**	E, GC-BS	**1580**
Strontium	**7440-24-6**	**3.36**	QB-01	**0.515**
Thallium	**7440-28-0**	**0.00121**		**3.97E-4**
Thorium	**7440-29-01**	**0.00841**		**0.00237**
Uranium	7440-61-1	0.00716	U	0.0134
Vanadium	**7440-62-2**	**0.712**		**0.0389**
Zinc	7440-66-6	18.9	U	77.2

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533888
Matrix: Air
Comments: MFK-AM02-121623-HM

Lab ID: 3122052-10
Sample Volume: 2057.6 m³
Filter ID:

Sampled: 12/16/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 22:26

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**246**		**25.4**
Antimony	**7440-36-0**	**0.0588**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.0969**		**0.00755**
Barium	**7440-39-3**	**3.93**		**0.750**
Beryllium	**7440-41-7**	**0.00857**		**0.00263**
Cadmium	7440-43-9	0.0181	U	0.0862
Calcium	**7440-70-2**	**443**	LJ, QB-01	**231**
Chromium	**7440-47-3**	**1.67**		**1.61**
Cobalt	**7440-48-4**	**0.169**	QB-01	**0.0123**
Copper	**7440-50-8**	**13.7**		**2.37**
Iron	**7439-89-6**	**287**		**19.1**
Lead	**7439-92-1**	**0.290**		**0.218**
Magnesium	**7439-95-4**	**250**		**76.2**
Manganese	**7439-96-5**	**7.42**		**0.941**
Molybdenum	**7439-98-7**	**0.855**	QB-01	**0.168**
Nickel	7440-02-0	0.631	U	0.633
Phosphorus	7723-14-0	294	GC-BS, U	988
Potassium	**7440-09-7**	**126**		**30.0**
Rubidium	**7440-17-7**	**0.166**		**0.0145**
Selenium	**7782-49-2**	**0.0989**		**0.00870**
Sodium	**7440-23-5**	**2230**	E, GC-BS	**1580**
Strontium	**7440-24-6**	**3.27**	QB-01	**0.516**
Thallium	**7440-28-0**	**0.00132**		**3.98E-4**
Thorium	**7440-29-01**	**0.00831**		**0.00237**
Uranium	7440-61-1	0.00701	U	0.0134
Vanadium	**7440-62-2**	**0.665**		**0.0389**
Zinc	7440-66-6	15.5	U	77.3

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533885
Matrix: Air
Comments: MFK-AM03-121623-HM

Lab ID: 3122052-11
Sample Volume: 1753.525 m³
Filter ID:

Sampled: 12/16/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 22:42

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**224**		**29.8**
Antimony	**7440-36-0**	**0.0535**	SL	**0.0409**
Arsenic	**7440-38-2**	**0.0708**		**0.00886**
Barium	**7440-39-3**	**4.34**		**0.880**
Beryllium	**7440-41-7**	**0.00989**		**0.00308**
Cadmium	7440-43-9	0.00832	U	0.101
Calcium	**7440-70-2**	**485**	LJ, QB-01	**271**
Chromium	**7440-47-3**	**1.97**		**1.88**
Cobalt	**7440-48-4**	**0.142**	QB-01	**0.0145**
Copper	**7440-50-8**	**36.6**		**2.78**
Iron	**7439-89-6**	**279**		**22.5**
Lead	**7439-92-1**	**0.403**		**0.256**
Magnesium	**7439-95-4**	**239**		**89.4**
Manganese	**7439-96-5**	**8.25**		**1.10**
Molybdenum	**7439-98-7**	**0.935**	QB-01	**0.198**
Nickel	7440-02-0	0.530	U	0.743
Phosphorus	7723-14-0	364	GC-BS, U	1160
Potassium	**7440-09-7**	**132**		**35.3**
Rubidium	**7440-17-7**	**0.138**		**0.0170**
Selenium	**7782-49-2**	**0.0987**		**0.0102**
Sodium	**7440-23-5**	**2170**	E, GC-BS	**1860**
Strontium	**7440-24-6**	**3.21**	QB-01	**0.605**
Thallium	**7440-28-0**	**0.00154**		**4.67E-4**
Thorium	**7440-29-01**	**0.00832**		**0.00278**
Uranium	7440-61-1	0.00757	U	0.0158
Vanadium	**7440-62-2**	**0.604**		**0.0456**
Zinc	7440-66-6	23.1	U	90.7

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533884 FB
Matrix: Air
Lab ID: 3122052-12
Sample Volume: 2060.35 m³
Filter ID:
Sampled: 12/16/23 00:00
Received: 12/20/23 13:27
Analysis Date: 12/21/23 22:56

Comments: MFK-FB01-121623-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	7.84	U	25.3
Antimony	7440-36-0	0.00608	SL, U	0.0348
Arsenic	7440-38-2	0.00157	U	0.00754
Barium	7440-39-3	0.564	U	0.749
Beryllium	7440-41-7	6.98E-4	U	0.00262
Cadmium	7440-43-9	0.00253	U	0.0861
Calcium	**7440-70-2**	**279**	FB-01, LJ, QB-01	**231**
Chromium	7440-47-3	1.44	U	1.60
Cobalt	**7440-48-4**	**0.0316**	FB-01, QB-01	**0.0123**
Copper	7440-50-8	0.245	U	2.37
Iron	7439-89-6	11.1	U	19.1
Lead	7439-92-1	0.0512	U	0.218
Magnesium	7439-95-4	34.3	U	76.1
Manganese	7439-96-5	0.139	U	0.940
Molybdenum	**7439-98-7**	**0.246**	FB-01, QB-01	**0.168**
Nickel	7440-02-0	0.258	U	0.633
Phosphorus	7723-14-0	274	GC-BS, U	987
Potassium	**7440-09-7**	**32.4**	FB-01	**30.0**
Rubidium	7440-17-7	0.0114	U	0.0145
Selenium	7782-49-2	0.00294	U	0.00869
Sodium	7440-23-5	612	GC-BS, U	1580
Strontium	**7440-24-6**	**0.540**	FB-01, QB-01	**0.515**
Thallium	7440-28-0	8.30E-5	U	3.97E-4
Thorium	7440-29-01	0.00183	U	0.00237
Uranium	7440-61-1	0.00146	U	0.0134
Vanadium	7440-62-2	0.00830	U	0.0389
Zinc	7440-66-6	14.3	U	77.2

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533883
Matrix: Air
Comments: MFK-AM01-121723-HM

Lab ID: 3122052-13
Sample Volume: 2065.514 m³
Filter ID:

