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

Kula, Maui

11/23/2023-11/29/2023

As a result of 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 the area of Kula.

This approach includes ambient community air monitoring and sampling to assess conditions and ensure debris removal activities, taking place under the direction of 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. 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 conducted 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 to be analyzed 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) (November 23 – 29), Middle Property (AM-02) 2 (November 23 – 29), Lower Property (AM-03) (November 23 – 29).

The results of PM_{10} monitoring found that screening levels were exceeded at the Top Property air monitoring station on November 29th. During this monitoring period, the property owner was observed removing burned wood on the property with use of a Skid Steer and mini excavator. This work disturbed dry undersoil and resulted in observable dust. The property owner was also spreading woodchips. All other days monitored during this period were below screening levels.

The results of $PM_{2.5}$ monitoring found that screening levels were exceeded at the Top Property air monitoring station on November 23rd, 28th and 29th. During these monitoring periods, the property owner was observed removing burned wood on the property with use of a Skid Steer and mini excavator. This work disturbed dry undersoil and resulted in observable dust. The property owner was also spreading woodchips. All other days monitored during this period were below screening levels.

None of these exceedances of particulate screening levels are likely to be attributable to USACE debris removal operations.

There were twenty samples collected for asbestos fibers at community monitoring locations throughout this time frame. No asbestos sample was collected on 11/27/2023 at the lower property (AM-03) because the instrument was found powered down due to a dead battery, flow rate was out of range for calibration and the instrument was unable to post calibrate. No asbestos sample returned a value above the laboratory's detection limit, indicating fibers were not present in 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, and therefore not a concern.

Extremely low levels of heavy metals were detected in ambient air samples at community locations. Although detected, all detections 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. Previously reported results are also included as they were part of the original lab package, but there is no change from the previous report.

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
11/23/2023-11/29/2023

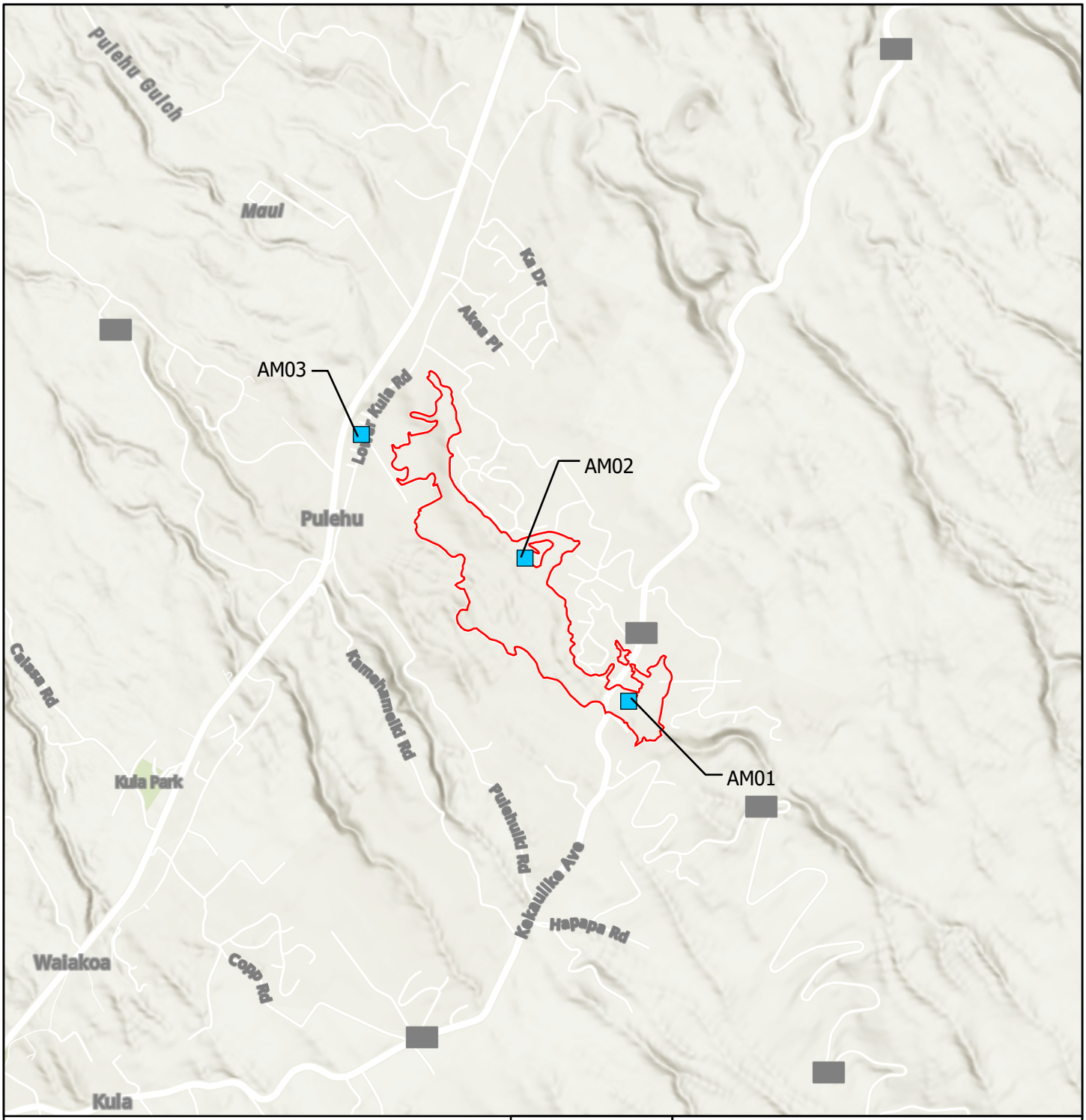
Analyte		Asbestos		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Thallium	Vanadium	Zinc
Units		f/cc	Y/N	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
Screening Level	Location / 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
11/23/2023	Top Property (AM-01)	<0.00038	N	0.0000869	0.000155	0.00374	0.00000838	0.00000665	0.00156	0.000163	0.0174	0.000232	0.00706	0.00125	0.00104	0.000144	0.00000067	0.00189	0.0091
	Middle Property (AM-02)	<0.00040	N	0.0000803	0.000174	0.004	0.0000105	0.0000111	0.00144	0.000182	0.0129	0.000219	0.00814	0.00101	0.00094	0.000192	0.00000146	0.00188	0.0084
	Lower Property (AM-03)	<0.00038	N	0.0000883	0.000123	0.00459	0.00000908	0.00000781	0.00157	0.000205	0.0418	0.000179	0.00782	0.00138	0.00095	0.000153	0.000000776	0.0018	0.00919
11/24/2023	Top Property (AM-01)	<0.00039	N	0.000053	0.000122	0.00433	0.0000102	0.00000687	0.00171	0.000185	0.0226	0.000423	0.00861	0.00128	0.00339	0.000133	0.000000804	0.00144	0.0195
	Middle Property (AM-02)	<0.00041	N	0.0000525	0.00013	0.00472	0.0000109	0.00000775	0.00169	0.00029	0.0117	0.000182	0.00958	0.000865	0.000717	0.000144	0.000000916	0.00152	0.0133
	Lower Property (AM-03)	<0.00045	N	0.0000584	0.000105	0.00419	0.00000925	0.00000637	0.00186	0.000178	0.0297	0.000182	0.00804	0.00111	0.000843	0.000147	0.000000745	0.00148	0.0178
11/25/2003	Top Property (AM-01)	<0.00038	N	0.0000515	0.000114	0.0044	0.0000103	0.00000693	0.00181	0.000194	0.021	0.000369	0.00957	0.00114	0.00107	0.000152	0.000000896	0.00168	0.0187
	Middle Property (AM-02)	<0.00047	N	0.0000669	0.000153	0.00567	0.0000136	0.0000081	0.00157	0.000225	0.0129	0.000228	0.0119	0.000813	0.000951	0.000175	0.000000933	0.00204	0.0151
	Lower Property (AM-03)	<0.00047	N	0.0000643	0.000125	0.00553	0.0000128	0.00000703	0.00186	0.000208	0.0255	0.000249	0.0108	0.000981	0.000963	0.000181	0.000000872	0.002	0.013
11/26/2023	Top Property (AM-01)	<0.00040	N	0.0000636	0.000115	0.00474	0.0000101	0.00000605	0.0017	0.000197	0.02	0.000288	0.00973	0.00115	0.000655	0.000157	0.000000829	0.00111	0.0103
	Middle Property (AM-02)	<0.00051	N	0.0000706	0.000219	0.00777	0.0000165	0.0000124	0.00203	0.000276	0.0152	0.000266	0.0158	0.000967	0.000786	0.000192	0.00000139	0.00172	0.0114
	Lower Property (AM-03)	<0.00057	N	0.0000738	0.0001	0.00454	0.0000122	0.00000706	0.00183	0.000202	0.0332	0.000232	0.00987	0.000975	0.000704	0.000164	0.000000915	0.00123	0.0121
11/27/2023	Top Property (AM-01)	<0.00054	N	0.000077	0.000772	0.0359	0.000187	0.0000422	0.00566	0.0022	0.0224	0.00118	0.151	0.00119	0.00292	0.00112	0.00000891	0.0149	0.0405
	Middle Property (AM-02)	<0.00050	N	0.0000571	0.000457	0.00709	0.0000213	0.0000147	0.00186	0.000347	0.0221	0.000294	0.0201	0.00137	0.000939	0.0002	0.00000154	0.00274	0.0316
	Lower Property (AM-03)	NA	NA	0.0000715	0.000103	0.00519	0.0000133	0.00000668	0.00196	0.000232	0.0395	0.000227	0.0118	0.00139	0.001	0.000152	0.000000945	0.00221	0.0306
11/28/2023	Top Property (AM-01)	<0.00061	N	0.0000518	0.000377	0.0203	0.0000795	0.0000212	0.00358	0.00112	0.0176	0.00062	0.0807	0.000896	0.00161	0.000469	0.00000452	0.00712	0.0381
	Middle Property (AM-02)	<0.00050	N	0.0000483	0.000169	0.00413	0.0000113	0.00000755	0.0017	0.000176	0.0132	0.000173	0.00944	0.00096	0.000556	0.000115	0.000000868	0.0012	0.0208
	Lower Property (AM-03)	<0.00043	N	0.0000727	0.000095	0.00624	0.0000148	0.00000721	0.00187	0.00022	0.0275	0.000457	0.0129	0.00105	0.000556	0.000132	0.00000103	0.00127	0.0252
11/29/2023	Top Property (AM-01)	<0.00043	N	0.0000435	0.000143	0.00582	0.0000195	0.00000847	0.00193	0.000296	0.0195	0.000313	0.0198	0.00113	0.000593	0.000176	0.00000141	0.00177	0.0164
	Middle Property (AM-02)	<0.00046	N	0.0000488	0.000107	0.0032	0.00000394	0.00000481	0.00124	0.0000699	0.0162	0.0000826	0.00302	0.00115	0.000344	0.0000881	0.000000522	0.000319	0.0148
	Lower Property (AM-03)	<0.00056	N	0.0000878	0.0000858	0.00418	0.00000633	0.00000512	0.00149	0.0000929	0.0382	0.000157	0.00478	0.0012	0.000448	0.000123	0.000000673	0.000496	0.0223
95% Upper Confidence Limit[3]		0.00049		0.00007	0.00023	0.00863	0.00003	0.000012	0.00225	0.00044	0.0269	0.00039	0.027	0.00118	0.00131	0.00026	0.0000019	0.00343	0.023

Notes:
No Asbestos sampling tookplace at Lower Property (AM-03) on 11/27 due to Pump was found powered down. Flow rate was out of range for dry Cal and instrument was unable to post cal.
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
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
11/23/2023-11/29/2023

Particulate Size		PM 2.5	PM 10
Screening Level	**Location / ID**	**35 µg/m^3**	**150 µg/m^3**
11/23/2023	Top Property (AM-01)	35	22
	Middle Property (AM-02)	17	6.7
	Lower Property (AM-03)	6.3	9.0
11/24/2023	Top Property (AM-01)	28	24
	Middle Property (AM-02)	13	6.8
	Lower Property (AM-03)	7.7	8.7
11/25/2023	Top Property (AM-01)	31	23
	Middle Property (AM-02)	22	7.6
	Lower Property (AM-03)	8.6	9.8
11/26/2023	Top Property (AM-01)	32	24
	Middle Property (AM-02)	20	9.1
	Lower Property (AM-03)	6.7	7.4
11/27/2023	Top Property (AM-01)	34	29
	Middle Property (AM-02)	22	5.3
	Lower Property (AM-03)	5.8	8.1
11/28/2023	Top Property (AM-01)	43	34
	Middle Property (AM-02)	11	5.4
	Lower Property (AM-03)	6.8	7.1
11/29/2023	Top Property (AM-01)	88	190
	Middle Property (AM-02)	24	4.3
	Lower Property (AM-03)	6.1	6.5

Notes:
The exceedances on 11/23, 11/28 and 11/29 are a result of woodchips spread and private operations on the property
Results are based on 24 hour TWA calculation
24hr TWA average caluation is show with 2 significat 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 | Built Environment Testing

Report for:

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

Regarding: Eurofins J3 Resources, Inc.
Project: 1032864023141; HDOH Kula Community Air
EML ID: 3463023

Approved by:

Lab Director
Scott Ward

Dates of Analysis:
Asbestos TEM ISO 10312 / ASTM6281-06: 11-30-2023

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received and tested.

Eurofins J3 Resources, Inc.
6110 W. 34th Street, Houston, Texas 77092
Phone: (713) 290-0221 Fax: (713) 290-0248
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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 #: 3463023
Project #: 1032864023141
Receipt Date: 27-Nov-2023
Analysis Date: 30-Nov-2023
Report Date: 30-Nov-2023

HDOH Kula Community Air (11/20 to 11/23)

Sample Number **MFK-AM01-112323-AB**

Air Volume:	7639.827
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:	0.38177
Analytical Sensitivity: f/cm3:	0.00038
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:	<0.00038
Concentration of Asbestos (Amphibole) f/cm3:	<0.00038
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00038
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

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

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Oakland, CA 94612

EJ3 Order #: 3463023
Project #: 1032864023141
Receipt Date: 27-Nov-2023
Analysis Date: 30-Nov-2023
Report Date: 30-Nov-2023

HDOH Kula Community Air (11/20 to 11/23)

Sample Number **MFK-AM02-112323-AB**

Air Volume:	7247.664
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:	0.40243
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

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

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EJ3 Order #: 3463023
Project #: 1032864023141
Receipt Date: 27-Nov-2023
Analysis Date: 30-Nov-2023
Report Date: 30-Nov-2023

HDOH Kula Community Air (11/20 to 11/23)

Sample Number **MFK-AM03-112323-AB**

Air Volume:	7587.504
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:	0.38440
Analytical Sensitivity: f/cm3:	0.00038
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:	<0.00038
Concentration of Asbestos (Amphibole) f/cm3:	<0.00038
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00038
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

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

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EJ3 Order #: 3463023
Project #: 1032864023141
Receipt Date: 27-Nov-2023
Analysis Date: 30-Nov-2023
Report Date: 30-Nov-2023

HDOH Kula Community Air (11/20 to 11/23)

Sample Number **MFK-FB01-112323-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

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

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

EJ3 Order #: 3465949REV1
Project #: 1.03286E+12
Receipt Date: 29-Nov-2023
Analysis Date: 4-Dec-2023
Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-112423-AB**

Air Volume:	7574.791
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:	0.38505
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

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EJ3 Order #: 3465949REV1
Project #: 1.03286E+12
Receipt Date: 29-Nov-2023
Analysis Date: 4-Dec-2023
Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-112423-AB**

Air Volume:	7041.571
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:	0.41421
Analytical Sensitivity: f/cm3:	0.00041
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:	<0.00041
Concentration of Asbestos (Amphibole) f/cm3:	<0.00041
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00041
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

Revision 1:
Correct Concentration of Asbestos to reflect correct value.