Sampled: 12/17/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 23:10

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**266**		**25.3**
Antimony	**7440-36-0**	**0.0496**	SL	**0.0347**
Arsenic	**7440-38-2**	**0.0803**		**0.00752**
Barium	**7440-39-3**	**3.97**		**0.747**
Beryllium	**7440-41-7**	**0.00861**		**0.00262**
Cadmium	7440-43-9	0.00920	U	0.0859
Calcium	**7440-70-2**	**420**	LJ, QB-01	**230**
Chromium	**7440-47-3**	**1.64**		**1.60**
Cobalt	**7440-48-4**	**0.140**	QB-01	**0.0123**
Copper	**7440-50-8**	**19.9**		**2.36**
Iron	**7439-89-6**	**299**		**19.1**
Lead	**7439-92-1**	**0.442**		**0.217**
Magnesium	**7439-95-4**	**195**		**75.9**
Manganese	**7439-96-5**	**7.42**		**0.937**
Molybdenum	**7439-98-7**	**0.976**	QB-01	**0.168**
Nickel	7440-02-0	0.437	U	0.631
Phosphorus	7723-14-0	311	GC-BS, U	985
Potassium	**7440-09-7**	**81.7**		**29.9**
Rubidium	**7440-17-7**	**0.128**		**0.0144**
Selenium	**7782-49-2**	**0.107**		**0.00866**
Sodium	**7440-23-5**	**1780**	E, GC-BS	**1580**
Strontium	**7440-24-6**	**2.63**	QB-01	**0.514**
Thallium	**7440-28-0**	**0.00419**		**3.96E-4**
Thorium	**7440-29-01**	**0.00770**		**0.00236**
Uranium	7440-61-1	0.00765	U	0.0134
Vanadium	**7440-62-2**	**0.714**		**0.0388**
Zinc	7440-66-6	15.7	U	77.0

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533881
Matrix: Air
Comments: MFK-AM02-121723-HM

Lab ID: 3122052-14
Sample Volume: 2070.53 m³
Filter ID:

Sampled: 12/17/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 23:25

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**268**		**25.2**
Antimony	**7440-36-0**	**0.0631**	SL	**0.0347**
Arsenic	**7440-38-2**	**0.0900**		**0.00750**
Barium	**7440-39-3**	**3.77**		**0.745**
Beryllium	**7440-41-7**	**0.00921**		**0.00261**
Cadmium	7440-43-9	0.0412	U	0.0857
Calcium	**7440-70-2**	**466**	LJ, QB-01	**229**
Chromium	**7440-47-3**	**1.67**		**1.60**
Cobalt	**7440-48-4**	**0.141**	QB-01	**0.0123**
Copper	**7440-50-8**	**16.8**		**2.36**
Iron	**7439-89-6**	**282**		**19.0**
Lead	**7439-92-1**	**0.289**		**0.217**
Magnesium	**7439-95-4**	**181**		**75.8**
Manganese	**7439-96-5**	**7.14**		**0.935**
Molybdenum	**7439-98-7**	**0.893**	QB-01	**0.167**
Nickel	7440-02-0	0.452	U	0.629
Phosphorus	7723-14-0	303	GC-BS, U	982
Potassium	**7440-09-7**	**162**		**29.9**
Rubidium	**7440-17-7**	**0.271**		**0.0144**
Selenium	**7782-49-2**	**0.103**		**0.00864**
Sodium	**7440-23-5**	**1640**	E, GC-BS	**1570**
Strontium	**7440-24-6**	**2.63**	QB-01	**0.512**
Thallium	**7440-28-0**	**0.00462**		**3.95E-4**
Thorium	**7440-29-01**	**0.00777**		**0.00236**
Uranium	7440-61-1	0.00722	U	0.0134
Vanadium	**7440-62-2**	**0.655**		**0.0387**
Zinc	7440-66-6	14.8	U	76.8

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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533910
Matrix: Air
Comments: MFK-AM03-121723-HM/MS/MSD

Lab ID: 3122052-15
Sample Volume: 1578.644 m³
Filter ID:

Sampled: 12/17/23 23:59
Received: 12/20/23 13:27
Analysis Date: 12/21/23 16:50

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**223**	QM-07	**33.1**
Antimony	7440-36-0	0.0451	SL, U	0.0455
Arsenic	**7440-38-2**	**0.0661**		**0.00984**
Barium	**7440-39-3**	**3.62**		**0.977**
Beryllium	**7440-41-7**	**0.00964**		**0.00342**
Cadmium	7440-43-9	0.00845	U	0.112
Calcium	**7440-70-2**	**492**	LJ, QB-01	**301**
Chromium	7440-47-3	2.07	U	2.09
Cobalt	**7440-48-4**	**0.142**	QB-01	**0.0161**
Copper	**7440-50-8**	**21.8**		**3.09**
Iron	**7439-89-6**	**259**	QM-4X	**24.9**
Lead	**7439-92-1**	**0.350**		**0.284**
Magnesium	**7439-95-4**	**163**	QM-4X	**99.4**
Manganese	**7439-96-5**	**7.96**		**1.23**
Molybdenum	**7439-98-7**	**0.802**	QB-01	**0.220**
Nickel	7440-02-0	0.479	U	0.826
Phosphorus	7723-14-0	378	A-01, GC-BS, QM-4X, U	1290
Potassium	**7440-09-7**	**81.5**		**39.2**
Rubidium	**7440-17-7**	**0.127**		**0.0189**
Selenium	**7782-49-2**	**0.0804**		**0.0113**
Sodium	7440-23-5	1580	A-01, GC-BS, QM-4X, U	2060
Strontium	**7440-24-6**	**2.75**	QB-01	**0.672**
Thallium	**7440-28-0**	**0.00377**		**5.18E-4**
Thorium	**7440-29-01**	**0.00878**	QM-07	**0.00309**
Uranium	7440-61-1	0.00688	U	0.0175
Vanadium	**7440-62-2**	**0.545**		**0.0507**
Zinc	7440-66-6	26.5	U	101

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9533908 FB
Matrix: Air
Lab ID: 3122052-16
Sample Volume: 2065.514 m³
Filter ID:
Sampled: 12/17/23 00:00
Received: 12/20/23 13:27
Analysis Date: 12/21/23 23:39

Comments: MFK-FB01-121723-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	10.2	U	25.3
Antimony	7440-36-0	0.00651	SL, U	0.0347
Arsenic	7440-38-2	0.00254	U	0.00752
Barium	**7440-39-3**	**0.761**	FB-01	**0.747**
Beryllium	7440-41-7	7.84E-4	U	0.00262
Cadmium	7440-43-9	0.00231	U	0.0859
Calcium	**7440-70-2**	**268**	FB-01, LJ, QB-01	**230**
Chromium	7440-47-3	1.46	U	1.60
Cobalt	**7440-48-4**	**0.0986**	FB-01, QB-01	**0.0123**
Copper	7440-50-8	0.511	U	2.36
Iron	7439-89-6	12.9	U	19.1
Lead	7439-92-1	0.0569	U	0.217
Magnesium	7439-95-4	37.0	U	75.9
Manganese	7439-96-5	0.173	U	0.937
Molybdenum	**7439-98-7**	**0.229**	FB-01, QB-01	**0.168**
Nickel	7440-02-0	0.281	U	0.631
Phosphorus	7723-14-0	276	GC-BS, U	985
Potassium	**7440-09-7**	**34.0**	FB-01	**29.9**
Rubidium	7440-17-7	0.0127	U	0.0144
Selenium	7782-49-2	0.00276	U	0.00866
Sodium	7440-23-5	637	GC-BS, U	1580
Strontium	**7440-24-6**	**0.543**	FB-01, QB-01	**0.514**
Thallium	7440-28-0	8.47E-5	U	3.96E-4
Thorium	7440-29-01	0.00215	U	0.00236
Uranium	7440-61-1	0.00153	U	0.0134
Vanadium	7440-62-2	0.0207	U	0.0388
Zinc	7440-66-6	13.0	U	77.0

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Calibration Blank (2312067-CCB1)				Prepared & Analyzed: 12/21/23						
Aluminum	-63.3		ng/l							U
Antimony	1.23		ng/l							
Arsenic	0.586		ng/l							
Barium	1.05		ng/l							
Beryllium	0.227		ng/l							
Cadmium	0.562		ng/l							
Calcium	723		ng/l							
Chromium	9.03		ng/l							
Cobalt	1.14		ng/l							
Copper	61.5		ng/l							
Iron	51.2		ng/l							
Lead	9.43		ng/l							
Magnesium	44.6		ng/l							
Manganese	11.2		ng/l							
Molybdenum	25.6		ng/l							
Nickel	2.94		ng/l							
Phosphorus	380		ng/l							
Potassium	17.1		ng/l							
Rubidium	-0.627		ng/l							U
Selenium	13.9		ng/l							
Sodium	-348		ng/l							U
Strontium	1.64		ng/l							
Thallium	0.561		ng/l							
Thorium	0.549		ng/l							
Uranium	0.0219		ng/l							
Vanadium	-35.3		ng/l							U
Zinc	-32.9		ng/l							U
Calibration Blank (2312067-CCB2)				Prepared & Analyzed: 12/21/23						
Aluminum	-35.7		ng/l							U
Antimony	0.966		ng/l							
Arsenic	0.728		ng/l							
Barium	1.78		ng/l							
Beryllium	0.204		ng/l							
Cadmium	0.562		ng/l							
Calcium	702		ng/l							
Chromium	3.79		ng/l							
Cobalt	1.18		ng/l							
Copper	57.1		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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Calibration Blank (2312067-CCB2) Contin				Prepared & Analyzed: 12/21/23						
Iron	94.6		ng/l							
Lead	11.4		ng/l							
Magnesium	8.41		ng/l							
Manganese	10.1		ng/l							
Molybdenum	10.2		ng/l							
Nickel	1.39		ng/l							
Phosphorus	500		ng/l							
Potassium	-429		ng/l							U
Rubidium	-0.707		ng/l							U
Selenium	3.96		ng/l							
Sodium	-486		ng/l							U
Strontium	2.19		ng/l							
Thallium	0.509		ng/l							
Thorium	0.906		ng/l							
Uranium	0.0222		ng/l							
Vanadium	-40.7		ng/l							U
Zinc	-13.4		ng/l							U
Calibration Blank (2312067-CCB3)				Prepared & Analyzed: 12/21/23						
Aluminum	-29.3		ng/l							U
Antimony	1.55		ng/l							
Arsenic	-0.712		ng/l							U
Barium	-0.769		ng/l							U
Beryllium	0.127		ng/l							
Cadmium	0.432		ng/l							
Calcium	-249		ng/l							U
Chromium	0.776		ng/l							
Cobalt	0.447		ng/l							
Copper	26.8		ng/l							
Iron	110		ng/l							
Lead	7.00		ng/l							
Magnesium	4.29		ng/l							
Manganese	3.75		ng/l							
Molybdenum	7.72		ng/l							
Nickel	-0.135		ng/l							U
Phosphorus	-504		ng/l							U
Potassium	-1080		ng/l							U
Rubidium	-1.08		ng/l							U
Selenium	14.4		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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Calibration Blank (2312067-CCB3) Contin				Prepared & Analyzed: 12/21/23						
Sodium	-288		ng/l							U
Strontium	0.752		ng/l							
Thallium	0.407		ng/l							
Thorium	0.391		ng/l							
Uranium	0.0162		ng/l							
Vanadium	-43.0		ng/l							U
Zinc	-33.5		ng/l							U
Calibration Blank (2312067-CCB4)				Prepared: 12/21/23 Analyzed: 12/22/23						
Aluminum	-86.4		ng/l							U
Antimony	1.63		ng/l							
Arsenic	0.473		ng/l							
Barium	-0.969		ng/l							U
Beryllium	0.165		ng/l							
Cadmium	0.624		ng/l							
Calcium	926		ng/l							
Chromium	1.34		ng/l							
Cobalt	0.500		ng/l							
Copper	28.3		ng/l							
Iron	81.5		ng/l							
Lead	7.97		ng/l							
Magnesium	39.7		ng/l							
Manganese	3.53		ng/l							
Molybdenum	8.48		ng/l							
Nickel	-0.729		ng/l							U
Phosphorus	-435		ng/l							U
Potassium	-772		ng/l							U
Rubidium	0.184		ng/l							
Selenium	-0.0424		ng/l							U
Sodium	-251		ng/l							U
Strontium	0.0686		ng/l							
Thallium	0.429		ng/l							
Thorium	0.820		ng/l							
Uranium	0.0267		ng/l							
Vanadium	-43.6		ng/l							U
Zinc	-30.6		ng/l							U
Calibration Check (2312067-CCV1)				Prepared & Analyzed: 12/21/23						
Aluminum	1.53E6		ng/l	1.5000E6		102	90-110			
Antimony	19900		ng/l	20000		99.4	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Calibration Check (2312067-CCV1) Contin					Prepared & Analyzed: 12/21/23					
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	199000		ng/l	200000		99.6	90-110			
Beryllium	5030		ng/l	5000.0		101	90-110			
Cadmium	19700		ng/l	20000		98.7	90-110			
Calcium	2.51E7		ng/l	2.5000E7		101	90-110			
Chromium	234000		ng/l	240000		97.6	90-110			
Cobalt	50400		ng/l	50000		101	90-110			
Copper	2.03E6		ng/l	2.0000E6		102	90-110			
Iron	2.52E6		ng/l	2.5000E6		101	90-110			
Lead	197000		ng/l	200000		98.6	90-110			
Magnesium	1.02E6		ng/l	1.0000E6		102	90-110			
Manganese	505000		ng/l	500000		101	90-110			
Molybdenum	49000		ng/l	50000		98.0	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Phosphorus	203000		ng/l	200000		101	90-110			
Potassium	2.52E6		ng/l	2.5000E6		101	90-110			
Rubidium	9930		ng/l	10000		99.3	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Sodium	2.52E6		ng/l	2.5000E6		101	90-110			
Strontium	49500		ng/l	50000		99.0	90-110			
Thallium	496		ng/l	500.00		99.2	90-110			
Thorium	488		ng/l	500.00		97.6	90-110			
Uranium	497		ng/l	500.00		99.4	90-110			
Vanadium	19700		ng/l	20000		98.6	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2312067-CCV2)					Prepared & Analyzed: 12/21/23					
Aluminum	1.49E6		ng/l	1.5000E6		99.6	90-110			
Antimony	20100		ng/l	20000		100	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	5040		ng/l	5000.0		101	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Calcium	2.50E7		ng/l	2.5000E7		100	90-110			
Chromium	238000		ng/l	240000		99.1	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.04E6		ng/l	2.0000E6		102	90-110			
Iron	2.50E6		ng/l	2.5000E6		100	90-110			
Lead	200000		ng/l	200000		100	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Calibration Check (2312067-CCV2) Contin					Prepared & Analyzed: 12/21/23					
Magnesium	1.01E6		ng/l	1.0000E6		101	90-110			
Manganese	501000		ng/l	500000		100	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Phosphorus	199000		ng/l	200000		99.7	90-110			
Potassium	2.48E6		ng/l	2.5000E6		99.0	90-110			
Rubidium	10000		ng/l	10000		100	90-110			
Selenium	20300		ng/l	20000		102	90-110			
Sodium	2.49E6		ng/l	2.5000E6		99.7	90-110			
Strontium	50100		ng/l	50000		100	90-110			
Thallium	503		ng/l	500.00		101	90-110			
Thorium	492		ng/l	500.00		98.4	90-110			
Uranium	493		ng/l	500.00		98.5	90-110			
Vanadium	19900		ng/l	20000		99.3	90-110			
Zinc	529000		ng/l	500000		106	90-110			
Calibration Check (2312067-CCV3)					Prepared & Analyzed: 12/21/23					
Aluminum	1.53E6		ng/l	1.5000E6		102	90-110			
Antimony	20800		ng/l	20000		104	90-110			
Arsenic	20700		ng/l	20000		103	90-110			
Barium	213000		ng/l	200000		107	90-110			
Beryllium	4820		ng/l	5000.0		96.4	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Calcium	2.57E7		ng/l	2.5000E7		103	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	51500		ng/l	50000		103	90-110			
Copper	2.11E6		ng/l	2.0000E6		105	90-110			
Iron	2.58E6		ng/l	2.5000E6		103	90-110			
Lead	205000		ng/l	200000		103	90-110			
Magnesium	1.04E6		ng/l	1.0000E6		104	90-110			
Manganese	515000		ng/l	500000		103	90-110			
Molybdenum	52400		ng/l	50000		105	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Phosphorus	201000		ng/l	200000		101	90-110			
Potassium	2.53E6		ng/l	2.5000E6		101	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	20900		ng/l	20000		104	90-110			
Sodium	2.58E6		ng/l	2.5000E6		103	90-110			
Strontium	51100		ng/l	50000		102	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Calibration Check (2312067-CCV3) Contin				Prepared & Analyzed: 12/21/23						
Thallium	510		ng/l	500.00		102	90-110			
Thorium	506		ng/l	500.00		101	90-110			
Uranium	506		ng/l	500.00		101	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	546000		ng/l	500000		109	90-110			
Calibration Check (2312067-CCV4)				Prepared & Analyzed: 12/21/23						
Aluminum	1.52E6		ng/l	1.5000E6		101	90-110			
Antimony	20500		ng/l	20000		103	90-110			
Arsenic	20500		ng/l	20000		102	90-110			
Barium	212000		ng/l	200000		106	90-110			
Beryllium	4740		ng/l	5000.0		94.9	90-110			
Cadmium	20700		ng/l	20000		104	90-110			
Calcium	2.54E7		ng/l	2.5000E7		102	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	51100		ng/l	50000		102	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Iron	2.55E6		ng/l	2.5000E6		102	90-110			
Lead	204000		ng/l	200000		102	90-110			
Magnesium	1.03E6		ng/l	1.0000E6		103	90-110			
Manganese	512000		ng/l	500000		102	90-110			
Molybdenum	52100		ng/l	50000		104	90-110			
Nickel	125000		ng/l	120000		104	90-110			
Phosphorus	204000		ng/l	200000		102	90-110			
Potassium	2.51E6		ng/l	2.5000E6		101	90-110			
Rubidium	10200		ng/l	10000		102	90-110			
Selenium	20600		ng/l	20000		103	90-110			
Sodium	2.56E6		ng/l	2.5000E6		103	90-110			
Strontium	50700		ng/l	50000		101	90-110			
Thallium	512		ng/l	500.00		102	90-110			
Thorium	504		ng/l	500.00		101	90-110			
Uranium	510		ng/l	500.00		102	90-110			
Vanadium	20500		ng/l	20000		102	90-110			
Zinc	541000		ng/l	500000		108	90-110			
High Cal Check (2312067-HCV1)				Prepared & Analyzed: 12/21/23						
Aluminum	2.95E6		ng/l	3.0000E6		98.3	95-105			
Antimony	40100		ng/l	40000		100	95-105			
Arsenic	40100		ng/l	40000		100	95-105			
Barium	405000		ng/l	400000		101	95-105			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
High Cal Check (2312067-HCV1) Continue					Prepared & Analyzed: 12/21/23					
Beryllium	9970		ng/l	10000		99.7	95-105			
Cadmium	39600		ng/l	40000		98.9	95-105			
Calcium	4.98E7		ng/l	5.0000E7		99.5	95-105			
Chromium	471000		ng/l	480000		98.0	95-105			
Cobalt	98500		ng/l	100000		98.5	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Iron	4.93E6		ng/l	5.0000E6		98.6	95-105			
Lead	396000		ng/l	400000		99.0	95-105			
Magnesium	1.96E6		ng/l	2.0000E6		97.9	95-105			
Manganese	989000		ng/l	1.0000E6		98.9	95-105			
Molybdenum	99500		ng/l	100000		99.5	95-105			
Nickel	237000		ng/l	240000		98.6	95-105			
Phosphorus	395000		ng/l	400000		98.8	95-105			
Potassium	4.94E6		ng/l	5.0000E6		98.7	95-105			
Rubidium	20000		ng/l	20000		100	95-105			
Selenium	40000		ng/l	40000		99.9	95-105			
Sodium	4.87E6		ng/l	5.0000E6		97.4	95-105			
Strontium	100000		ng/l	100000		100	95-105			
Thallium	994		ng/l	1000.0		99.4	95-105			
Thorium	1010		ng/l	1000.0		101	95-105			
Uranium	999		ng/l	1000.0		99.9	95-105			
Vanadium	39600		ng/l	40000		98.9	95-105			
Zinc	981000		ng/l	1.0000E6		98.1	95-105			
Initial Cal Blank (2312067-ICB1)					Prepared & Analyzed: 12/21/23					
Aluminum	-116		ng/l							U
Antimony	1.65		ng/l							
Arsenic	-0.499		ng/l							U
Barium	-2.96		ng/l							U
Beryllium	0.0160		ng/l							
Cadmium	0.0948		ng/l							
Calcium	-251		ng/l							U
Chromium	4.68		ng/l							
Cobalt	0.234		ng/l							
Copper	27.7		ng/l							
Iron	38.5		ng/l							
Lead	11.2		ng/l							
Magnesium	-27.2		ng/l							U
Manganese	5.81		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 #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Initial Cal Blank (2312067-ICB1) Continu				Prepared & Analyzed: 12/21/23						
Molybdenum	14.1		ng/l							
Nickel	-0.342		ng/l							U
Phosphorus	-367		ng/l							U
Potassium	-168		ng/l							U
Rubidium	-0.297		ng/l							U
Selenium	12.8		ng/l							
Sodium	-470		ng/l							U
Strontium	0.815		ng/l							
Thallium	0.425		ng/l							
Thorium	0.580		ng/l							
Uranium	0.00926		ng/l							
Vanadium	-37.4		ng/l							U
Zinc	-14.0		ng/l							U
Initial Cal Check (2312067-ICV1)				Prepared & Analyzed: 12/21/23						
Aluminum	1.45E6		ng/l	1.5000E6		96.8	90-110			
Antimony	19500		ng/l	20000		97.7	90-110			
Arsenic	19700		ng/l	20000		98.6	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	4980		ng/l	5000.0		99.6	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Calcium	2.43E7		ng/l	2.5000E7		97.3	90-110			
Chromium	231000		ng/l	240000		96.2	90-110			
Cobalt	49100		ng/l	50000		98.1	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.9	90-110			
Iron	2.47E6		ng/l	2.5000E6		98.7	90-110			
Lead	196000		ng/l	200000		97.8	90-110			
Magnesium	971000		ng/l	1.0000E6		97.1	90-110			
Manganese	489000		ng/l	500000		97.7	90-110			
Molybdenum	48700		ng/l	50000		97.4	90-110			
Nickel	118000		ng/l	120000		97.9	90-110			
Phosphorus	193000		ng/l	200000		96.5	90-110			
Potassium	2.48E6		ng/l	2.5000E6		99.2	90-110			
Rubidium	9650		ng/l	10000		96.5	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Sodium	2.43E6		ng/l	2.5000E6		97.4	90-110			
Strontium	49700		ng/l	50000		99.4	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Thorium	481		ng/l	500.00		96.3	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Initial Cal Check (2312067-ICV1) Continu					Prepared & Analyzed: 12/21/23					
Uranium	492		ng/l	500.00		98.4	90-110			
Vanadium	19900		ng/l	20000		99.4	90-110			
Zinc	522000		ng/l	500000		104	90-110			
Interference Check A (2312067-IFA1)					Prepared & Analyzed: 12/21/23					
Aluminum	1.45E7		ng/l	1.5000E7		96.8	80-120			
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
Calcium	9.26E7		ng/l	1.0040E8		92.2	80-120			
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Iron	1.44E7		ng/l	1.5000E7		95.9	80-120			
Lead	0.00		ng/l				80-120			U
Magnesium	1.49E7		ng/l	1.5000E7		99.4	80-120			
Manganese	0.00		ng/l				80-120			U
Molybdenum	291000		ng/l	300000		97.0	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.60E7		ng/l	1.5000E7		106	80-120			
Potassium	1.45E7		ng/l	1.5000E7		96.7	80-120			
Rubidium	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Sodium	1.52E7		ng/l	1.5000E7		101	80-120			
Strontium	0.00		ng/l				80-120			U
Thallium	0.00		ng/l				80-120			U
Thorium	0.00		ng/l				80-120			U
Uranium	0.00		ng/l				80-120			U
Vanadium	0.00		ng/l				80-120			U
Zinc	0.00		ng/l				80-120			U
Interference Check B (2312067-IFB1)					Prepared & Analyzed: 12/21/23					
Aluminum	1.72E7		ng/l	1.6500E7		104	80-120			
Antimony	20800		ng/l	20000		104	80-120			
Arsenic	20700		ng/l	20000		103	80-120			
Barium	208000		ng/l	200000		104	80-120			
Beryllium	4660		ng/l	5000.0		93.3	80-120			
Cadmium	19700		ng/l	20000		98.3	80-120			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Interference Check B (2312067-IFB1) Co					Prepared & Analyzed: 12/21/23					
Calcium	1.23E8		ng/l	1.2540E8		97.8	80-120			
Chromium	234000		ng/l	240000		97.4	80-120			
Cobalt	50100		ng/l	50000		100	80-120			
Copper	1.93E6		ng/l	2.0000E6		96.3	80-120			
Iron	1.77E7		ng/l	1.7500E7		101	80-120			
Lead	207000		ng/l	200000		103	80-120			
Magnesium	1.69E7		ng/l	1.6000E7		106	80-120			
Manganese	530000		ng/l	500000		106	80-120			
Molybdenum	349000		ng/l	350000		99.8	80-120			
Nickel	118000		ng/l	120000		98.2	80-120			
Phosphorus	1.74E7		ng/l	1.5200E7		114	80-120			
Potassium	1.80E7		ng/l	1.7500E7		103	80-120			
Rubidium	10200		ng/l	10000		102	80-120			
Selenium	19700		ng/l	20000		98.6	80-120			
Sodium	1.91E7		ng/l	1.7500E7		109	80-120			
Strontium	51100		ng/l	50000		102	80-120			
Thallium	523		ng/l	500.00		105	80-120			
Thorium	553		ng/l	500.00		111	80-120			
Uranium	550		ng/l	500.00		110	80-120			
Vanadium	19500		ng/l	20000		97.6	80-120			
Zinc	492000		ng/l	500000		98.5	80-120			
Serial Dilution (2312067-SRD1)		**Source: 3122052-15**			Prepared & Analyzed: 12/21/23					
Aluminum	222	165	ng/m³ Air		223			0.415	10	
Antimony	ND	0.227	ng/m³ Air		ND				10	SL, U
Arsenic	0.0602	0.0492	ng/m³ Air		0.0661			9.31	10	
Barium	ND	4.89	ng/m³ Air		ND				10	U
Beryllium	ND	0.0171	ng/m³ Air		ND				10	U
Cadmium	ND	0.562	ng/m³ Air		ND				10	U
Calcium	ND	1500	ng/m³ Air		ND				10	LJ, QB-01, U
Chromium	ND	10.5	ng/m³ Air		ND				10	U
Cobalt	0.146	0.0804	ng/m³ Air		0.142			2.48	10	QB-01
Copper	22.1	15.5	ng/m³ Air		21.8			1.68	10	
Iron	260	125	ng/m³ Air		259			0.456	10	
Lead	ND	1.42	ng/m³ Air		ND				10	U
Magnesium	ND	497	ng/m³ Air		ND				10	U
Manganese	8.05	6.13	ng/m³ Air		7.96			1.07	10	
Molybdenum	ND	1.10	ng/m³ Air		ND				10	QB-01, U
Nickel	ND	4.13	ng/m³ Air		ND				10	U