Analyst: Taylor Smylie

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

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

Eurofins J3 Resources, Inc.
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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 #: 3465949REV1
Project #: 1.03286E+12
Receipt Date: 29-Nov-2023
Analysis Date: 4-Dec-2023
Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-112423-AB**

Air Volume:	6431.553
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:	0.45349
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: Taylor Smylie

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Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-112423-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

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EJ3 Order #: 3465949REV1
Project #: 1.03286E+12
Receipt Date: 29-Nov-2023
Analysis Date: 4-Dec-2023
Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-112523-AB**

Air Volume:	7754.256
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:	0.37614
Analytical Sensitivity: f/cm3:	0.00038
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:	<0.00038
Concentration of Asbestos (Amphibole) f/cm3:	<0.00038
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00038
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

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EJ3 Order #: 3465949REV1
Project #: 1.03286E+12
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Analysis Date: 4-Dec-2023
Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-112523-AB**

Air Volume:	6246.288
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:	0.46694
Analytical Sensitivity: f/cm3:	0.00047
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:	<0.00047
Concentration of Asbestos (Amphibole) f/cm3:	<0.00047
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00047
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: Taylor Smylie

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Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-112523-AB**

Air Volume:	6210.72
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:	0.46962
Analytical Sensitivity: f/cm3:	0.00047
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:	<0.00047
Concentration of Asbestos (Amphibole) f/cm3:	<0.00047
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00047
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: Taylor Smylie

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Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-112523-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

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Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-112623-AB**

Air Volume:	7351.344
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:	0.39675
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

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Receipt Date: 29-Nov-2023
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Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-112623-AB**

Air Volume:	5769.072
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:	0.50557
Analytical Sensitivity: f/cm3:	0.00051
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:	<0.00051
Concentration of Asbestos (Amphibole) f/cm3:	<0.00051
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00051
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:	1.9
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.9

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Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-112623-AB**

Air Volume:	5143.177
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:	0.56709
Analytical Sensitivity: f/cm3:	0.00057
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:	<0.00057
Concentration of Asbestos (Amphibole) f/cm3:	<0.00057
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00057
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:	2.1
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.1

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Analysis Date: 4-Dec-2023
Report Date: 4-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-112623-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

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EJ3 Order #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-112723-AB**

Air Volume:	5400.941
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:	0.54003
Analytical Sensitivity: f/cm3:	0.00054
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:	<0.00054
Concentration of Asbestos (Amphibole) f/cm3:	<0.00054
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00054
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: Taylor Smylie

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

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EJ3 Order #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-112723-AB**

Air Volume:	5889.811
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:	0.49521
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- Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-112723-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

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

EJ3 Order #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-112823-AB**

Air Volume:	4811.299
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:	0.60621
Analytical Sensitivity: f/cm3:	0.00061
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:	<0.00061
Concentration of Asbestos (Amphibole) f/cm3:	<0.00061
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00061
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:	2.2
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.2

Analyst: Taylor Smylie

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

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

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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 #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-112823-AB**

Air Volume:	5823.046
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:	0.50088
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

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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 #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-112823-AB**

Air Volume:	6850.368
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:	0.42577
Analytical Sensitivity: f/cm3:	0.00043
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:	<0.00043
Concentration of Asbestos (Amphibole) f/cm3:	<0.00043
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00043
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:	1.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.6

Analyst: Taylor Smylie

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

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

Maura McAleese
Tetra Tech- Maui Fire
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Oakland, CA 94612

EJ3 Order #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-112823-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**

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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
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Oakland, CA 94612

EJ3 Order #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM01-112923-AB**

Air Volume:	6711.485
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:	0.43458
Analytical Sensitivity: f/cm3:	0.00043
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:	<0.00043
Concentration of Asbestos (Amphibole) f/cm3:	<0.00043
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00043
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:	1.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.6

Analyst: Taylor Smylie

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

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

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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
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Oakland, CA 94612

EJ3 Order #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM02-112923-AB**

Air Volume:	6355.2
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:	AP
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.45894
Analytical Sensitivity: f/cm3:	0.00046
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:	<0.00046
Concentration of Asbestos (Amphibole) f/cm3:	<0.00046
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00046
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: Anh Phung

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

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

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Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) ISO 10312 - 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 #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-AM03-112923-AB**

Air Volume:	5176.51
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:	AP
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.56344
Analytical Sensitivity: f/cm3:	0.00056
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:	<0.00056
Concentration of Asbestos (Amphibole) f/cm3:	<0.00056
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00056
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:	2.1
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.1

Analyst: Anh Phung

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

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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 #: 3470571
Project #: 1.03286E+12
Receipt Date: 4-Dec-2023
Analysis Date: 7-Dec-2023
Report Date: 7-Dec-2023

HDOH Kula Community Air

Sample Number **MFK-FB01-112923-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:	AP
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: Anh Phung

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

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

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

December 04, 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 11/27/23 11:25.

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: 12/04/23 11:41
SUBMITTED: 11/27/23
AQS SITE CODE:
SITE CODE: Maui fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9541277	3112737-01	Air	11/20/23 23:59	11/27/23 11:25
TetraTech Q9541276	3112737-02	Air	11/20/23 23:59	11/27/23 11:25
TetraTech Q9541275	3112737-03	Air	11/20/23 23:59	11/27/23 11:25
TetraTech Q9541930 FB	3112737-04	Air	11/20/23 00:00	11/27/23 11:25
TetraTech Q9541268	3112737-05	Air	11/21/23 23:59	11/27/23 11:25
TetraTech Q9541266	3112737-06	Air	11/21/23 23:59	11/27/23 11:25
TetraTech Q9541932	3112737-07	Air	11/21/23 23:59	11/27/23 11:25
TetraTech Q9541926 - FB	3112737-08	Air	11/21/23 00:00	11/27/23 11:25
TetraTech Q9541929	3112737-09	Air	11/22/23 23:59	11/27/23 11:25
TetraTech Q9541928	3112737-10	Air	11/22/23 23:59	11/27/23 11:25
TetraTech Q9541290	3112737-11	Air	11/22/23 23:59	11/27/23 11:25
TetraTech Q9541285 - FB	3112737-12	Air	11/22/23 00:00	11/27/23 11:25
TetraTech Q9541288	3112737-13	Air	11/23/23 23:59	11/27/23 11:25
TetraTech Q9541287	3112737-14	Air	11/23/23 23:59	11/27/23 11:25
TetraTech Q9541284	3112737-15	Air	11/23/23 23:59	11/27/23 11:25
TetraTech Q9541913 FB	3112737-16	Air	11/23/23 00:00	11/27/23 11:25

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: 12/04/23 11:41
SUBMITTED: 11/27/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541288
Matrix: Air
Comments: MFK-AM01-112323-HM

Lab ID: 3112737-13
Sample Volume: 2038.818 m³
Filter ID:

Sampled: 11/23/23 23:59
Received: 11/27/23 11:25
Analysis Date: 12/01/23 01:17

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**226**	ICS-01, LK	**25.6**
Antimony	**7440-36-0**	**0.0869**	SL	**0.0352**
Arsenic	**7440-38-2**	**0.155**		**0.00762**
Barium	**7440-39-3**	**3.74**		**0.757**
Beryllium	**7440-41-7**	**0.00838**		**0.00265**
Cadmium	7440-43-9	0.00665	U	0.0870
Calcium	**7440-70-2**	**318**	LJ, QB-01	**233**
Chromium	7440-47-3	1.56	U	1.62
Cobalt	**7440-48-4**	**0.163**	QB-01	**0.0124**
Copper	**7440-50-8**	**17.4**		**2.39**
Iron	**7439-89-6**	**268**	GC-BS	**19.3**
Lead	**7439-92-1**	**0.232**		**0.220**
Magnesium	**7439-95-4**	**216**	ICS-01, LK	**76.9**
Manganese	**7439-96-5**	**7.06**		**0.950**
Molybdenum	**7439-98-7**	**1.25**	QB-01	**0.170**
Nickel	**7440-02-0**	**1.04**		**0.639**
Phosphorus	7723-14-0	332	GC-BS, ICS-01, LK, QX, U	998
Potassium	**7440-09-7**	**115**	ICS-01, LK	**30.3**
Rubidium		**0.125**		**0.0146**
Selenium	**7782-49-2**	**0.144**	LJ, QX	**0.00878**
Sodium	**7440-23-5**	**1980**	E, ICS-01, LK	**1600**
Strontium	**7440-24-6**	**2.65**	QB-01	**0.520**
Thallium	**7440-28-0**	**6.70E-4**		**4.01E-4**
Thorium	**7440-29-01**	**0.00679**		**0.00239**
Uranium	NA	0.00622	U	0.0136
Vanadium	**7440-62-2**	**1.89**		**0.0393**
Zinc	7440-66-6	9.10	U	78.0

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: 12/04/23 11:41
SUBMITTED: 11/27/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541287
Matrix: Air
Comments: MFK-AM02-112323-HM

Lab ID: 3112737-14
Sample Volume: 2026.064 m³
Filter ID:

Sampled: 11/23/23 23:59
Received: 11/27/23 11:25
Analysis Date: 12/01/23 01:31

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**267**	ICS-01, LK	**25.8**
Antimony	**7440-36-0**	**0.0803**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.174**		**0.00767**
Barium	**7440-39-3**	**4.00**		**0.761**
Beryllium	**7440-41-7**	**0.0105**		**0.00267**
Cadmium	7440-43-9	0.0111	U	0.0875
Calcium	**7440-70-2**	**332**	LJ, QB-01	**234**
Chromium	7440-47-3	1.44	U	1.63
Cobalt	**7440-48-4**	**0.182**	QB-01	**0.0125**
Copper	**7440-50-8**	**12.9**		**2.41**
Iron	**7439-89-6**	**317**	GC-BS	**19.4**
Lead	7439-92-1	0.219	U	0.222
Magnesium	**7439-95-4**	**217**	ICS-01, LK	**77.4**
Manganese	**7439-96-5**	**8.14**		**0.956**
Molybdenum	**7439-98-7**	**1.01**	QB-01	**0.171**
Nickel	**7440-02-0**	**0.940**		**0.643**
Phosphorus	7723-14-0	326	GC-BS, ICS-01, LK, QX, U	1000
Potassium	**7440-09-7**	**124**	ICS-01, LK	**30.5**
Rubidium		**0.154**		**0.0147**
Selenium	**7782-49-2**	**0.192**	LJ, QX	**0.00883**
Sodium	**7440-23-5**	**2000**	E, ICS-01, LK	**1610**
Strontium	**7440-24-6**	**3.22**	QB-01	**0.524**
Thallium	**7440-28-0**	**0.00146**		**4.04E-4**
Thorium	**7440-29-01**	**0.00917**		**0.00241**
Uranium	NA	0.00727	U	0.0137
Vanadium	**7440-62-2**	**1.88**		**0.0395**
Zinc	7440-66-6	8.40	U	78.5

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: 12/04/23 11:41
SUBMITTED: 11/27/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541284
Matrix: Air
Comments: MFK-AM03-112323-HM

Lab ID: 3112737-15
Sample Volume: 1882.131 m³
Filter ID:

Sampled: 11/23/23 23:59
Received: 11/27/23 11:25
Analysis Date: 12/01/23 01:45

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**192**	ICS-01, LK	**27.7**
Antimony	**7440-36-0**	**0.0883**	SL	**0.0381**
Arsenic	**7440-38-2**	**0.123**		**0.00826**
Barium	**7440-39-3**	**4.59**		**0.819**
Beryllium	**7440-41-7**	**0.00908**		**0.00287**
Cadmium	7440-43-9	0.00781	U	0.0942
Calcium	**7440-70-2**	**333**	LJ, QB-01	**252**
Chromium	7440-47-3	1.57	U	1.75
Cobalt	**7440-48-4**	**0.205**	QB-01	**0.0135**
Copper	**7440-50-8**	**41.8**		**2.59**
Iron	**7439-89-6**	**274**	GC-BS	**20.9**
Lead	7439-92-1	0.179	U	0.239
Magnesium	**7439-95-4**	**257**	ICS-01, LK	**83.3**
Manganese	**7439-96-5**	**7.82**		**1.03**
Molybdenum	**7439-98-7**	**1.38**	QB-01	**0.184**
Nickel	**7440-02-0**	**0.950**		**0.692**
Phosphorus	7723-14-0	346	LK, QX, GC-BS, ICS-01, U	1080
Potassium	**7440-09-7**	**119**	ICS-01, LK	**32.8**
Rubidium		**0.136**		**0.0158**
Selenium	**7782-49-2**	**0.153**	LJ, QX	**0.00951**
Sodium	**7440-23-5**	**2230**	E, ICS-01, LK	**1730**
Strontium	**7440-24-6**	**2.66**	QB-01	**0.564**
Thallium	**7440-28-0**	**7.76E-4**		**4.35E-4**
Thorium	**7440-29-01**	**0.00753**		**0.00259**
Uranium	NA	0.00665	U	0.0147
Vanadium	**7440-62-2**	**1.80**		**0.0425**
Zinc	7440-66-6	9.19	U	84.5

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: 12/04/23 11:41
SUBMITTED: 11/27/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541913 FB
Matrix: Air
Lab ID: 3112737-16
Sample Volume: 2038.818 m³
Filter ID:
Sampled: 11/23/23 00:00
Received: 11/27/23 11:25
Analysis Date: 12/01/23 02:00

Comments: Field Blank - MFK-FB01-112323-HM

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	ICS-01, LK, U	25.6
Antimony	7440-36-0	0.00731	SL, U	0.0352
Arsenic	7440-38-2	0.00386	U	0.00762
Barium	7440-39-3	0.583	U	0.757
Beryllium	7440-41-7	9.66E-4	U	0.00265
Cadmium	7440-43-9	0.00184	U	0.0870
Calcium	**7440-70-2**	**337**	FB-01, LJ, QB-01	**233**
Chromium	7440-47-3	1.50	U	1.62
Cobalt	**7440-48-4**	**0.0331**	FB-01, QB-01	**0.0124**
Copper	7440-50-8	0.388	U	2.39
Iron	7439-89-6	13.5	GC-BS, U	19.3
Lead	7439-92-1	0.0516	U	0.220
Magnesium	7439-95-4	43.6	ICS-01, LK, U	76.9
Manganese	7439-96-5	0.166	U	0.950
Molybdenum	**7439-98-7**	**0.247**	FB-01, QB-01	**0.170**
Nickel	7440-02-0	0.270	U	0.639
Phosphorus	7723-14-0	336	GC-BS, ICS-01, LK, QX, U	998
Potassium	**7440-09-7**	**37.6**	FB-01, ICS-01, LK	**30.3**
Rubidium		**0.0156**	FB-01	**0.0146**
Selenium	7782-49-2	0.00169	LJ, QX, U	0.00878
Sodium	7440-23-5	726	ICS-01, LK, U	1600
Strontium	**7440-24-6**	**0.693**	FB-01, QB-01	**0.520**
Thallium	7440-28-0	5.36E-5	U	4.01E-4
Thorium	7440-29-01	0.00235	U	0.00239
Uranium	NA	0.00169	U	0.0136
Vanadium	7440-62-2	0.0175	U	0.0393
Zinc	7440-66-6	3.80	U	78.0