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 2312067 - B3L2101										
Serial Dilution (2312067-SRD1) Continue Source: 3122052-15 Prepared & Analyzed: 12/21/23										
Phosphorus	ND	6440	ng/m³ Air		ND				10	GC-BS, U
Potassium	ND	196	ng/m³ Air		ND				10	U
Rubidium	0.120	0.0943	ng/m³ Air		0.127			5.57	10	
Selenium	0.0877	0.0567	ng/m³ Air		0.0804			8.61	10	
Sodium	ND	10300	ng/m³ Air		ND				10	GC-BS, U
Strontium	ND	3.36	ng/m³ Air		ND				10	QB-01, U
Thallium	0.00383	0.00259	ng/m³ Air		0.00377			1.54	10	
Thorium	ND	0.0155	ng/m³ Air		ND				10	U
Uranium	ND	0.0876	ng/m³ Air		ND				10	U
Vanadium	0.567	0.254	ng/m³ Air		0.545			4.01	10	
Zinc	ND	503	ng/m³ Air		ND				10	U
Batch B3L2101 - ICP-MS Extraction										
Blank (B3L2101-BLK1) Prepared & Analyzed: 12/21/23										
Aluminum	ND	32.1	ng/m³ Air							U
Antimony	ND	0.0441	ng/m³ Air							SL, U
Arsenic	ND	0.00955	ng/m³ Air							U
Barium	ND	0.948	ng/m³ Air							U
Beryllium	ND	0.00332	ng/m³ Air							U
Cadmium	ND	0.109	ng/m³ Air							U
Calcium	ND	292	ng/m³ Air							LJ, QB-01, U
Chromium	ND	2.03	ng/m³ Air							U
Cobalt	ND	0.0156	ng/m³ Air							QB-01, U
Copper	ND	3.00	ng/m³ Air							U
Iron	ND	24.2	ng/m³ Air							U
Lead	ND	0.276	ng/m³ Air							U
Magnesium	ND	96.4	ng/m³ Air							U
Manganese	ND	1.19	ng/m³ Air							U
Molybdenum	ND	0.213	ng/m³ Air							QB-01, U
Nickel	ND	0.801	ng/m³ Air							U
Phosphorus	ND	1250	ng/m³ Air							GC-BS, U
Potassium	ND	38.0	ng/m³ Air							U
Rubidium	ND	0.0183	ng/m³ Air							U
Selenium	ND	0.0110	ng/m³ Air							U
Sodium	ND	2000	ng/m³ Air							GC-BS, U
Strontium	ND	0.652	ng/m³ Air							QB-01, U
Thallium	ND	5.03E-4	ng/m³ Air							U
Thorium	ND	0.00300	ng/m³ Air							U
Uranium	ND	0.0170	ng/m³ Air							U

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2101 - ICP-MS Extraction										
Blank (B3L2101-BLK1) Continued				Prepared & Analyzed: 12/21/23						
Vanadium	ND	0.0492	ng/m³ Air							U
Zinc	ND	97.7	ng/m³ Air							U
LCS (B3L2101-BS1)				Prepared & Analyzed: 12/21/23						
Aluminum	94.5	32.1	ng/m³ Air	82.975		114	80-120			
Antimony	0.533	0.0441	ng/m³ Air	1.3829		38.5	80-120			SL
Arsenic	2.75	0.00955	ng/m³ Air	2.7658		99.4	80-120			
Barium	28.4	0.948	ng/m³ Air	27.658		103	80-120			
Beryllium	1.31	0.00332	ng/m³ Air	1.3829		94.7	80-120			
Cadmium	1.38	0.109	ng/m³ Air	1.3829		100	80-120			
Calcium	607	292	ng/m³ Air	69.146		878	80-120			LJ, QB-01
Chromium	16.2	2.03	ng/m³ Air	13.829		117	80-120			
Cobalt	1.41	0.0156	ng/m³ Air	1.3829		102	80-120			QB-01
Copper	31.6	3.00	ng/m³ Air	27.658		114	80-120			
Iron	41.8	24.2	ng/m³ Air	27.658		151	80-120			
Lead	13.7	0.276	ng/m³ Air	13.829		99.2	80-120			
Magnesium	ND	96.4	ng/m³ Air	27.658			80-120			U
Manganese	8.82	1.19	ng/m³ Air	8.2975		106	80-120			
Molybdenum	1.67	0.213	ng/m³ Air	1.3829		121	80-120			QB-01
Nickel	3.17	0.801	ng/m³ Air	2.7658		115	80-120			
Phosphorus	ND	1250	ng/m³ Air	13.829			80-120			GC-BS, U
Potassium	66.2	38.0	ng/m³ Air	55.317		120	80-120			
Rubidium	1.36	0.0183	ng/m³ Air	1.3829		98.3	80-120			
Selenium	2.81	0.0110	ng/m³ Air	2.7658		102	80-120			
Sodium	ND	2000	ng/m³ Air	55.317			80-120			GC-BS, U
Strontium	2.30	0.652	ng/m³ Air	1.3829		166	80-120			QB-01
Thallium	0.136	5.03E-4	ng/m³ Air	0.13829		98.5	80-120			
Thorium	0.134	0.00300	ng/m³ Air	0.13829		96.7	80-120			
Uranium	0.133	0.0170	ng/m³ Air	0.13829		96.2	80-120			
Vanadium	2.79	0.0492	ng/m³ Air	2.7658		101	80-120			
Zinc	116	97.7	ng/m³ Air	82.975		139	80-120			
Duplicate (B3L2101-DUP1)		**Source: 3122052-15**		Prepared & Analyzed: 12/21/23						
Aluminum	224	33.1	ng/m³ Air		223			0.408	10	
Antimony	ND	0.0455	ng/m³ Air		ND				10	SL, U
Arsenic	0.0722	0.00984	ng/m³ Air		0.0661			8.90	10	
Barium	3.61	0.977	ng/m³ Air		3.62			0.208	10	
Beryllium	0.00979	0.00342	ng/m³ Air		0.00964			1.56	10	
Cadmium	ND	0.112	ng/m³ Air		ND				10	U
Calcium	496	301	ng/m³ Air		492			0.697	10	LJ, QB-01