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: 12/04/23 11:41
SUBMITTED: 11/27/23
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 2311075 - B3K2906										
Calibration Blank (2311075-CCB1)				Prepared & Analyzed: 11/30/23						
Aluminum	129		ng/l							
Antimony	0.882		ng/l							
Arsenic	5.57		ng/l							
Barium	1.18		ng/l							
Beryllium	0.635		ng/l							
Cadmium	0.196		ng/l							
Calcium	613		ng/l							
Chromium	6.32		ng/l							
Cobalt	0.487		ng/l							
Copper	23.7		ng/l							
Iron	113		ng/l							
Lead	6.51		ng/l							
Magnesium	22.5		ng/l							
Manganese	5.79		ng/l							
Molybdenum	20.1		ng/l							
Nickel	-3.14		ng/l							U
Phosphorus	213		ng/l							QX
Potassium	2710		ng/l							
Rubidium	1.06		ng/l							
Selenium	-6.78		ng/l							LJ, QX, U
Sodium	2830		ng/l							
Strontium	0.319		ng/l							
Thallium	0.445		ng/l							
Thorium	0.770		ng/l							
Uranium	-0.0127		ng/l							U
Vanadium	-24.6		ng/l							U
Zinc	-42.8		ng/l							U
Calibration Blank (2311075-CCB2)				Prepared & Analyzed: 11/30/23						
Aluminum	86.6		ng/l							
Antimony	0.856		ng/l							
Arsenic	0.629		ng/l							
Barium	2.60		ng/l							
Beryllium	0.486		ng/l							
Cadmium	0.598		ng/l							
Calcium	-77.0		ng/l							U
Chromium	6.84		ng/l							
Cobalt	1.06		ng/l							
Copper	49.7		ng/l							

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FILE #: 0000.00
REPORTED: 12/04/23 11:41
SUBMITTED: 11/27/23
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 2311075 - B3K2906										
Calibration Blank (2311075-CCB2) Contin				Prepared & Analyzed: 11/30/23						
Iron	93.0		ng/l							
Lead	12.0		ng/l							
Magnesium	5.21		ng/l							
Manganese	10.7		ng/l							
Molybdenum	9.79		ng/l							
Nickel	2.02		ng/l							
Phosphorus	-60.5		ng/l							QX, U
Potassium	1270		ng/l							
Rubidium	1.04		ng/l							
Selenium	-4.69		ng/l							LJ, QX, U
Sodium	1520		ng/l							
Strontium	0.576		ng/l							
Thallium	0.442		ng/l							
Thorium	0.981		ng/l							
Uranium	0.00347		ng/l							
Vanadium	-26.4		ng/l							U
Zinc	-39.0		ng/l							U
Calibration Blank (2311075-CCB3)				Prepared: 11/30/23 Analyzed: 12/01/23						
Aluminum	64.2		ng/l							
Antimony	0.875		ng/l							
Arsenic	2.26		ng/l							
Barium	1.44		ng/l							
Beryllium	-0.363		ng/l							U
Cadmium	0.455		ng/l							
Calcium	-28.7		ng/l							U
Chromium	3.82		ng/l							
Cobalt	0.621		ng/l							
Copper	31.5		ng/l							
Iron	47.1		ng/l							
Lead	8.50		ng/l							
Magnesium	21.4		ng/l							
Manganese	4.79		ng/l							
Molybdenum	10.4		ng/l							
Nickel	-0.196		ng/l							U
Phosphorus	264		ng/l							QX
Potassium	1060		ng/l							
Rubidium	1.07		ng/l							
Selenium	-6.78		ng/l							LJ, QX, U

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
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FILE #: 0000.00
REPORTED: 12/04/23 11:41
SUBMITTED: 11/27/23
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 2311075 - B3K2906										
Calibration Blank (2311075-CCB3) Contin				Prepared: 11/30/23 Analyzed: 12/01/23						
Sodium	1980		ng/l							
Strontium	-0.192		ng/l							U
Thallium	0.350		ng/l							
Thorium	0.469		ng/l							
Uranium	0.0232		ng/l							
Vanadium	-25.5		ng/l							U
Zinc	-38.7		ng/l							U
Calibration Blank (2311075-CCB4)				Prepared: 11/30/23 Analyzed: 12/01/23						
Aluminum	96.0		ng/l							
Antimony	1.22		ng/l							
Arsenic	7.55		ng/l							
Barium	2.61		ng/l							
Beryllium	-0.0913		ng/l							U
Cadmium	0.384		ng/l							
Calcium	-143		ng/l							U
Chromium	3.91		ng/l							
Cobalt	0.723		ng/l							
Copper	34.2		ng/l							
Iron	80.9		ng/l							
Lead	7.77		ng/l							
Magnesium	6.59		ng/l							
Manganese	6.16		ng/l							
Molybdenum	9.21		ng/l							
Nickel	1.66		ng/l							
Phosphorus	-185		ng/l							QX, U
Potassium	973		ng/l							
Rubidium	0.0776		ng/l							
Selenium	-3.34		ng/l							LJ, QX, U
Sodium	3490		ng/l							
Strontium	-1.23		ng/l							U
Thallium	0.366		ng/l							
Thorium	0.767		ng/l							
Uranium	-0.00956		ng/l							U
Vanadium	-25.2		ng/l							U
Zinc	-29.0		ng/l							U
Calibration Check (2311075-CCV1)				Prepared & Analyzed: 11/30/23						
Aluminum	1.61E6		ng/l	1.5000E6		107	90-110			
Antimony	20000		ng/l	20000		100	90-110			

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FILE #: 0000.00
REPORTED: 12/04/23 11:41
SUBMITTED: 11/27/23
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 2311075 - B3K2906										
Calibration Check (2311075-CCV1) Contin				Prepared & Analyzed: 11/30/23						
Arsenic	20100		ng/l	20000		100	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Calcium	2.54E7		ng/l	2.5000E7		102	90-110			
Chromium	235000		ng/l	240000		98.1	90-110			
Cobalt	53000		ng/l	50000		106	90-110			
Copper	2.09E6		ng/l	2.0000E6		104	90-110			
Iron	2.62E6		ng/l	2.5000E6		105	90-110			
Lead	200000		ng/l	200000		100	90-110			
Magnesium	1.09E6		ng/l	1.0000E6		109	90-110			
Manganese	520000		ng/l	500000		104	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Phosphorus	205000		ng/l	200000		102	90-110			QX
Potassium	2.61E6		ng/l	2.5000E6		105	90-110			
Rubidium	10000		ng/l	10000		100	90-110			
Selenium	20000		ng/l	20000		100	90-110			LJ, QX
Sodium	2.74E6		ng/l	2.5000E6		110	90-110			
Strontium	49900		ng/l	50000		99.8	90-110			
Thallium	505		ng/l	500.00		101	90-110			
Thorium	504		ng/l	500.00		101	90-110			
Uranium	502		ng/l	500.00		100	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	534000		ng/l	500000		107	90-110			
Calibration Check (2311075-CCV2)				Prepared & Analyzed: 11/30/23						
Aluminum	1.46E6		ng/l	1.5000E6		97.0	90-110			
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	19900		ng/l	20000		99.6	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5480		ng/l	5000.0		110	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Calcium	2.47E7		ng/l	2.5000E7		98.8	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	51200		ng/l	50000		102	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Iron	2.48E6		ng/l	2.5000E6		99.3	90-110			
Lead	200000		ng/l	200000		99.8	90-110			

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: 12/04/23 11:41
SUBMITTED: 11/27/23
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 2311075 - B3K2906										
Calibration Check (2311075-CCV2) Contin				Prepared & Analyzed: 11/30/23						
Magnesium	1.01E6		ng/l	1.0000E6		101	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	51400		ng/l	50000		103	90-110			
Nickel	122000		ng/l	120000		102	90-110			
Phosphorus	191000		ng/l	200000		95.6	90-110			QX
Potassium	2.47E6		ng/l	2.5000E6		98.8	90-110			
Rubidium	9860		ng/l	10000		98.6	90-110			
Selenium	19700		ng/l	20000		98.4	90-110			LJ, QX
Sodium	2.51E6		ng/l	2.5000E6		101	90-110			
Strontium	49300		ng/l	50000		98.6	90-110			
Thallium	505		ng/l	500.00		101	90-110			
Thorium	503		ng/l	500.00		101	90-110			
Uranium	504		ng/l	500.00		101	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	528000		ng/l	500000		106	90-110			
Calibration Check (2311075-CCV3)				Prepared & Analyzed: 11/30/23						
Aluminum	1.50E6		ng/l	1.5000E6		99.7	90-110			
Antimony	20900		ng/l	20000		104	90-110			
Arsenic	20500		ng/l	20000		103	90-110			
Barium	209000		ng/l	200000		104	90-110			
Beryllium	4950		ng/l	5000.0		99.0	90-110			
Cadmium	21400		ng/l	20000		107	90-110			
Calcium	2.56E7		ng/l	2.5000E7		102	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	52600		ng/l	50000		105	90-110			
Copper	2.12E6		ng/l	2.0000E6		106	90-110			
Iron	2.57E6		ng/l	2.5000E6		103	90-110			
Lead	208000		ng/l	200000		104	90-110			
Magnesium	1.03E6		ng/l	1.0000E6		103	90-110			
Manganese	508000		ng/l	500000		102	90-110			
Molybdenum	54300		ng/l	50000		109	90-110			
Nickel	126000		ng/l	120000		105	90-110			
Phosphorus	192000		ng/l	200000		96.0	90-110			QX
Potassium	2.49E6		ng/l	2.5000E6		99.6	90-110			
Rubidium	10200		ng/l	10000		102	90-110			
Selenium	20500		ng/l	20000		102	90-110			LJ, QX
Sodium	2.55E6		ng/l	2.5000E6		102	90-110			
Strontium	51700		ng/l	50000		103	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/04/23 11:41
SUBMITTED: 11/27/23
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 2311075 - B3K2906										
Calibration Check (2311075-CCV3) Contin				Prepared & Analyzed: 11/30/23						
Thallium	517		ng/l	500.00		103	90-110			
Thorium	522		ng/l	500.00		104	90-110			
Uranium	525		ng/l	500.00		105	90-110			
Vanadium	21300		ng/l	20000		106	90-110			
Zinc	543000		ng/l	500000		109	90-110			
Calibration Check (2311075-CCV4)				Prepared: 11/30/23 Analyzed: 12/01/23						
Aluminum	1.49E6		ng/l	1.5000E6		99.0	90-110			
Antimony	20600		ng/l	20000		103	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	206000		ng/l	200000		103	90-110			
Beryllium	4880		ng/l	5000.0		97.5	90-110			
Cadmium	21100		ng/l	20000		105	90-110			
Calcium	2.51E7		ng/l	2.5000E7		100	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	52100		ng/l	50000		104	90-110			
Copper	2.09E6		ng/l	2.0000E6		105	90-110			
Iron	2.55E6		ng/l	2.5000E6		102	90-110			
Lead	206000		ng/l	200000		103	90-110			
Magnesium	1.03E6		ng/l	1.0000E6		103	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	53600		ng/l	50000		107	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Phosphorus	190000		ng/l	200000		95.1	90-110			QX
Potassium	2.49E6		ng/l	2.5000E6		99.7	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			LJ, QX
Sodium	2.57E6		ng/l	2.5000E6		103	90-110			
Strontium	50800		ng/l	50000		102	90-110			
Thallium	520		ng/l	500.00		104	90-110			
Thorium	519		ng/l	500.00		104	90-110			
Uranium	520		ng/l	500.00		104	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	538000		ng/l	500000		108	90-110			
High Cal Check (2311075-HCV1)				Prepared & Analyzed: 11/30/23						
Aluminum	2.99E6		ng/l	3.0000E6		99.8	95-105			
Antimony	40500		ng/l	40000		101	95-105			
Arsenic	40300		ng/l	40000		101	95-105			
Barium	405000		ng/l	400000		101	95-105			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2311075 - B3K2906										
High Cal Check (2311075-HCV1) Continue				Prepared & Analyzed: 11/30/23						
Beryllium	10000		ng/l	10000		100	95-105			
Cadmium	40300		ng/l	40000		101	95-105			
Calcium	5.02E7		ng/l	5.0000E7		100	95-105			
Chromium	482000		ng/l	480000		100	95-105			
Cobalt	99600		ng/l	100000		99.6	95-105			
Copper	3.99E6		ng/l	4.0000E6		99.6	95-105			
Iron	5.01E6		ng/l	5.0000E6		100	95-105			
Lead	404000		ng/l	400000		101	95-105			
Magnesium	2.00E6		ng/l	2.0000E6		100	95-105			
Manganese	998000		ng/l	1.0000E6		99.8	95-105			
Molybdenum	102000		ng/l	100000		102	95-105			
Nickel	238000		ng/l	240000		99.3	95-105			
Phosphorus	407000		ng/l	400000		102	95-105			QX
Potassium	5.12E6		ng/l	5.0000E6		102	95-105			
Rubidium	20400		ng/l	20000		102	95-105			
Selenium	39900		ng/l	40000		99.7	95-105			LJ, QX
Sodium	5.00E6		ng/l	5.0000E6		100	95-105			
Strontium	102000		ng/l	100000		102	95-105			
Thallium	1020		ng/l	1000.0		102	95-105			
Thorium	1020		ng/l	1000.0		102	95-105			
Uranium	1020		ng/l	1000.0		102	95-105			
Vanadium	40300		ng/l	40000		101	95-105			
Zinc	993000		ng/l	1.0000E6		99.3	95-105			
Initial Cal Blank (2311075-ICB1)				Prepared & Analyzed: 11/30/23						
Aluminum	72.1		ng/l							
Antimony	0.969		ng/l							
Arsenic	2.05		ng/l							
Barium	1.73		ng/l							
Beryllium	0.663		ng/l							
Cadmium	0.447		ng/l							
Calcium	51.5		ng/l							
Chromium	4.86		ng/l							
Cobalt	0.381		ng/l							
Copper	27.8		ng/l							
Iron	61.9		ng/l							
Lead	6.23		ng/l							
Magnesium	7.16		ng/l							
Manganese	6.76		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2311075 - B3K2906										
Initial Cal Blank (2311075-ICB1) Continu				Prepared & Analyzed: 11/30/23						
Molybdenum	13.4		ng/l							
Nickel	-3.35		ng/l							U
Phosphorus	417		ng/l							QX
Potassium	1730		ng/l							
Rubidium	-0.114		ng/l							U
Selenium	0.518		ng/l							LJ, QX
Sodium	408		ng/l							
Strontium	-0.0745		ng/l							U
Thallium	0.478		ng/l							
Thorium	0.549		ng/l							
Uranium	-0.00599		ng/l							U
Vanadium	-21.3		ng/l							U
Zinc	-12.8		ng/l							U
Initial Cal Check (2311075-ICV1)				Prepared & Analyzed: 11/30/23						
Aluminum	1.46E6		ng/l	1.5000E6		97.7	90-110			
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20200		ng/l	20000		101	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4680		ng/l	5000.0		93.6	90-110			
Cadmium	21000		ng/l	20000		105	90-110			
Calcium	2.46E7		ng/l	2.5000E7		98.5	90-110			
Chromium	240000		ng/l	240000		100	90-110			
Cobalt	51700		ng/l	50000		103	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Iron	2.52E6		ng/l	2.5000E6		101	90-110			
Lead	200000		ng/l	200000		100	90-110			
Magnesium	994000		ng/l	1.0000E6		99.4	90-110			
Manganese	495000		ng/l	500000		98.9	90-110			
Molybdenum	50800		ng/l	50000		102	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Phosphorus	189000		ng/l	200000		94.3	90-110			QX
Potassium	2.50E6		ng/l	2.5000E6		99.9	90-110			
Rubidium	9660		ng/l	10000		96.6	90-110			
Selenium	20500		ng/l	20000		103	90-110			LJ, QX
Sodium	2.47E6		ng/l	2.5000E6		98.6	90-110			
Strontium	50900		ng/l	50000		102	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			
Thorium	499		ng/l	500.00		99.9	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2311075 - B3K2906										
Initial Cal Check (2311075-ICV1) Continu				Prepared & Analyzed: 11/30/23						
Uranium	503		ng/l	500.00		101	90-110			
Vanadium	20600		ng/l	20000		103	90-110			
Zinc	535000		ng/l	500000		107	90-110			
Interference Check A (2311075-IFA1)				Prepared & Analyzed: 11/30/23						
Aluminum	1.69E7		ng/l	1.5000E7		112	80-120			ICS-01
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	9.84E7		ng/l	1.0040E8		98.0	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	1.57E7		ng/l	1.5000E7		104	80-120			
Lead	0.00		ng/l				80-120			U
Magnesium	1.74E7		ng/l	1.5000E7		116	80-120			ICS-01
Manganese	0.00		ng/l				80-120			U
Molybdenum	305000		ng/l	300000		102	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.84E7		ng/l	1.5000E7		123	80-120			ICS-01, QX
Potassium	1.65E7		ng/l	1.5000E7		110	80-120			ICS-01
Rubidium	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			LJ, QX, U
Sodium	1.74E7		ng/l	1.5000E7		116	80-120			ICS-01
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 (2311075-IFB1)				Prepared & Analyzed: 11/30/23						
Aluminum	2.12E7		ng/l	1.6500E7		128	80-120			ICS-01, LK
Antimony	20500		ng/l	20000		103	80-120			
Arsenic	20900		ng/l	20000		105	80-120			
Barium	206000		ng/l	200000		103	80-120			
Beryllium	4970		ng/l	5000.0		99.3	80-120			
Cadmium	19900		ng/l	20000		99.4	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2311075 - B3K2906										
Interference Check B (2311075-IFB1) Co					Prepared & Analyzed: 11/30/23					
Calcium	1.32E8		ng/l	1.2540E8		105	80-120			
Chromium	237000		ng/l	240000		98.6	80-120			
Cobalt	54500		ng/l	50000		109	80-120			
Copper	2.00E6		ng/l	2.0000E6		100	80-120			
Iron	1.95E7		ng/l	1.7500E7		112	80-120			
Lead	208000		ng/l	200000		104	80-120			
Magnesium	2.10E7		ng/l	1.6000E7		131	80-120			ICS-01, LK
Manganese	586000		ng/l	500000		117	80-120			
Molybdenum	356000		ng/l	350000		102	80-120			
Nickel	125000		ng/l	120000		105	80-120			
Phosphorus	2.07E7		ng/l	1.5200E7		136	80-120			ICS-01, LK, QX
Potassium	2.11E7		ng/l	1.7500E7		121	80-120			ICS-01, LK
Rubidium	10400		ng/l	10000		104	80-120			
Selenium	19700		ng/l	20000		98.3	80-120			LJ, QX
Sodium	2.32E7		ng/l	1.7500E7		132	80-120			ICS-01, LK
Strontium	51100		ng/l	50000		102	80-120			
Thallium	536		ng/l	500.00		107	80-120			
Thorium	554		ng/l	500.00		111	80-120			
Uranium	563		ng/l	500.00		113	80-120			
Vanadium	19500		ng/l	20000		97.7	80-120			
Zinc	505000		ng/l	500000		101	80-120			
Batch B3K2906 - ICP-MS Extraction										
Blank (B3K2906-BLK1)					Prepared: 11/29/23 Analyzed: 11/30/23					
Aluminum	ND	32.1	ng/m³ Air							ICS-01, LK, 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							GC-BS, U
Lead	ND	0.276	ng/m³ Air							U
Magnesium	ND	96.4	ng/m³ Air							ICS-01, LK, U
Manganese	ND	1.19	ng/m³ Air							U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3K2906 - ICP-MS Extraction										
Blank (B3K2906-BLK1) Continued				Prepared: 11/29/23 Analyzed: 11/30/23						
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, ICS-01, LK,
Potassium	ND	38.0	ng/m³ Air							ICS-01, LK, U
Rubidium	ND	0.0183	ng/m³ Air							U
Selenium	ND	0.0110	ng/m³ Air							LJ, QX, U
Sodium	ND	2000	ng/m³ Air							ICS-01, LK, 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 (B3K2906-BS1)				Prepared: 11/29/23 Analyzed: 11/30/23						
Aluminum	92.0	32.1	ng/m³ Air	82.975		111	80-120			ICS-01, LK
Antimony	0.526	0.0441	ng/m³ Air	1.3829		38.1	80-120			SL
Arsenic	2.73	0.00955	ng/m³ Air	2.7658		98.6	80-120			
Barium	28.2	0.948	ng/m³ Air	27.658		102	80-120			
Beryllium	1.48	0.00332	ng/m³ Air	1.3829		107	80-120			
Cadmium	1.43	0.109	ng/m³ Air	1.3829		104	80-120			
Calcium	527	292	ng/m³ Air	69.146		762	80-120			LJ, QB-01
Chromium	15.8	2.03	ng/m³ Air	13.829		114	80-120			
Cobalt	1.45	0.0156	ng/m³ Air	1.3829		105	80-120			QB-01
Copper	30.9	3.00	ng/m³ Air	27.658		112	80-120			
Iron	43.4	24.2	ng/m³ Air	27.658		157	80-120			GC-BS
Lead	13.8	0.276	ng/m³ Air	13.829		100	80-120			
Magnesium	ND	96.4	ng/m³ Air	27.658			80-120			ICS-01, LK, U
Manganese	8.66	1.19	ng/m³ Air	8.2975		104	80-120			
Molybdenum	1.71	0.213	ng/m³ Air	1.3829		124	80-120			QB-01
Nickel	3.14	0.801	ng/m³ Air	2.7658		114	80-120			
Phosphorus	ND	1250	ng/m³ Air	13.829			80-120			GC-BS, ICS-01, LK,
Potassium	64.7	38.0	ng/m³ Air	55.317		117	80-120			LK, ICS-01
Rubidium	1.36	0.0183	ng/m³ Air	1.3829		98.5	80-120			
Selenium	2.64	0.0110	ng/m³ Air	2.7658		95.4	80-120			LJ, QX
Sodium	ND	2000	ng/m³ Air	55.317			80-120			ICS-01, LK, U
Strontium	2.27	0.652	ng/m³ Air	1.3829		164	80-120			QB-01
Thallium	0.133	5.03E-4	ng/m³ Air	0.13829		95.9	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3K2906 - ICP-MS Extraction										
LCS (B3K2906-BS1) Continued				Prepared: 11/29/23 Analyzed: 11/30/23						
Thorium	0.137	0.00300	ng/m³ Air	0.13829		99.0	80-120			
Uranium	0.134	0.0170	ng/m³ Air	0.13829		96.6	80-120			
Vanadium	2.84	0.0492	ng/m³ Air	2.7658		103	80-120			
Zinc	104	97.7	ng/m³ Air	82.975		125	80-120			
Duplicate (B3K2906-DUP1)				**Source: 3112737-03** Prepared: 11/29/23 Analyzed: 11/30/23						
Aluminum	296	29.8	ng/m³ Air		289			2.20	10	D-F, ICS-01, LK
Antimony	0.134	0.0410	ng/m³ Air		0.132			1.98	10	SL
Arsenic	0.0804	0.00887	ng/m³ Air		0.0874			8.33	10	
Barium	5.40	0.880	ng/m³ Air		5.18			4.11	10	
Beryllium	0.0128	0.00308	ng/m³ Air		0.0130			1.81	10	
Cadmium	ND	0.101	ng/m³ Air		ND				10	U
Calcium	318	271	ng/m³ Air		306			4.08	10	LJ, QB-01
Chromium	ND	1.89	ng/m³ Air		ND				10	U
Cobalt	0.172	0.0145	ng/m³ Air		0.236			31.6	10	D-F, QB-01
Copper	29.9	2.79	ng/m³ Air		27.6			7.70	10	
Iron	333	22.5	ng/m³ Air		331			0.438	10	GC-BS
Lead	0.314	0.256	ng/m³ Air		ND				10	
Magnesium	168	89.5	ng/m³ Air		164			1.88	10	ICS-01, LK
Manganese	9.42	1.11	ng/m³ Air		9.40			0.220	10	
Molybdenum	0.953	0.198	ng/m³ Air		0.945			0.804	10	QB-01
Nickel	ND	0.744	ng/m³ Air		ND				10	U
Phosphorus	ND	1160	ng/m³ Air		ND				10	GC-BS, ICS-01, LK,
Potassium	75.7	35.3	ng/m³ Air		76.1			0.558	10	ICS-01, LK
Rubidium	0.144	0.0170	ng/m³ Air		0.139			3.20	10	
Selenium	0.161	0.0102	ng/m³ Air		0.152			5.36	10	LJ, QX
Sodium	ND	1860	ng/m³ Air		ND				10	ICS-01, LK, U
Strontium	2.88	0.605	ng/m³ Air		2.80			2.57	10	QB-01
Thallium	0.00141	4.67E-4	ng/m³ Air		0.00141			0.0618	10	
Thorium	0.00880	0.00279	ng/m³ Air		0.00854			3.02	10	
Uranium	ND	0.0158	ng/m³ Air		ND				10	U
Vanadium	0.763	0.0457	ng/m³ Air		0.761			0.215	10	
Zinc	ND	90.7	ng/m³ Air		ND				10	U
Duplicate (B3K2906-DUP2)				**Source: 3112737-06** Prepared: 11/29/23 Analyzed: 11/30/23						
Aluminum	179	26.0	ng/m³ Air		180			0.125	10	ICS-01, LK
Antimony	0.0722	0.0357	ng/m³ Air		0.0734			1.69	10	SL
Arsenic	0.157	0.00774	ng/m³ Air		0.156			1.15	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: 12/04/23 11:41
SUBMITTED: 11/27/23
AQS SITE CODE:
SITE CODE: Maui fires