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2101 - ICP-MS Extraction										
Duplicate (B3L2101-DUP1) Continued			**Source: 3122052-15**		Prepared & Analyzed: 12/21/23					
Chromium	ND	2.09	ng/m³ Air		ND				10	U
Cobalt	0.135	0.0161	ng/m³ Air		0.142			5.60	10	QB-01
Copper	20.4	3.09	ng/m³ Air		21.8			6.31	10	
Iron	257	24.9	ng/m³ Air		259			0.795	10	
Lead	ND	0.284	ng/m³ Air		0.350				10	U
Magnesium	164	99.4	ng/m³ Air		163			0.972	10	
Manganese	7.93	1.23	ng/m³ Air		7.96			0.426	10	
Molybdenum	0.786	0.220	ng/m³ Air		0.802			1.99	10	QB-01
Nickel	ND	0.826	ng/m³ Air		ND				10	U
Phosphorus	ND	1290	ng/m³ Air		ND				10	GC-BS, U
Potassium	77.3	39.2	ng/m³ Air		81.5			5.32	10	
Rubidium	0.127	0.0189	ng/m³ Air		0.127			0.533	10	
Selenium	0.0894	0.0113	ng/m³ Air		0.0804			10.5	10	
Sodium	ND	2060	ng/m³ Air		ND				10	GC-BS, U
Strontium	2.78	0.672	ng/m³ Air		2.75			1.37	10	QB-01
Thallium	0.00355	5.18E-4	ng/m³ Air		0.00377			5.85	10	
Thorium	0.00868	0.00309	ng/m³ Air		0.00878			1.14	10	
Uranium	ND	0.0175	ng/m³ Air		ND				10	U
Vanadium	0.550	0.0507	ng/m³ Air		0.545			0.970	10	
Zinc	ND	101	ng/m³ Air		ND				10	U
Duplicate (B3L2101-DUP2)			**Source: 3122052-05**		Prepared & Analyzed: 12/21/23					
Aluminum	195	27.7	ng/m³ Air		197			0.675	10	
Antimony	ND	0.0381	ng/m³ Air		ND				10	SL, U
Arsenic	0.0955	0.00824	ng/m³ Air		0.0956			0.166	10	
Barium	2.82	0.818	ng/m³ Air		2.82			0.298	10	
Beryllium	0.00640	0.00287	ng/m³ Air		0.00639			0.0497	10	
Cadmium	ND	0.0941	ng/m³ Air		ND				10	U
Calcium	610	252	ng/m³ Air		617			1.10	10	LJ, QB-01
Chromium	1.78	1.75	ng/m³ Air		1.80			1.08	10	
Cobalt	0.121	0.0135	ng/m³ Air		0.121			0.265	10	QB-01
Copper	16.5	2.59	ng/m³ Air		16.5			0.135	10	
Iron	216	20.9	ng/m³ Air		217			0.450	10	
Lead	0.459	0.238	ng/m³ Air		0.460			0.270	10	
Magnesium	350	83.2	ng/m³ Air		351			0.408	10	
Manganese	5.45	1.03	ng/m³ Air		5.48			0.618	10	
Molybdenum	0.878	0.184	ng/m³ Air		0.880			0.312	10	QB-01
Nickel	ND	0.691	ng/m³ Air		ND				10	U
Phosphorus	ND	1080	ng/m³ Air		ND				10	GC-BS, U

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2101 - ICP-MS Extraction										
Duplicate (B3L2101-DUP2) Continued		**Source: 3122052-05**		Prepared & Analyzed: 12/21/23						
Potassium	127	32.8	ng/m³ Air		129			1.12	10	
Rubidium	0.117	0.0158	ng/m³ Air		0.118			0.751	10	
Selenium	0.108	0.00950	ng/m³ Air		0.117			7.59	10	
Sodium	3170	1730	ng/m³ Air		3180			0.314	10	E, GC-BS
Strontium	3.47	0.563	ng/m³ Air		3.49			0.466	10	QB-01
Thallium	0.00154	4.34E-4	ng/m³ Air		0.00157			1.91	10	
Thorium	0.00662	0.00259	ng/m³ Air		0.00641			3.24	10	
Uranium	ND	0.0147	ng/m³ Air		ND				10	U
Vanadium	0.485	0.0425	ng/m³ Air		0.492			1.40	10	
Zinc	ND	84.3	ng/m³ Air		ND				10	U
Matrix Spike (B3L2101-MS1)		**Source: 3122052-15**		Prepared & Analyzed: 12/21/23						
Aluminum	299	33.1	ng/m³ Air	85.516	223	88.7	80-120			
Antimony	0.641	0.0455	ng/m³ Air	1.4253	ND	45.0	80-120			SL
Arsenic	2.86	0.00984	ng/m³ Air	2.8505	0.0661	97.9	80-120			
Barium	31.7	0.977	ng/m³ Air	28.505	3.62	98.6	80-120			
Beryllium	1.44	0.00342	ng/m³ Air	1.4253	0.00964	100	80-120			
Cadmium	1.42	0.112	ng/m³ Air	1.4253	ND	99.6	80-120			
Calcium	555	301	ng/m³ Air	71.264	492	88.2	80-120			LJ, QB-01
Chromium	16.5	2.09	ng/m³ Air	14.253	ND	116	80-120			
Cobalt	1.50	0.0161	ng/m³ Air	1.4253	0.142	95.3	80-120			QB-01
Copper	51.8	3.09	ng/m³ Air	28.505	21.8	105	80-120			
Iron	276	24.9	ng/m³ Air	28.505	259	61.3	80-120			QM-4X
Lead	14.1	0.284	ng/m³ Air	14.253	0.350	96.7	80-120			
Magnesium	190	99.4	ng/m³ Air	28.505	163	96.7	80-120			
Manganese	16.4	1.23	ng/m³ Air	8.5516	7.96	98.6	80-120			
Molybdenum	2.14	0.220	ng/m³ Air	1.4253	0.802	93.6	80-120			QB-01
Nickel	3.26	0.826	ng/m³ Air	2.8505	ND	115	80-120			
Phosphorus	ND	1290	ng/m³ Air	14.253	ND		80-120			GC-BS, U
Potassium	130	39.2	ng/m³ Air	57.011	81.5	85.6	80-120			
Rubidium	1.46	0.0189	ng/m³ Air	1.4253	0.127	93.8	80-120			
Selenium	2.93	0.0113	ng/m³ Air	2.8505	0.0804	99.9	80-120			
Sodium	ND	2060	ng/m³ Air	57.011	ND		80-120			GC-BS, U
Strontium	4.07	0.672	ng/m³ Air	1.4253	2.75	93.0	80-120			QB-01
Thallium	0.142	5.18E-4	ng/m³ Air	0.14253	0.00377	96.8	80-120			
Thorium	0.0747	0.00309	ng/m³ Air	0.14253	0.00878	46.2	80-120			QM-07
Uranium	0.140	0.0175	ng/m³ Air	0.14253	ND	98.3	80-120			
Vanadium	3.33	0.0507	ng/m³ Air	2.8505	0.545	97.6	80-120			
Zinc	112	101	ng/m³ Air	85.516	ND	131	80-120			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2101 - ICP-MS Extraction										
Matrix Spike Dup (B3L2101-MSD1)		**Source: 3122052-15**		Prepared & Analyzed: 12/21/23						
Aluminum	330	33.1	ng/m³ Air	85.516	223	125	80-120	9.82	20	QM-07
Antimony	0.634	0.0455	ng/m³ Air	1.4253	ND	44.5	80-120	1.13	20	SL
Arsenic	2.83	0.00984	ng/m³ Air	2.8505	0.0661	97.0	80-120	0.838	20	
Barium	32.3	0.977	ng/m³ Air	28.505	3.62	100	80-120	1.63	20	
Beryllium	1.38	0.00342	ng/m³ Air	1.4253	0.00964	96.4	80-120	3.88	20	
Cadmium	1.41	0.112	ng/m³ Air	1.4253	ND	98.7	80-120	0.886	20	
Calcium	574	301	ng/m³ Air	71.264	492	114	80-120	3.26	20	LJ, QB-01
Chromium	16.4	2.09	ng/m³ Air	14.253	ND	115	80-120	0.297	20	
Cobalt	1.50	0.0161	ng/m³ Air	1.4253	0.142	95.6	80-120	0.234	20	QB-01
Copper	54.1	3.09	ng/m³ Air	28.505	21.8	113	80-120	4.33	20	
Iron	297	24.9	ng/m³ Air	28.505	259	133	80-120	7.14	20	QM-4X
Lead	14.1	0.284	ng/m³ Air	14.253	0.350	96.4	80-120	0.333	20	
Magnesium	198	99.4	ng/m³ Air	28.505	163	124	80-120	4.08	20	QM-4X
Manganese	17.4	1.23	ng/m³ Air	8.5516	7.96	110	80-120	5.86	20	
Molybdenum	2.17	0.220	ng/m³ Air	1.4253	0.802	96.2	80-120	1.69	20	QB-01
Nickel	3.46	0.826	ng/m³ Air	2.8505	ND	121	80-120	5.79	20	
Phosphorus	ND	1290	ng/m³ Air	14.253	ND		80-120		20	GC-BS, QM-4X, U
Potassium	136	39.2	ng/m³ Air	57.011	81.5	95.0	80-120	4.00	20	
Rubidium	1.44	0.0189	ng/m³ Air	1.4253	0.127	92.1	80-120	1.68	20	
Selenium	2.89	0.0113	ng/m³ Air	2.8505	0.0804	98.7	80-120	1.26	20	
Sodium	ND	2060	ng/m³ Air	57.011	ND		80-120		20	GC-BS, QM-4X, U
Strontium	4.20	0.672	ng/m³ Air	1.4253	2.75	102	80-120	3.23	20	QB-01
Thallium	0.141	5.18E-4	ng/m³ Air	0.14253	0.00377	96.5	80-120	0.335	20	
Thorium	0.0746	0.00309	ng/m³ Air	0.14253	0.00878	46.2	80-120	0.0972	20	QM-07
Uranium	0.140	0.0175	ng/m³ Air	0.14253	ND	98.3	80-120	0.0457	20	
Vanadium	3.38	0.0507	ng/m³ Air	2.8505	0.545	99.3	80-120	1.48	20	
Zinc	112	101	ng/m³ Air	85.516	ND	131	80-120	0.540	20	
Post Spike (B3L2101-PS1)		**Source: 3122052-15**		Prepared & Analyzed: 12/21/23						
Aluminum	247	33.1	ng/m³ Air	28.505	223	83.5	75-125			
Antimony	0.321	0.0455	ng/m³ Air	0.28505	ND	112	75-125			SL
Arsenic	1.42	0.00984	ng/m³ Air	1.4253	0.0661	94.9	75-125			
Barium	6.54	0.977	ng/m³ Air	2.8505	3.62	102	75-125			
Beryllium	0.293	0.00342	ng/m³ Air	0.28505	0.00964	99.3	75-125			
Cadmium	0.147	0.112	ng/m³ Air	0.14253	ND	103	75-125			
Calcium	525	301	ng/m³ Air	28.505	492	114	75-125			LJ, QB-01
Chromium	3.44	2.09	ng/m³ Air	1.4253	ND	241	75-125			
Cobalt	0.418	0.0161	ng/m³ Air	0.28505	0.142	96.7	75-125			QB-01