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B3K2906 - ICP-MS Extraction

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Duplicate (B3K2906-DUP2) Continued	**Source: 3112737-06**			Prepared: 11/29/23 Analyzed: 11/30/23						
Barium	3.34	0.768	ng/m³ Air		3.39			1.34	10	
Beryllium	0.00650	0.00269	ng/m³ Air		0.00687			5.58	10	
Cadmium	ND	0.0883	ng/m³ Air		ND				10	U
Calcium	ND	237	ng/m³ Air		ND				10	LJ, QB-01, U
Chromium	ND	1.64	ng/m³ Air		ND				10	U
Cobalt	0.106	0.0126	ng/m³ Air		0.107			0.0428	10	QB-01
Copper	17.8	2.43	ng/m³ Air		17.9			0.549	10	
Iron	186	19.6	ng/m³ Air		188			0.749	10	GC-BS
Lead	ND	0.224	ng/m³ Air		ND				10	U
Magnesium	82.7	78.1	ng/m³ Air		82.4			0.355	10	ICS-01, LK
Manganese	4.54	0.964	ng/m³ Air		4.55			0.137	10	
Molybdenum	1.06	0.173	ng/m³ Air		1.06			0.505	10	QB-01
Nickel	ND	0.649	ng/m³ Air		ND				10	U
Phosphorus	ND	1010	ng/m³ Air		ND				10	GC-BS, ICS-01, LK,
Potassium	70.8	30.8	ng/m³ Air		70.2			0.909	10	ICS-01, LK
Rubidium	0.109	0.0148	ng/m³ Air		0.109			0.0834	10	
Selenium	0.104	0.00891	ng/m³ Air		0.100			3.52	10	LJ, QX
Sodium	ND	1620	ng/m³ Air		ND				10	ICS-01, LK, U
Strontium	1.52	0.528	ng/m³ Air		1.53			0.802	10	QB-01
Thallium	5.39E-4	4.08E-4	ng/m³ Air		5.33E-4			1.05	10	
Thorium	0.00589	0.00243	ng/m³ Air		0.00593			0.703	10	
Uranium	ND	0.0138	ng/m³ Air		ND				10	U
Vanadium	0.471	0.0399	ng/m³ Air		0.473			0.339	10	
Zinc	ND	79.2	ng/m³ Air		ND				10	U
Matrix Spike (B3K2906-MS1)	**Source: 3112737-03**			Prepared: 11/29/23 Analyzed: 11/30/23						
Aluminum	379	29.8	ng/m³ Air	77.052	289	116	80-120			ICS-01, LK
Antimony	0.874	0.0410	ng/m³ Air	1.2842	0.132	57.8	80-120			SL
Arsenic	2.63	0.00887	ng/m³ Air	2.5684	0.0874	99.1	80-120			
Barium	31.4	0.880	ng/m³ Air	25.684	5.18	102	80-120			
Beryllium	1.33	0.00308	ng/m³ Air	1.2842	0.0130	103	80-120			
Cadmium	1.35	0.101	ng/m³ Air	1.2842	ND	105	80-120			
Calcium	412	271	ng/m³ Air	64.210	306	165	80-120			LJ, QB-01, QM-4X
Chromium	14.6	1.89	ng/m³ Air	12.842	ND	113	80-120			
Cobalt	1.51	0.0145	ng/m³ Air	1.2842	0.236	98.8	80-120			QB-01
Copper	57.5	2.79	ng/m³ Air	25.684	27.6	116	80-120			
Iron	369	22.5	ng/m³ Air	25.684	331	146	80-120			GC-BS, QM-4)
Lead	13.2	0.256	ng/m³ Air	12.842	ND	103	80-120			

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REPORTED: 12/04/23 11:41
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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 B3K2906 - ICP-MS Extraction										
Matrix Spike (B3K2906-MS1) Continued Source: 3112737-03 Prepared: 11/29/23 Analyzed: 11/30/23										
Magnesium	199	89.5	ng/m³ Air	25.684	164	134	80-120			ICS-01, LK, QM-4X
Manganese	17.7	1.11	ng/m³ Air	7.7052	9.40	108	80-120			
Molybdenum	2.28	0.198	ng/m³ Air	1.2842	0.945	104	80-120			QB-01
Nickel	3.08	0.744	ng/m³ Air	2.5684	ND	120	80-120			
Phosphorus	ND	1160	ng/m³ Air	12.842	ND		80-120			GC-BS, ICS-01, LK,
Potassium	130	35.3	ng/m³ Air	51.368	76.1	106	80-120			ICS-01, LK
Rubidium	1.39	0.0170	ng/m³ Air	1.2842	0.139	97.2	80-120			
Selenium	2.62	0.0102	ng/m³ Air	2.5684	0.152	96.0	80-120			LJ, QX
Sodium	ND	1860	ng/m³ Air	51.368	ND		80-120			ICS-01, LK, QM-4X, U
Strontium	4.18	0.605	ng/m³ Air	1.2842	2.80	107	80-120			QB-01
Thallium	0.126	4.67E-4	ng/m³ Air	0.12842	0.00141	96.6	80-120			
Thorium	0.0566	0.00279	ng/m³ Air	0.12842	0.00854	37.4	80-120			QM-07
Uranium	0.133	0.0158	ng/m³ Air	0.12842	ND	104	80-120			
Vanadium	3.38	0.0457	ng/m³ Air	2.5684	0.761	102	80-120			
Zinc	102	90.7	ng/m³ Air	77.052	ND	133	80-120			
Matrix Spike Dup (B3K2906-MSD1) Source: 3112737-03 Prepared: 11/29/23 Analyzed: 11/30/23										
Aluminum	381	29.8	ng/m³ Air	77.052	289	120	80-120	0.753	20	ICS-01, LK
Antimony	0.915	0.0410	ng/m³ Air	1.2842	0.132	61.0	80-120	4.56	20	SL
Arsenic	2.64	0.00887	ng/m³ Air	2.5684	0.0874	99.2	80-120	0.0995	20	
Barium	32.3	0.880	ng/m³ Air	25.684	5.18	105	80-120	2.77	20	
Beryllium	1.34	0.00308	ng/m³ Air	1.2842	0.0130	103	80-120	0.210	20	
Cadmium	1.36	0.101	ng/m³ Air	1.2842	ND	106	80-120	0.808	20	
Calcium	397	271	ng/m³ Air	64.210	306	142	80-120	3.75	20	LJ, QB-01, QM-4X
Chromium	14.7	1.89	ng/m³ Air	12.842	ND	115	80-120	1.04	20	
Cobalt	1.52	0.0145	ng/m³ Air	1.2842	0.236	99.8	80-120	0.804	20	QB-01
Copper	56.2	2.79	ng/m³ Air	25.684	27.6	111	80-120	2.22	20	
Iron	370	22.5	ng/m³ Air	25.684	331	153	80-120	0.504	20	GC-BS, QM-4)
Lead	13.3	0.256	ng/m³ Air	12.842	ND	103	80-120	0.667	20	
Magnesium	200	89.5	ng/m³ Air	25.684	164	136	80-120	0.340	20	ICS-01, LK, QM-4X
Manganese	17.7	1.11	ng/m³ Air	7.7052	9.40	108	80-120	0.372	20	
Molybdenum	2.30	0.198	ng/m³ Air	1.2842	0.945	106	80-120	1.06	20	QB-01
Nickel	3.22	0.744	ng/m³ Air	2.5684	ND	126	80-120	4.64	20	
Phosphorus	ND	1160	ng/m³ Air	12.842	ND		80-120		20	GC-BS, ICS-01, LK,
Potassium	124	35.3	ng/m³ Air	51.368	76.1	94.0	80-120	4.70	20	ICS-01, LK

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FILE #: 0000.00
REPORTED: 12/04/23 11:41
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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 B3K2906 - ICP-MS Extraction										
Matrix Spike Dup (B3K2906-MSD1) Conti		**Source: 3112737-03**			Prepared: 11/29/23		Analyzed: 11/30/23			
Rubidium	1.37	0.0170	ng/m³ Air	1.2842	0.139	95.9	80-120	1.28	20	
Selenium	2.64	0.0102	ng/m³ Air	2.5684	0.152	97.0	80-120	0.982	20	QX, LJ
Sodium	ND	1860	ng/m³ Air	51.368	ND		80-120		20	ICS-01, LK, QM-4X, U
Strontium	4.11	0.605	ng/m³ Air	1.2842	2.80	101	80-120	1.72	20	QB-01
Thallium	0.127	4.67E-4	ng/m³ Air	0.12842	0.00141	97.6	80-120	0.946	20	
Thorium	0.0599	0.00279	ng/m³ Air	0.12842	0.00854	40.0	80-120	5.63	20	QM-07
Uranium	0.134	0.0158	ng/m³ Air	0.12842	ND	104	80-120	0.0599	20	
Vanadium	3.39	0.0457	ng/m³ Air	2.5684	0.761	102	80-120	0.318	20	
Zinc	98.3	90.7	ng/m³ Air	77.052	ND	128	80-120	4.03	20	
Post Spike (B3K2906-PS1)		**Source: 3112737-03**			Prepared: 11/29/23		Analyzed: 11/30/23			
Aluminum	324	29.8	ng/m³ Air	25.684	289	134	75-125			A-01, ICS-01, LK
Antimony	0.385	0.0410	ng/m³ Air	0.25684	0.132	98.5	75-125			SL
Arsenic	1.31	0.00887	ng/m³ Air	1.2842	0.0874	95.4	75-125			
Barium	7.78	0.880	ng/m³ Air	2.5684	5.18	101	75-125			
Beryllium	0.274	0.00308	ng/m³ Air	0.25684	0.0130	102	75-125			
Cadmium	0.141	0.101	ng/m³ Air	0.12842	ND	110	75-125			
Calcium	351	271	ng/m³ Air	25.684	306	176	75-125			LJ, QB-01
Chromium	2.92	1.89	ng/m³ Air	1.2842	ND	227	75-125			
Cobalt	0.497	0.0145	ng/m³ Air	0.25684	0.236	101	75-125			QB-01
Copper	40.7	2.79	ng/m³ Air	12.842	27.6	102	75-125			
Iron	362	22.5	ng/m³ Air	25.684	331	119	75-125			GC-BS
Lead	25.2	0.256	ng/m³ Air	25.684	ND	98.3	75-125			
Magnesium	193	89.5	ng/m³ Air	25.684	164	112	75-125			ICS-01, LK
Manganese	12.1	1.11	ng/m³ Air	2.5684	9.40	106	75-125			
Molybdenum	2.22	0.198	ng/m³ Air	1.2842	0.945	99.3	75-125			QB-01
Nickel	3.07	0.744	ng/m³ Air	2.5684	ND	120	75-125			
Phosphorus	ND	1160	ng/m³ Air	5.1368	ND		75-125			A-01, GC-BS, ICS-01, LK,
Potassium	97.1	35.3	ng/m³ Air	25.684	76.1	81.7	75-125			ICS-01, LK
Rubidium	0.251	0.0170	ng/m³ Air	0.12842	0.139	87.1	75-125			
Selenium	1.39	0.0102	ng/m³ Air	1.2842	0.152	96.1	75-125			LJ, QX
Sodium	ND	1860	ng/m³ Air	25.684	ND		75-125			A-01, ICS-01, LK, U
Strontium	3.99	0.605	ng/m³ Air	1.2842	2.80	92.5	75-125			QB-01
Thallium	0.0611	4.67E-4	ng/m³ Air	6.4210E-2	0.00141	93.0	75-125			
Thorium	0.0681	0.00279	ng/m³ Air	6.4210E-2	0.00854	92.8	75-125			
Uranium	0.0691	0.0158	ng/m³ Air	6.4210E-2	ND	108	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3K2906 - ICP-MS Extraction										
Post Spike (B3K2906-PS1) Continued		**Source: 3112737-03**		Prepared: 11/29/23 Analyzed: 11/30/23						
Vanadium	2.04	0.0457	ng/m³ Air	1.2842	0.761	99.2	75-125			
Zinc	ND	90.7	ng/m³ Air	25.684	ND		75-125			U
Dilution Check (B3K2906-SRL1)		**Source: 3112737-03**		Prepared: 11/29/23 Analyzed: 11/30/23						
Aluminum	293	149	ng/m³ Air		289			1.41	10	ICS-01, LK
Antimony	ND	0.205	ng/m³ Air		ND				10	SL, U
Arsenic	0.0934	0.0443	ng/m³ Air		0.0874			6.57	10	
Barium	5.26	4.40	ng/m³ Air		5.18			1.55	10	
Beryllium	ND	0.0154	ng/m³ Air		ND				10	U
Cadmium	ND	0.506	ng/m³ Air		ND				10	U
Calcium	ND	1360	ng/m³ Air		ND				10	LJ, QB-01, U
Chromium	ND	9.43	ng/m³ Air		ND				10	U
Cobalt	0.239	0.0724	ng/m³ Air		0.236			0.933	10	QB-01
Copper	28.1	13.9	ng/m³ Air		27.6			1.68	10	
Iron	336	112	ng/m³ Air		331			1.49	10	GC-BS
Lead	ND	1.28	ng/m³ Air		ND				10	U
Magnesium	ND	448	ng/m³ Air		ND				10	ICS-01, LK, U
Manganese	9.50	5.53	ng/m³ Air		9.40			1.03	10	
Molybdenum	ND	0.989	ng/m³ Air		ND				10	QB-01, U
Nickel	ND	3.72	ng/m³ Air		ND				10	U
Phosphorus	ND	5800	ng/m³ Air		ND				10	GC-BS, ICS-01, LK,
Potassium	ND	176	ng/m³ Air		ND				10	LK, ICS-01, U
Rubidium	0.141	0.0850	ng/m³ Air		0.139			1.05	10	
Selenium	0.150	0.0511	ng/m³ Air		0.152			1.26	10	LJ, QX
Sodium	ND	9290	ng/m³ Air		ND				10	ICS-01, LK, U
Strontium	ND	3.03	ng/m³ Air		ND				10	QB-01, U
Thallium	ND	0.00234	ng/m³ Air		ND				10	U
Thorium	ND	0.0139	ng/m³ Air		ND				10	U
Uranium	ND	0.0789	ng/m³ Air		ND				10	U
Vanadium	0.771	0.228	ng/m³ Air		0.761			1.26	10	
Zinc	ND	454	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
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
LK	Analyte identified; Reported value may be biased high.
LJ	Identification of analyte is acceptable; reported value is an estimate.
ICS-01	Interference check exceeds criteria.
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).
D-F	Duplicate exceeds DQO criteria.
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.

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

December 07, 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 11/29/23 13:29.

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9541917	3112929-01	Air	11/24/23 23:59	11/29/23 13:29
TetraTech Q9541914	3112929-02	Air	11/24/23 23:59	11/29/23 13:29
TetraTech Q9541912	3112929-03	Air	11/24/23 23:59	11/29/23 13:29
TetraTech Q9541940 FB	3112929-04	Air	11/24/23 00:00	11/29/23 13:29
TetraTech Q9541911	3112929-05	Air	11/25/23 23:59	11/29/23 13:29
TetraTech Q9541229	3112929-06	Air	11/25/23 23:59	11/29/23 13:29
TetraTech Q9541939	3112929-07	Air	11/25/23 23:59	11/29/23 13:29
TetraTech Q9541905 FB	3112929-08	Air	11/25/23 00:00	11/29/23 13:29
TetraTech Q9541938	3112929-09	Air	11/26/23 23:59	11/29/23 13:29
TetraTech Q9541937	3112929-10	Air	11/26/23 23:59	11/29/23 13:29
TetraTech Q9541903	3112929-11	Air	11/26/23 23:59	11/29/23 13:29
TetraTech Q9541228 FB	3112929-12	Air	11/26/23 00:00	11/29/23 13:29

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FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541917
Matrix: Air
Comments: MFK-AM01-112423-HM

Lab ID: 3112929-01
Sample Volume: 2027.606 m³
Filter ID:

Sampled: 11/24/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 20:26

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**277**		**25.8**
Antimony	**7440-36-0**	**0.0530**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.122**		**0.00766**
Barium	**7440-39-3**	**4.33**		**0.761**
Beryllium	**7440-41-7**	**0.0102**		**0.00266**
Cadmium	7440-43-9	0.00687	U	0.0875
Calcium	**7440-70-2**	**569**	GC-BS, LJ, QB-01	**234**
Chromium	**7440-47-3**	**1.71**		**1.63**
Cobalt	**7440-48-4**	**0.185**	QB-01	**0.0125**
Copper	**7440-50-8**	**22.6**		**2.41**
Iron	**7439-89-6**	**335**		**19.4**
Lead	**7439-92-1**	**0.423**		**0.221**
Magnesium	**7439-95-4**	**199**		**77.4**
Manganese	**7439-96-5**	**8.61**		**0.955**
Molybdenum	**7439-98-7**	**1.28**	QB-01	**0.171**
Nickel	**7440-02-0**	**3.39**		**0.643**
Phosphorus	7723-14-0	365	GC-BS, LJ, U	1000
Potassium	**7440-09-7**	**102**	LJ	**30.5**
Rubidium		**0.138**		**0.0147**
Selenium	**7782-49-2**	**0.133**		**0.00883**
Sodium	**7440-23-5**	**1750**	E	**1600**
Strontium	**7440-24-6**	**3.14**	QB-01	**0.523**
Thallium	**7440-28-0**	**8.04E-4**		**4.04E-4**
Thorium	**7440-29-01**	**0.00900**	LJ, QB-01	**0.00241**
Uranium	NA	0.00793	U	0.0136
Vanadium	**7440-62-2**	**1.44**		**0.0395**
Zinc	7440-66-6	19.5	U	78.4

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541914
Matrix: Air
Comments: MFK-AM02-112423-HM

Lab ID: 3112929-02
Sample Volume: 2026.064 m³
Filter ID:

Sampled: 11/24/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 20:45

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**325**		**25.8**
Antimony	**7440-36-0**	**0.0525**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.130**		**0.00767**
Barium	**7440-39-3**	**4.72**		**0.761**
Beryllium	**7440-41-7**	**0.0109**		**0.00267**
Cadmium	7440-43-9	0.00775	U	0.0875
Calcium	**7440-70-2**	**546**	GC-BS, LJ, QB-01	**234**
Chromium	**7440-47-3**	**1.69**		**1.63**
Cobalt	**7440-48-4**	**0.290**	QB-01	**0.0125**
Copper	**7440-50-8**	**11.7**		**2.41**
Iron	**7439-89-6**	**377**		**19.4**
Lead	7439-92-1	0.182	U	0.222
Magnesium	**7439-95-4**	**200**		**77.4**
Manganese	**7439-96-5**	**9.58**		**0.956**
Molybdenum	**7439-98-7**	**0.865**	QB-01	**0.171**
Nickel	**7440-02-0**	**0.717**		**0.643**
Phosphorus	7723-14-0	396	GC-BS, LJ, U	1000
Potassium	**7440-09-7**	**138**	LJ	**30.5**
Rubidium		**0.184**		**0.0147**
Selenium	**7782-49-2**	**0.144**		**0.00883**
Sodium	**7440-23-5**	**1750**	E	**1610**
Strontium	**7440-24-6**	**3.11**	QB-01	**0.524**
Thallium	**7440-28-0**	**9.16E-4**		**4.04E-4**
Thorium	**7440-29-01**	**0.0101**	LJ, QB-01	**0.00241**
Uranium	NA	0.00892	U	0.0137
Vanadium	**7440-62-2**	**1.52**		**0.0395**
Zinc	7440-66-6	13.3	U	78.5

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541912
Matrix: Air
Comments: MFK-AM03-112423-HM

Lab ID: 3112929-03
Sample Volume: 1838.776 m³
Filter ID:

Sampled: 11/24/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 21:04

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**205**		**28.4**
Antimony	**7440-36-0**	**0.0584**	SL	**0.0390**
Arsenic	**7440-38-2**	**0.105**		**0.00845**
Barium	**7440-39-3**	**4.19**		**0.839**
Beryllium	**7440-41-7**	**0.00925**		**0.00294**
Cadmium	7440-43-9	0.00637	U	0.0964
Calcium	**7440-70-2**	**616**	GC-BS, LJ, QB-01	**258**
Chromium	**7440-47-3**	**1.86**		**1.80**
Cobalt	**7440-48-4**	**0.178**	QB-01	**0.0138**
Copper	**7440-50-8**	**29.7**		**2.65**
Iron	**7439-89-6**	**288**		**21.4**
Lead	7439-92-1	0.182	U	0.244
Magnesium	**7439-95-4**	**246**		**85.3**
Manganese	**7439-96-5**	**8.04**		**1.05**
Molybdenum	**7439-98-7**	**1.11**	QB-01	**0.188**
Nickel	**7440-02-0**	**0.843**		**0.709**
Phosphorus	7723-14-0	426	GC-BS, LJ, U	1110
Potassium	**7440-09-7**	**162**	LJ	**33.6**
Rubidium		**0.146**		**0.0162**
Selenium	**7782-49-2**	**0.147**		**0.00973**
Sodium	**7440-23-5**	**2220**	E	**1770**
Strontium	**7440-24-6**	**3.20**	QB-01	**0.577**
Thallium	**7440-28-0**	**7.45E-4**		**4.45E-4**
Thorium	**7440-29-01**	**0.00800**	LJ, QB-01	**0.00265**
Uranium	NA	0.00731	U	0.0150
Vanadium	**7440-62-2**	**1.48**		**0.0435**
Zinc	7440-66-6	17.8	U	86.4

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541940 FB
Matrix: Air
Comments: MFK-FB01-112423-HM Field Blank

Lab ID: 3112929-04
Sample Volume: 2027.606 m³
Filter ID:

Sampled: 11/24/23 00:00
Received: 11/29/23 13:29
Analysis Date: 12/04/23 21:20

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	11.2	U	25.8
Antimony	7440-36-0	0.00794	SL, U	0.0354
Arsenic	7440-38-2	0.00648	U	0.00766
Barium	7440-39-3	0.606	U	0.761
Beryllium	7440-41-7	0.00106	U	0.00266
Cadmium	7440-43-9	0.00181	U	0.0875
Calcium	**7440-70-2**	**435**	FB-01, GC-BS, LJ, QB-01	**234**
Chromium	7440-47-3	1.45	U	1.63
Cobalt	**7440-48-4**	**0.0295**	FB-01, QB-01	**0.0125**
Copper	7440-50-8	0.310	U	2.41
Iron	7439-89-6	16.6	U	19.4
Lead	7439-92-1	0.0602	U	0.221
Magnesium	7439-95-4	43.8	U	77.4
Manganese	7439-96-5	0.242	U	0.955
Molybdenum	**7439-98-7**	**0.253**	FB-01, QB-01	**0.171**
Nickel	7440-02-0	0.454	U	0.643
Phosphorus	7723-14-0	345	GC-BS, LJ, U	1000
Potassium	**7440-09-7**	**39.9**	FB-01, LJ	**30.5**
Rubidium		**0.0176**	FB-01	**0.0147**
Selenium	7782-49-2	0.00526	U	0.00883
Sodium	7440-23-5	704	U	1600
Strontium	**7440-24-6**	**0.768**	FB-01, QB-01	**0.523**
Thallium	7440-28-0	7.92E-5	U	4.04E-4
Thorium	7440-29-01	0.00240	LJ, QB-01, U	0.00241
Uranium	NA	0.00170	U	0.0136
Vanadium	7440-62-2	0.0116	U	0.0395
Zinc	7440-66-6	11.3	U	78.4