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui 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 B3L2101 - ICP-MS Extraction										
Post Spike (B3L2101-PS1) Continued		**Source: 3122052-15**			Prepared & Analyzed: 12/21/23					
Copper	36.7	3.09	ng/m³ Air	14.253	21.8	105	75-125			
Iron	283	24.9	ng/m³ Air	28.505	259	84.1	75-125			
Lead	28.0	0.284	ng/m³ Air	28.505	0.350	96.9	75-125			
Magnesium	189	99.4	ng/m³ Air	28.505	163	91.0	75-125			
Manganese	10.8	1.23	ng/m³ Air	2.8505	7.96	99.5	75-125			
Molybdenum	2.16	0.220	ng/m³ Air	1.4253	0.802	95.3	75-125			QB-01
Nickel	3.22	0.826	ng/m³ Air	2.8505	ND	113	75-125			
Phosphorus	ND	1290	ng/m³ Air	5.7011	ND		75-125			A-01, GC-BS, U
Potassium	108	39.2	ng/m³ Air	28.505	81.5	93.1	75-125			
Rubidium	0.258	0.0189	ng/m³ Air	0.14253	0.127	91.4	75-125			
Selenium	1.46	0.0113	ng/m³ Air	1.4253	0.0804	96.6	75-125			
Sodium	ND	2060	ng/m³ Air	28.505	ND		75-125			A-01, GC-BS, U
Strontium	4.03	0.672	ng/m³ Air	1.4253	2.75	89.9	75-125			QB-01
Thallium	0.0712	5.18E-4	ng/m³ Air	7.1264E-2	0.00377	94.6	75-125			
Thorium	0.0716	0.00309	ng/m³ Air	7.1264E-2	0.00878	88.1	75-125			
Uranium	0.0731	0.0175	ng/m³ Air	7.1264E-2	ND	103	75-125			
Vanadium	1.93	0.0507	ng/m³ Air	1.4253	0.545	97.3	75-125			
Zinc	ND	101	ng/m³ Air	28.505	ND		75-125			U

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/28/23 10:10
SUBMITTED: 12/20/23
AQS SITE CODE:
SITE CODE: Maui fires

Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-4X	The MS/MSD recovery exceeds criteria because the parent sample concentration is greater than 4x the spike concentration. Sample results for the QC batch were accepted based on acceptable BS/BSD recoveries.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QB-01	Analyte exceeds method blank criteria
LJ	Identification of analyte is acceptable; reported value is an estimate.
GC-BS	Compound exceeds Blank Spike Criteria
FB-01	Analyte exceeds Field Blank criteria.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
A-01	Parent sample >4x spike
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

Stage 1 Data Verification Checklist - Metals

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 12/28/2023 & Shanna Vasser 12/28/2023
Laboratory: Eastern Research Group – Morrisville, NC
Analysis Date: 12/21/2023
Report No: 3122052

√	1.	Chain of custody (CoC) documentation is present.
X	2.	Sample receipt condition information is present and acceptable.
√	3.	Laboratory conducting the analysis is identified.
√	4.	All samples submitted to the laboratory are accounted for.
√	5.	Requested analytical methods were performed.
√	6.	Analysis dates are provided.
√	7.	Analyte results are provided.
√	8.	Result qualifiers and definitions are provided.
√	9.	Result units are reported.
NA	10.	Requested reporting limits are present.
√	11.	Method detection limits are present.
√	12.	Sample collection date and time are present.

Discrepancies: None

Notes:

10. No reporting limits were included in the data package.