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541911
Matrix: Air
Comments: MFK-AM01-112523-HM

Lab ID: 3112929-05
Sample Volume: 1996.342 m³
Filter ID:

Sampled: 11/25/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 17:49

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**325**	QM-4X	**26.2**
Antimony	**7440-36-0**	**0.0515**	SL	**0.0359**
Arsenic	**7440-38-2**	**0.114**		**0.00778**
Barium	**7440-39-3**	**4.40**		**0.773**
Beryllium	**7440-41-7**	**0.0103**		**0.00271**
Cadmium	7440-43-9	0.00693	U	0.0888
Calcium	**7440-70-2**	**608**	GC-BS, LJ, QB-01, QM-4X	**238**
Chromium	**7440-47-3**	**1.81**		**1.65**
Cobalt	**7440-48-4**	**0.194**	QB-01	**0.0127**
Copper	**7440-50-8**	**21.0**		**2.44**
Iron	**7439-89-6**	**367**	QM-4X	**19.7**
Lead	**7439-92-1**	**0.369**		**0.225**
Magnesium	**7439-95-4**	**277**	QM-4X	**78.6**
Manganese	**7439-96-5**	**9.57**		**0.970**
Molybdenum	**7439-98-7**	**1.14**	QB-01	**0.174**
Nickel	**7440-02-0**	**1.07**		**0.653**
Phosphorus	7723-14-0	405	GC-BS, LJ, QM-4X, U	1020
Potassium	**7440-09-7**	**148**	LJ, QM-07	**31.0**
Rubidium		**0.148**		**0.0149**
Selenium	**7782-49-2**	**0.152**		**0.00896**
Sodium	**7440-23-5**	**2420**	E, QM-4X	**1630**
Strontium	**7440-24-6**	**3.77**	QB-01	**0.531**
Thallium	**7440-28-0**	**8.96E-4**		**4.10E-4**
Thorium	**7440-29-01**	**0.00827**	LJ, QB-01, QM-07	**0.00244**
Uranium	NA	0.00842	U	0.0139
Vanadium	**7440-62-2**	**1.68**		**0.0401**
Zinc	7440-66-6	18.7	U	79.6

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541229
Matrix: Air
Comments: MFK-AM02-112523-HM

Lab ID: 3112929-06
Sample Volume: 2026.064 m³
Filter ID:

Sampled: 11/25/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 21:35

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**438**		**25.8**
Antimony	**7440-36-0**	**0.0669**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.153**		**0.00767**
Barium	**7440-39-3**	**5.67**		**0.761**
Beryllium	**7440-41-7**	**0.0136**		**0.00267**
Cadmium	7440-43-9	0.00810	U	0.0875
Calcium	**7440-70-2**	**391**	GC-BS, LJ, QB-01	**234**
Chromium	7440-47-3	1.57	U	1.63
Cobalt	**7440-48-4**	**0.225**	QB-01	**0.0125**
Copper	**7440-50-8**	**12.9**		**2.41**
Iron	**7439-89-6**	**476**		**19.4**
Lead	**7439-92-1**	**0.228**		**0.222**
Magnesium	**7439-95-4**	**294**		**77.4**
Manganese	**7439-96-5**	**11.9**		**0.956**
Molybdenum	**7439-98-7**	**0.813**	QB-01	**0.171**
Nickel	**7440-02-0**	**0.951**		**0.643**
Phosphorus	7723-14-0	381	GC-BS, LJ, U	1000
Potassium	**7440-09-7**	**159**	LJ	**30.5**
Rubidium		**0.172**		**0.0147**
Selenium	**7782-49-2**	**0.175**		**0.00883**
Sodium	**7440-23-5**	**2560**	E	**1610**
Strontium	**7440-24-6**	**3.72**	QB-01	**0.524**
Thallium	**7440-28-0**	**9.33E-4**		**4.04E-4**
Thorium	**7440-29-01**	**0.0115**	LJ, QB-01	**0.00241**
Uranium	NA	0.0105	U	0.0137
Vanadium	**7440-62-2**	**2.04**		**0.0395**
Zinc	7440-66-6	15.1	U	78.5

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541939
Matrix: Air
Comments: MFK-AM03-112523-HM

Lab ID: 3112929-07
Sample Volume: 1882.131 m³
Filter ID:

Sampled: 11/25/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 21:49

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**295**		**27.7**
Antimony	**7440-36-0**	**0.0643**	SL	**0.0381**
Arsenic	**7440-38-2**	**0.125**		**0.00826**
Barium	**7440-39-3**	**5.53**		**0.819**
Beryllium	**7440-41-7**	**0.0128**		**0.00287**
Cadmium	7440-43-9	0.00703	U	0.0942
Calcium	**7440-70-2**	**681**	GC-BS, LJ, QB-01	**252**
Chromium	**7440-47-3**	**1.86**		**1.75**
Cobalt	**7440-48-4**	**0.208**	QB-01	**0.0135**
Copper	**7440-50-8**	**25.5**		**2.59**
Iron	**7439-89-6**	**389**		**20.9**
Lead	**7439-92-1**	**0.249**		**0.239**
Magnesium	**7439-95-4**	**337**		**83.3**
Manganese	**7439-96-5**	**10.8**		**1.03**
Molybdenum	**7439-98-7**	**0.981**	QB-01	**0.184**
Nickel	**7440-02-0**	**0.963**		**0.692**
Phosphorus	7723-14-0	440	GC-BS, LJ, U	1080
Potassium	**7440-09-7**	**161**	LJ	**32.8**
Rubidium		**0.165**		**0.0158**
Selenium	**7782-49-2**	**0.181**		**0.00951**
Sodium	**7440-23-5**	**2950**	E	**1730**
Strontium	**7440-24-6**	**4.18**	QB-01	**0.564**
Thallium	**7440-28-0**	**8.72E-4**		**4.35E-4**
Thorium	**7440-29-01**	**0.0125**	LJ, QB-01	**0.00259**
Uranium	NA	0.00943	U	0.0147
Vanadium	**7440-62-2**	**2.00**		**0.0425**
Zinc	7440-66-6	13.0	U	84.5

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541905 FB
Matrix: Air
Comments: MFK-FB01-112523-HM Field Blank

Lab ID: 3112929-08
Sample Volume: 1996.342 m³
Filter ID:

Sampled: 11/25/23 00:00
Received: 11/29/23 13:29
Analysis Date: 12/04/23 22:06

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	13.0	U	26.2
Antimony	7440-36-0	0.00648	SL, U	0.0359
Arsenic	7440-38-2	0.00585	U	0.00778
Barium	**7440-39-3**	**1.41**	FB-01	**0.773**
Beryllium	7440-41-7	9.25E-4	U	0.00271
Cadmium	7440-43-9	0.00176	U	0.0888
Calcium	**7440-70-2**	**392**	FB-01, GC-BS, LJ, QB-01	**238**
Chromium	7440-47-3	1.49	U	1.65
Cobalt	**7440-48-4**	**0.0271**	FB-01, QB-01	**0.0127**
Copper	7440-50-8	0.249	U	2.44
Iron	7439-89-6	14.7	U	19.7
Lead	7439-92-1	0.0531	U	0.225
Magnesium	7439-95-4	48.0	U	78.6
Manganese	7439-96-5	0.238	U	0.970
Molybdenum	**7439-98-7**	**0.267**	FB-01, QB-01	**0.174**
Nickel	7440-02-0	0.345	U	0.653
Phosphorus	7723-14-0	370	GC-BS, LJ, U	1020
Potassium	**7440-09-7**	**31.9**	FB-01, LJ	**31.0**
Rubidium		**0.0163**	FB-01	**0.0149**
Selenium	7782-49-2	0.00471	U	0.00896
Sodium	7440-23-5	752	U	1630
Strontium	**7440-24-6**	**0.781**	FB-01, QB-01	**0.531**
Thallium	7440-28-0	5.18E-5	U	4.10E-4
Thorium	**7440-29-01**	**0.00251**	FB-01, LJ, QB-01	**0.00244**
Uranium	NA	0.00176	U	0.0139
Vanadium	7440-62-2	0.0116	U	0.0401
Zinc	7440-66-6	7.42	U	79.6

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541938
Matrix: Air
Comments: MFK-AM01-112623-HM

Lab ID: 3112929-09
Sample Volume: 1996.342 m³
Filter ID:

Sampled: 11/26/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 22:20

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**299**		**26.2**
Antimony	**7440-36-0**	**0.0636**	SL	**0.0359**
Arsenic	**7440-38-2**	**0.115**		**0.00778**
Barium	**7440-39-3**	**4.74**		**0.773**
Beryllium	**7440-41-7**	**0.0101**		**0.00271**
Cadmium	7440-43-9	0.00605	U	0.0888
Calcium	**7440-70-2**	**584**	GC-BS, LJ, QB-01	**238**
Chromium	**7440-47-3**	**1.70**		**1.65**
Cobalt	**7440-48-4**	**0.197**	QB-01	**0.0127**
Copper	**7440-50-8**	**20.0**		**2.44**
Iron	**7439-89-6**	**363**		**19.7**
Lead	**7439-92-1**	**0.288**		**0.225**
Magnesium	**7439-95-4**	**211**		**78.6**
Manganese	**7439-96-5**	**9.73**		**0.970**
Molybdenum	**7439-98-7**	**1.15**	QB-01	**0.174**
Nickel	**7440-02-0**	**0.655**		**0.653**
Phosphorus	7723-14-0	396	GC-BS, LJ, U	1020
Potassium	**7440-09-7**	**102**	LJ	**31.0**
Rubidium		**0.146**		**0.0149**
Selenium	**7782-49-2**	**0.157**		**0.00896**
Sodium	**7440-23-5**	**1920**	E	**1630**
Strontium	**7440-24-6**	**3.50**	QB-01	**0.531**
Thallium	**7440-28-0**	**8.29E-4**		**4.10E-4**
Thorium	**7440-29-01**	**0.00928**	LJ, QB-01	**0.00244**
Uranium	NA	0.00876	U	0.0139
Vanadium	**7440-62-2**	**1.11**		**0.0401**
Zinc	7440-66-6	10.3	U	79.6

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541937
Matrix: Air
Comments: MFK-AM02-112623-HM

Lab ID: 3112929-10
Sample Volume: 1990.57 m³
Filter ID:

Sampled: 11/26/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 22:37

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**578**		**26.2**
Antimony	**7440-36-0**	**0.0706**	SL	**0.0360**
Arsenic	**7440-38-2**	**0.219**		**0.00781**
Barium	**7440-39-3**	**7.77**		**0.775**
Beryllium	**7440-41-7**	**0.0165**		**0.00271**
Cadmium	7440-43-9	0.0124	U	0.0891
Calcium	**7440-70-2**	**787**	GC-BS, LJ, QB-01	**239**
Chromium	**7440-47-3**	**2.03**		**1.66**
Cobalt	**7440-48-4**	**0.276**	QB-01	**0.0128**
Copper	**7440-50-8**	**15.2**		**2.45**
Iron	**7439-89-6**	**606**		**19.8**
Lead	**7439-92-1**	**0.266**		**0.226**
Magnesium	**7439-95-4**	**237**		**78.8**
Manganese	**7439-96-5**	**15.8**		**0.973**
Molybdenum	**7439-98-7**	**0.967**	QB-01	**0.174**
Nickel	**7440-02-0**	**0.786**		**0.655**
Phosphorus	7723-14-0	454	GC-BS, LJ, U	1020
Potassium	**7440-09-7**	**175**	LJ	**31.1**
Rubidium		**0.253**		**0.0150**
Selenium	**7782-49-2**	**0.192**		**0.00899**
Sodium	**7440-23-5**	**1850**	E	**1630**
Strontium	**7440-24-6**	**6.02**	QB-01	**0.533**
Thallium	**7440-28-0**	**0.00139**		**4.11E-4**
Thorium	**7440-29-01**	**0.0163**	LJ, QB-01	**0.00245**
Uranium	**NA**	**0.0160**		**0.0139**
Vanadium	**7440-62-2**	**1.72**		**0.0402**
Zinc	7440-66-6	11.4	U	79.9

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541903
Matrix: Air
Comments: MFK-AM03-112623-HM

Lab ID: 3112929-11
Sample Volume: 1665.355 m³
Filter ID:

Sampled: 11/26/23 23:59
Received: 11/29/23 13:29
Analysis Date: 12/04/23 23:48

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**260**		**31.4**
Antimony	**7440-36-0**	**0.0738**	SL	**0.0431**
Arsenic	**7440-38-2**	**0.100**		**0.00933**
Barium	**7440-39-3**	**4.54**		**0.926**
Beryllium	**7440-41-7**	**0.0122**		**0.00324**
Cadmium	7440-43-9	0.00706	U	0.106
Calcium	**7440-70-2**	**347**	GC-BS, LJ, QB-01	**285**
Chromium	7440-47-3	1.83	U	1.98
Cobalt	**7440-48-4**	**0.202**	QB-01	**0.0152**
Copper	**7440-50-8**	**33.2**		**2.93**
Iron	**7439-89-6**	**353**		**23.6**
Lead	7439-92-1	0.232	U	0.270
Magnesium	**7439-95-4**	**214**		**94.2**
Manganese	**7439-96-5**	**9.87**		**1.16**
Molybdenum	**7439-98-7**	**0.975**	QB-01	**0.208**
Nickel	7440-02-0	0.704	U	0.783
Phosphorus	7723-14-0	401	GC-BS, LJ, U	1220
Potassium	**7440-09-7**	**107**	LJ	**37.1**
Rubidium		**0.157**		**0.0179**
Selenium	**7782-49-2**	**0.164**		**0.0107**
Sodium	**7440-23-5**	**2080**	E	**1950**
Strontium	**7440-24-6**	**3.05**	QB-01	**0.637**
Thallium	**7440-28-0**	**9.15E-4**		**4.91E-4**
Thorium	**7440-29-01**	**0.00930**	LJ, QB-01	**0.00293**
Uranium	NA	0.00847	U	0.0166
Vanadium	**7440-62-2**	**1.23**		**0.0481**
Zinc	7440-66-6	12.1	U	95.4

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541228 FB
Matrix: Air
Comments: MFK-FB01-112623-HM Field Blank

Lab ID: 3112929-12
Sample Volume: 1996.342 m³
Filter ID:

Sampled: 11/26/23 00:00
Received: 11/29/23 13:29
Analysis Date: 12/05/23 00:05

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	11.7	U	26.2
Antimony	7440-36-0	0.0107	SL, U	0.0359
Arsenic	7440-38-2	0.00553	U	0.00778
Barium	7440-39-3	0.459	U	0.773
Beryllium	7440-41-7	6.80E-4	U	0.00271
Cadmium	7440-43-9	0.00147	U	0.0888
Calcium	7440-70-2	147	GC-BS, LJ, QB-01, U	238
Chromium	7440-47-3	1.37	U	1.65
Cobalt	**7440-48-4**	**0.0259**	FB-01, QB-01	**0.0127**
Copper	7440-50-8	0.266	U	2.44
Iron	7439-89-6	13.1	U	19.7
Lead	7439-92-1	0.0368	U	0.225
Magnesium	7439-95-4	37.1	U	78.6
Manganese	7439-96-5	0.152	U	0.970
Molybdenum	**7439-98-7**	**0.197**	FB-01, QB-01	**0.174**
Nickel	7440-02-0	0.308	U	0.653
Phosphorus	7723-14-0	307	GC-BS, LJ, U	1020
Potassium	**7440-09-7**	**55.5**	FB-01, LJ	**31.0**
Rubidium		0.00991	U	0.0149
Selenium	7782-49-2	0.00205	U	0.00896
Sodium	7440-23-5	738	U	1630
Strontium	7440-24-6	0.365	QB-01, U	0.531
Thallium	7440-28-0	5.73E-5	U	4.10E-4
Thorium	7440-29-01	0.00187	LJ, QB-01, U	0.00244
Uranium	NA	0.00117	U	0.0139
Vanadium	7440-62-2	5.03E-4	U	0.0401
Zinc	7440-66-6	7.43	U	79.6

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
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 2312007 - B3L0101										
Calibration Blank (2312007-CCB1)				Prepared & Analyzed: 12/04/23						
Aluminum	72.8		ng/l							
Antimony	1.28		ng/l							
Arsenic	15.9		ng/l							
Barium	2.46		ng/l							
Beryllium	1.07		ng/l							
Cadmium	0.878		ng/l							
Calcium	496		ng/l							
Chromium	7.87		ng/l							
Cobalt	1.13		ng/l							
Copper	61.6		ng/l							
Iron	138		ng/l							
Lead	12.4		ng/l							
Magnesium	92.2		ng/l							
Manganese	15.2		ng/l							
Molybdenum	29.1		ng/l							
Nickel	0.382		ng/l							
Phosphorus	-196		ng/l							U
Potassium	3450		ng/l							
Rubidium	-0.595		ng/l							U
Selenium	-6.15		ng/l							U
Sodium	2280		ng/l							
Strontium	0.532		ng/l							
Thallium	0.397		ng/l							
Thorium	0.491		ng/l							
Uranium	0.00336		ng/l							
Vanadium	-47.7		ng/l							U
Zinc	-57.4		ng/l							U
Calibration Blank (2312007-CCB2)				Prepared & Analyzed: 12/04/23						
Aluminum	-96.5		ng/l							U
Antimony	0.940		ng/l							
Arsenic	9.14		ng/l							
Barium	0.966		ng/l							
Beryllium	0.808		ng/l							
Cadmium	0.413		ng/l							
Calcium	-1280		ng/l							U
Chromium	2.85		ng/l							
Cobalt	0.509		ng/l							
Copper	34.7		ng/l							

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REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
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 2312007 - B3L0101										
Calibration Blank (2312007-CCB2) Continued				Prepared & Analyzed: 12/04/23						
Iron	-10.9		ng/l							U
Lead	9.28		ng/l							
Magnesium	-42.5		ng/l							U
Manganese	9.66		ng/l							
Molybdenum	6.73		ng/l							
Nickel	-2.87		ng/l							U
Phosphorus	-516		ng/l							U
Potassium	1730		ng/l							
Rubidium	-0.482		ng/l							U
Selenium	-1.85		ng/l							U
Sodium	3880		ng/l							
Strontium	0.266		ng/l							
Thallium	0.246		ng/l							
Thorium	0.583		ng/l							
Uranium	-0.0295		ng/l							U
Vanadium	-53.5		ng/l							U
Zinc	-107		ng/l							U
Calibration Blank (2312007-CCB3)				Prepared & Analyzed: 12/04/23						
Aluminum	-109		ng/l							U
Antimony	0.523		ng/l							
Arsenic	14.0		ng/l							
Barium	-0.760		ng/l							U
Beryllium	-0.511		ng/l							U
Cadmium	0.150		ng/l							
Calcium	-1210		ng/l							U
Chromium	0.355		ng/l							
Cobalt	0.226		ng/l							
Copper	13.0		ng/l							
Iron	-47.6		ng/l							U
Lead	5.45		ng/l							
Magnesium	-21.0		ng/l							U
Manganese	3.68		ng/l							
Molybdenum	6.60		ng/l							
Nickel	-5.14		ng/l							U
Phosphorus	-1070		ng/l							U
Potassium	1960		ng/l							
Rubidium	-0.545		ng/l							U
Selenium	0.410		ng/l							

CERTIFICATE OF ANALYSIS

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FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
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 2312007 - B3L0101										
Calibration Blank (2312007-CCB3) Continued				Prepared & Analyzed: 12/04/23						
Sodium	6960		ng/l							
Strontium	0.564		ng/l							
Thallium	0.266		ng/l							
Thorium	0.317		ng/l							
Uranium	-0.0387		ng/l							U
Vanadium	-62.0		ng/l							U
Zinc	20.6		ng/l							
Calibration Blank (2312007-CCB4)				Prepared: 12/04/23 Analyzed: 12/05/23						
Aluminum	-56.7		ng/l							U
Antimony	1.06		ng/l							
Arsenic	11.2		ng/l							
Barium	-0.220		ng/l							U
Beryllium	-0.287		ng/l							U
Cadmium	0.486		ng/l							
Calcium	-420		ng/l							U
Chromium	3.35		ng/l							
Cobalt	0.530		ng/l							
Copper	32.0		ng/l							
Iron	51.6		ng/l							
Lead	8.90		ng/l							
Magnesium	26.1		ng/l							
Manganese	6.81		ng/l							
Molybdenum	25.1		ng/l							
Nickel	-2.21		ng/l							U
Phosphorus	-63.5		ng/l							U
Potassium	2260		ng/l							
Rubidium	-0.338		ng/l							U
Selenium	-4.92		ng/l							U
Sodium	7750		ng/l							
Strontium	0.333		ng/l							
Thallium	0.358		ng/l							
Thorium	0.276		ng/l							
Uranium	-0.0530		ng/l							U
Vanadium	-60.5		ng/l							U
Zinc	-96.8		ng/l							U
Calibration Check (2312007-CCV1)				Prepared & Analyzed: 12/04/23						
Aluminum	1.60E6		ng/l	1.5000E6		106	90-110			
Antimony	20300		ng/l	20000		101	90-110			

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FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
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 2312007 - B3L0101										
Calibration Check (2312007-CCV1) Continued				Prepared & Analyzed: 12/04/23						
Arsenic	20400		ng/l	20000		102	90-110			
Barium	205000		ng/l	200000		103	90-110			
Beryllium	5150		ng/l	5000.0		103	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Calcium	2.62E7		ng/l	2.5000E7		105	90-110			
Chromium	230000		ng/l	240000		96.0	90-110			
Cobalt	53400		ng/l	50000		107	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Iron	2.64E6		ng/l	2.5000E6		105	90-110			
Lead	203000		ng/l	200000		102	90-110			
Magnesium	1.08E6		ng/l	1.0000E6		108	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	51200		ng/l	50000		102	90-110			
Nickel	129000		ng/l	120000		107	90-110			
Phosphorus	216000		ng/l	200000		108	90-110			
Potassium	2.61E6		ng/l	2.5000E6		104	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Sodium	2.71E6		ng/l	2.5000E6		108	90-110			
Strontium	49900		ng/l	50000		99.7	90-110			
Thallium	512		ng/l	500.00		102	90-110			
Thorium	510		ng/l	500.00		102	90-110			
Uranium	502		ng/l	500.00		100	90-110			
Vanadium	18200		ng/l	20000		91.1	90-110			
Zinc	507000		ng/l	500000		101	90-110			
Calibration Check (2312007-CCV2)				Prepared & Analyzed: 12/04/23						
Aluminum	1.51E6		ng/l	1.5000E6		101	90-110			
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20300		ng/l	20000		101	90-110			
Barium	208000		ng/l	200000		104	90-110			
Beryllium	5010		ng/l	5000.0		100	90-110			
Cadmium	20500		ng/l	20000		103	90-110			
Calcium	2.57E7		ng/l	2.5000E7		103	90-110			
Chromium	240000		ng/l	240000		99.8	90-110			
Cobalt	52800		ng/l	50000		106	90-110			
Copper	2.11E6		ng/l	2.0000E6		106	90-110			
Iron	2.59E6		ng/l	2.5000E6		104	90-110			
Lead	202000		ng/l	200000		101	90-110			

Tetra Tech, Inc.
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Blue Bell, FA 19422
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FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
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 2312007 - B3L0101										
Calibration Check (2312007-CCV2) Continued				Prepared & Analyzed: 12/04/23						
Magnesium	1.03E6		ng/l	1.0000E6		103	90-110			
Manganese	510000		ng/l	500000		102	90-110			
Molybdenum	52400		ng/l	50000		105	90-110			
Nickel	128000		ng/l	120000		107	90-110			
Phosphorus	201000		ng/l	200000		100	90-110			
Potassium	2.62E6		ng/l	2.5000E6		105	90-110			
Rubidium	10000		ng/l	10000		100	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Sodium	2.59E6		ng/l	2.5000E6		103	90-110			
Strontium	49800		ng/l	50000		99.6	90-110			
Thallium	505		ng/l	500.00		101	90-110			
Thorium	503		ng/l	500.00		101	90-110			
Uranium	495		ng/l	500.00		99.1	90-110			
Vanadium	19600		ng/l	20000		98.2	90-110			
Zinc	534000		ng/l	500000		107	90-110			
Calibration Check (2312007-CCV3)				Prepared & Analyzed: 12/04/23						
Aluminum	1.51E6		ng/l	1.5000E6		101	90-110			
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	210000		ng/l	200000		105	90-110			
Beryllium	4680		ng/l	5000.0		93.7	90-110			
Cadmium	20900		ng/l	20000		104	90-110			
Calcium	2.61E7		ng/l	2.5000E7		104	90-110			
Chromium	246000		ng/l	240000		102	90-110			
Cobalt	53300		ng/l	50000		107	90-110			
Copper	2.15E6		ng/l	2.0000E6		107	90-110			
Iron	2.61E6		ng/l	2.5000E6		104	90-110			
Lead	204000		ng/l	200000		102	90-110			
Magnesium	1.04E6		ng/l	1.0000E6		104	90-110			
Manganese	516000		ng/l	500000		103	90-110			
Molybdenum	53800		ng/l	50000		108	90-110			
Nickel	130000		ng/l	120000		108	90-110			
Phosphorus	201000		ng/l	200000		100	90-110			
Potassium	2.62E6		ng/l	2.5000E6		105	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	19900		ng/l	20000		99.6	90-110			
Sodium	2.64E6		ng/l	2.5000E6		105	90-110			
Strontium	50300		ng/l	50000		101	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/07/23 08:11
SUBMITTED: 11/29/23
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 2312007 - B3L0101										
Calibration Check (2312007-CCV3) Continued				Prepared & Analyzed: 12/04/23						
Thallium	510		ng/l	500.00		102	90-110			
Thorium	504		ng/l	500.00		101	90-110			
Uranium	502		ng/l	500.00		100	90-110			
Vanadium	20100		ng/l	20000		101	90-110			
Zinc	540000		ng/l	500000		108	90-110			
Calibration Check (2312007-CCV4)				Prepared: 12/04/23 Analyzed: 12/05/23						
Aluminum	1.54E6		ng/l	1.5000E6		103	90-110			
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20400		ng/l	20000		102	90-110			
Barium	213000		ng/l	200000		106	90-110			
Beryllium	5190		ng/l	5000.0		104	90-110			
Cadmium	20800		ng/l	20000		104	90-110			
Calcium	2.63E7		ng/l	2.5000E7		105	90-110			
Chromium	240000		ng/l	240000		99.9	90-110			
Cobalt	53900		ng/l	50000		108	90-110			
Copper	2.13E6		ng/l	2.0000E6		107	90-110			
Iron	2.64E6		ng/l	2.5000E6		105	90-110			
Lead	203000		ng/l	200000		101	90-110			
Magnesium	1.05E6		ng/l	1.0000E6		105	90-110			
Manganese	513000		ng/l	500000		103	90-110			
Molybdenum	53200		ng/l	50000		106	90-110			
Nickel	131000		ng/l	120000		109	90-110			
Phosphorus	207000		ng/l	200000		103	90-110			
Potassium	2.65E6		ng/l	2.5000E6		106	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Sodium	2.66E6		ng/l	2.5000E6		107	90-110			
Strontium	49700		ng/l	50000		99.4	90-110			
Thallium	514		ng/l	500.00		103	90-110			
Thorium	509		ng/l	500.00		102	90-110			
Uranium	510		ng/l	500.00		102	90-110			
Vanadium	19400		ng/l	20000		97.1	90-110			
Zinc	541000		ng/l	500000		108	90-110			
High Cal Check (2312007-HCV1)				Prepared & Analyzed: 12/04/23						
Aluminum	3.06E6		ng/l	3.0000E6		102	95-105			
Antimony	40800		ng/l	40000		102	95-105			
Arsenic	40700		ng/l	40000		102	95-105			
Barium	411000		ng/l	400000		103	95-105			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312007 - B3L0101										
High Cal Check (2312007-HCV1) Continued				Prepared & Analyzed: 12/04/23						
Beryllium	9610		ng/l	10000		96.1	95-105			
Cadmium	40700		ng/l	40000		102	95-105			
Calcium	5.04E7		ng/l	5.0000E7		101	95-105			
Chromium	479000		ng/l	480000		99.9	95-105			
Cobalt	101000		ng/l	100000		101	95-105			
Copper	4.04E6		ng/l	4.0000E6		101	95-105			
Iron	5.07E6		ng/l	5.0000E6		101	95-105			
Lead	409000		ng/l	400000		102	95-105			
Magnesium	2.02E6		ng/l	2.0000E6		101	95-105			
Manganese	1.02E6		ng/l	1.0000E6		102	95-105			
Molybdenum	103000		ng/l	100000		103	95-105			
Nickel	240000		ng/l	240000		100	95-105			
Phosphorus	408000		ng/l	400000		102	95-105			
Potassium	4.99E6		ng/l	5.0000E6		99.9	95-105			
Rubidium	20200		ng/l	20000		101	95-105			
Selenium	40200		ng/l	40000		100	95-105			
Sodium	5.06E6		ng/l	5.0000E6		101	95-105			
Strontium	102000		ng/l	100000		102	95-105			
Thallium	1020		ng/l	1000.0		102	95-105			
Thorium	1040		ng/l	1000.0		104	95-105			
Uranium	1030		ng/l	1000.0		103	95-105			
Vanadium	39900		ng/l	40000		99.7	95-105			
Zinc	994000		ng/l	1.0000E6		99.4	95-105			
Initial Cal Blank (2312007-ICB1)				Prepared & Analyzed: 12/04/23						
Aluminum	75.4		ng/l							
Antimony	1.45		ng/l							
Arsenic	3.81		ng/l							
Barium	0.219		ng/l							
Beryllium	0.604		ng/l							
Cadmium	0.510		ng/l							
Calcium	605		ng/l							
Chromium	3.96		ng/l							
Cobalt	0.514		ng/l							
Copper	37.4		ng/l							
Iron	95.1		ng/l							
Lead	11.8		ng/l							
Magnesium	71.4		ng/l							
Manganese	9.09		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312007 - B3L0101										
Initial Cal Blank (2312007-ICB1) Continued				Prepared & Analyzed: 12/04/23						
Molybdenum	13.3		ng/l							
Nickel	1.36E-4		ng/l							
Phosphorus	-712		ng/l							U
Potassium	1690		ng/l							
Rubidium	-0.195		ng/l							U
Selenium	-6.80		ng/l							U
Sodium	423		ng/l							
Strontium	1.05		ng/l							
Thallium	0.379		ng/l							
Thorium	0.466		ng/l							
Uranium	-0.0197		ng/l							U
Vanadium	-46.2		ng/l							U
Zinc	-62.2		ng/l							U
Initial Cal Check (2312007-ICV1)				Prepared & Analyzed: 12/04/23						
Aluminum	1.48E6		ng/l	1.5000E6		99.0	90-110			
Antimony	19700		ng/l	20000		98.6	90-110			
Arsenic	19800		ng/l	20000		98.9	90-110			
Barium	197000		ng/l	200000		98.6	90-110			
Beryllium	4520		ng/l	5000.0		90.3	90-110			
Cadmium	20700		ng/l	20000		103	90-110			
Calcium	2.51E7		ng/l	2.5000E7		101	90-110			
Chromium	233000		ng/l	240000		97.1	90-110			
Cobalt	50900		ng/l	50000		102	90-110			
Copper	2.00E6		ng/l	2.0000E6		100	90-110			
Iron	2.55E6		ng/l	2.5000E6		102	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Magnesium	1.00E6		ng/l	1.0000E6		100	90-110			
Manganese	492000		ng/l	500000		98.5	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	124000		ng/l	120000		103	90-110			
Phosphorus	197000		ng/l	200000		98.6	90-110			
Potassium	2.62E6		ng/l	2.5000E6		105	90-110			
Rubidium	9630		ng/l	10000		96.3	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Sodium	2.48E6		ng/l	2.5000E6		99.3	90-110			
Strontium	49600		ng/l	50000		99.2	90-110			
Thallium	486		ng/l	500.00		97.1	90-110			
Thorium	486		ng/l	500.00		97.2	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312007 - B3L0101										
Initial Cal Check (2312007-ICV1) Continued				Prepared & Analyzed: 12/04/23						
Uranium	494		ng/l	500.00		98.9	90-110			
Vanadium	19700		ng/l	20000		98.6	90-110			
Zinc	531000		ng/l	500000		106	90-110			
Interference Check A (2312007-IFA1)				Prepared & Analyzed: 12/04/23						
Aluminum	1.61E7		ng/l	1.5000E7		108	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	9.84E7		ng/l	1.0040E8		98.0	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	1.56E7		ng/l	1.5000E7		104	80-120			
Lead	0.00		ng/l				80-120			U
Magnesium	1.58E7		ng/l	1.5000E7		105	80-120			
Manganese	0.00		ng/l				80-120			U
Molybdenum	308000		ng/l	300000		103	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.77E7		ng/l	1.5000E7		118	80-120			
Potassium	1.61E7		ng/l	1.5000E7		107	80-120			
Rubidium	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Sodium	1.65E7		ng/l	1.5000E7		110	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 A (2312007-IFA2)				Prepared: 12/04/23 Analyzed: 12/05/23						
Aluminum	1.53E7		ng/l	1.5000E7		102	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

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312007 - B3L0101										
Interference Check A (2312007-IFA2) Continued				Prepared: 12/04/23 Analyzed: 12/05/23						
Calcium	9.76E7		ng/l	1.0040E8		97.3	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	1.56E7		ng/l	1.5000E7		104	80-120			
Lead	0.00		ng/l				80-120			U
Magnesium	1.55E7		ng/l	1.5000E7		103	80-120			
Manganese	0.00		ng/l				80-120			U
Molybdenum	326000		ng/l	300000		109	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.66E7		ng/l	1.5000E7		111	80-120			
Potassium	1.56E7		ng/l	1.5000E7		104	80-120			
Rubidium	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Sodium	1.63E7		ng/l	1.5000E7		109	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 (2312007-IFB1)				Prepared & Analyzed: 12/04/23						
Aluminum	1.84E7		ng/l	1.6500E7		112	80-120			
Antimony	20500		ng/l	20000		102	80-120			
Arsenic	20900		ng/l	20000		104	80-120			
Barium	207000		ng/l	200000		103	80-120			
Beryllium	5530		ng/l	5000.0		111	80-120			
Cadmium	19800		ng/l	20000		99.0	80-120			
Calcium	1.26E8		ng/l	1.2540E8		101	80-120			
Chromium	215000		ng/l	240000		89.6	80-120			
Cobalt	52400		ng/l	50000		105	80-120			
Copper	1.96E6		ng/l	2.0000E6		97.8	80-120			
Iron	1.85E7		ng/l	1.7500E7		106	80-120			
Lead	210000		ng/l	200000		105	80-120			
Magnesium	1.73E7		ng/l	1.6000E7		108	80-120			
Manganese	538000		ng/l	500000		108	80-120			
Molybdenum	360000		ng/l	350000		103	80-120			
Nickel	124000		ng/l	120000		103	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312007 - B3L0101										
Interference Check B (2312007-IFB1) Continued				Prepared & Analyzed: 12/04/23						
Phosphorus	1.85E7		ng/l	1.5200E7		122	80-120			
Potassium	1.92E7		ng/l	1.7500E7		110	80-120			
Rubidium	10300		ng/l	10000		103	80-120			
Selenium	19400		ng/l	20000		96.8	80-120			
Sodium	2.02E7		ng/l	1.7500E7		115	80-120			
Strontium	51100		ng/l	50000		102	80-120			
Thallium	530		ng/l	500.00		106	80-120			
Thorium	556		ng/l	500.00		111	80-120			
Uranium	553		ng/l	500.00		111	80-120			
Vanadium	16400		ng/l	20000		81.9	80-120			
Zinc	468000		ng/l	500000		93.6	80-120			
Interference Check B (2312007-IFB2)				Prepared: 12/04/23 Analyzed: 12/05/23						
Aluminum	1.76E7		ng/l	1.6500E7		107	80-120			
Antimony	21100		ng/l	20000		105	80-120			
Arsenic	21100		ng/l	20000		105	80-120			
Barium	218000		ng/l	200000		109	80-120			
Beryllium	5310		ng/l	5000.0		106	80-120			
Cadmium	20300		ng/l	20000		102	80-120			
Calcium	1.25E8		ng/l	1.2540E8		99.4	80-120			
Chromium	224000		ng/l	240000		93.5	80-120			
Cobalt	52700		ng/l	50000		105	80-120			
Copper	2.00E6		ng/l	2.0000E6		99.9	80-120			
Iron	1.85E7		ng/l	1.7500E7		106	80-120			
Lead	215000		ng/l	200000		107	80-120			
Magnesium	1.68E7		ng/l	1.6000E7		105	80-120			
Manganese	537000		ng/l	500000		107	80-120			
Molybdenum	381000		ng/l	350000		109	80-120			
Nickel	124000		ng/l	120000		104	80-120			
Phosphorus	1.75E7		ng/l	1.5200E7		115	80-120			
Potassium	1.88E7		ng/l	1.7500E7		107	80-120			
Rubidium	10400		ng/l	10000		104	80-120			
Selenium	19300		ng/l	20000		96.4	80-120			
Sodium	1.97E7		ng/l	1.7500E7		112	80-120			
Strontium	51000		ng/l	50000		102	80-120			
Thallium	545		ng/l	500.00		109	80-120			
Thorium	568		ng/l	500.00		114	80-120			
Uranium	569		ng/l	500.00		114	80-120			
Vanadium	17700		ng/l	20000		88.7	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312007 - B3L0101										
Interference Check B (2312007-IFB2) Continued				Prepared: 12/04/23 Analyzed: 12/05/23						
Zinc	492000		ng/l	500000		98.5	80-120			
Batch B3L0101 - ICP-MS Extraction										
Blank (B3L0101-BLK1)				Prepared: 12/01/23 Analyzed: 12/04/23						
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							GC-BS, 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, LJ, U
Potassium	ND	38.0	ng/m³ Air							LJ, 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							LJ, QB-01, 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 (B3L0101-BS1)				Prepared: 12/01/23 Analyzed: 12/04/23						
Aluminum	93.4	32.1	ng/m³ Air	82.975		113	80-120			
Antimony	0.534	0.0441	ng/m³ Air	1.3829		38.6	80-120			SL
Arsenic	2.75	0.00955	ng/m³ Air	2.7658		99.3	80-120			
Barium	28.2	0.948	ng/m³ Air	27.658		102	80-120			
Beryllium	1.35	0.00332	ng/m³ Air	1.3829		97.4	80-120			
Cadmium	1.43	0.109	ng/m³ Air	1.3829		103	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0101 - ICP-MS Extraction										
LCS (B3L0101-BS1) Continued				Prepared: 12/01/23 Analyzed: 12/04/23						
Calcium	616	292	ng/m³ Air	69.146		890	80-120			GC-BS, LJ, QB-01
Chromium	16.3	2.03	ng/m³ Air	13.829		118	80-120			
Cobalt	1.47	0.0156	ng/m³ Air	1.3829		106	80-120			QB-01
Copper	31.0	3.00	ng/m³ Air	27.658		112	80-120			
Iron	42.5	24.2	ng/m³ Air	27.658		154	80-120			
Lead	13.9	0.276	ng/m³ Air	13.829		100	80-120			
Magnesium	ND	96.4	ng/m³ Air	27.658			80-120			U
Manganese	8.75	1.19	ng/m³ Air	8.2975		105	80-120			
Molybdenum	1.72	0.213	ng/m³ Air	1.3829		125	80-120			QB-01
Nickel	3.41	0.801	ng/m³ Air	2.7658		123	80-120			
Phosphorus	ND	1250	ng/m³ Air	13.829			80-120			GC-BS, LJ, U
Potassium	70.5	38.0	ng/m³ Air	55.317		127	80-120			LJ
Rubidium	1.36	0.0183	ng/m³ Air	1.3829		98.3	80-120			
Selenium	2.66	0.0110	ng/m³ Air	2.7658		96.2	80-120			
Sodium	ND	2000	ng/m³ Air	55.317			80-120			U
Strontium	2.26	0.652	ng/m³ Air	1.3829		163	80-120			QB-01
Thallium	0.131	5.03E-4	ng/m³ Air	0.13829		95.0	80-120			
Thorium	0.135	0.00300	ng/m³ Air	0.13829		97.6	80-120			LJ, QB-01
Uranium	0.131	0.0170	ng/m³ Air	0.13829		95.1	80-120			
Vanadium	2.73	0.0492	ng/m³ Air	2.7658		98.8	80-120			
Zinc	124	97.7	ng/m³ Air	82.975		150	80-120			
Duplicate (B3L0101-DUP1)		**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23						
Aluminum	324	26.2	ng/m³ Air		325			0.421	10	
Antimony	0.0493	0.0359	ng/m³ Air		0.0515			4.45	10	SL
Arsenic	0.100	0.00778	ng/m³ Air		0.114			12.7	10	
Barium	4.56	0.773	ng/m³ Air		4.40			3.51	10	
Beryllium	0.0105	0.00271	ng/m³ Air		0.0103			2.26	10	
Cadmium	ND	0.0888	ng/m³ Air		ND				10	U
Calcium	619	238	ng/m³ Air		608			1.86	10	GC-BS, LJ, QB-01
Chromium	1.84	1.65	ng/m³ Air		1.81			1.50	10	
Cobalt	0.190	0.0127	ng/m³ Air		0.194			1.83	10	QB-01
Copper	19.1	2.44	ng/m³ Air		21.0			9.22	10	
Iron	373	19.7	ng/m³ Air		367			1.53	10	
Lead	0.334	0.225	ng/m³ Air		0.369			10.1	10	
Magnesium	279	78.6	ng/m³ Air		277			0.677	10	
Manganese	9.45	0.970	ng/m³ Air		9.57			1.29	10	
Molybdenum	1.11	0.174	ng/m³ Air		1.14			2.43	10	QB-01

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FILE #: 0000.00
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AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0101 - ICP-MS Extraction										
Duplicate (B3L0101-DUP1) Continued		**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23						
Nickel	0.870	0.653	ng/m³ Air		1.07			20.8	10	
Phosphorus	ND	1020	ng/m³ Air		ND				10	GC-BS, LJ, U
Potassium	132	31.0	ng/m³ Air		148			11.1	10	LJ
Rubidium	0.149	0.0149	ng/m³ Air		0.148			0.589	10	
Selenium	0.152	0.00896	ng/m³ Air		0.152			0.0617	10	
Sodium	2440	1630	ng/m³ Air		2420			0.598	10	E
Strontium	3.79	0.531	ng/m³ Air		3.77			0.562	10	QB-01
Thallium	8.47E-4	4.10E-4	ng/m³ Air		8.96E-4			5.57	10	
Thorium	0.00835	0.00244	ng/m³ Air		0.00827			0.958	10	LJ, QB-01
Uranium	ND	0.0139	ng/m³ Air		ND				10	U
Vanadium	1.65	0.0401	ng/m³ Air		1.68			1.79	10	
Zinc	ND	79.6	ng/m³ Air		ND				10	U
Duplicate (B3L0101-DUP2)		**Source: 3112929-10**		Prepared: 12/01/23 Analyzed: 12/04/23						
Aluminum	570	26.2	ng/m³ Air		578			1.54	10	
Antimony	0.0705	0.0361	ng/m³ Air		0.0706			0.142	10	SL
Arsenic	0.218	0.00781	ng/m³ Air		0.219			0.555	10	
Barium	7.72	0.775	ng/m³ Air		7.77			0.644	10	
Beryllium	0.0175	0.00271	ng/m³ Air		0.0165			5.50	10	
Cadmium	ND	0.0891	ng/m³ Air		ND				10	U
Calcium	782	239	ng/m³ Air		787			0.680	10	GC-BS, LJ, QB-01
Chromium	2.00	1.66	ng/m³ Air		2.03			1.80	10	
Cobalt	0.272	0.0128	ng/m³ Air		0.276			1.40	10	QB-01
Copper	14.9	2.45	ng/m³ Air		15.2			1.96	10	
Iron	594	19.8	ng/m³ Air		606			1.88	10	
Lead	0.263	0.226	ng/m³ Air		0.266			1.24	10	
Magnesium	234	78.8	ng/m³ Air		237			1.07	10	
Manganese	15.6	0.973	ng/m³ Air		15.8			0.981	10	
Molybdenum	0.966	0.174	ng/m³ Air		0.967			0.121	10	QB-01
Nickel	0.775	0.655	ng/m³ Air		0.786			1.32	10	
Phosphorus	ND	1020	ng/m³ Air		ND				10	GC-BS, LJ, U
Potassium	173	31.1	ng/m³ Air		175			1.09	10	LJ
Rubidium	0.254	0.0150	ng/m³ Air		0.253			0.178	10	
Selenium	0.185	0.00899	ng/m³ Air		0.192			3.25	10	
Sodium	1850	1640	ng/m³ Air		1850			0.355	10	E
Strontium	5.92	0.533	ng/m³ Air		6.02			1.67	10	QB-01
Thallium	0.00146	4.11E-4	ng/m³ Air		0.00139			5.23	10	
Thorium	0.0161	0.00245	ng/m³ Air		0.0163			1.10	10	LJ, QB-01

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0101 - ICP-MS Extraction										
Duplicate (B3L0101-DUP2) Continued		**Source: 3112929-10**		Prepared: 12/01/23 Analyzed: 12/04/23						
Uranium	0.0153	0.0139	ng/m³ Air		0.0160			4.12	10	
Vanadium	1.68	0.0402	ng/m³ Air		1.72			2.20	10	
Zinc	ND	79.9	ng/m³ Air		ND				10	U
Matrix Spike (B3L0101-MS1)		**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23						
Aluminum	399	26.2	ng/m³ Air	67.624	325	109	80-120			
Antimony	0.488	0.0359	ng/m³ Air	1.1271	0.0515	38.7	80-120			SL
Arsenic	2.33	0.00778	ng/m³ Air	2.2541	0.114	98.1	80-120			
Barium	27.8	0.773	ng/m³ Air	22.541	4.40	104	80-120			
Beryllium	1.14	0.00271	ng/m³ Air	1.1271	0.0103	101	80-120			
Cadmium	1.17	0.0888	ng/m³ Air	1.1271	ND	104	80-120			
Calcium	684	238	ng/m³ Air	56.353	608	135	80-120			LJ, QB-01, QM-4X, GC-BS
Chromium	13.2	1.65	ng/m³ Air	11.271	1.81	101	80-120			
Cobalt	1.37	0.0127	ng/m³ Air	1.1271	0.194	105	80-120			QB-01
Copper	44.7	2.44	ng/m³ Air	22.541	21.0	105	80-120			
Iron	395	19.7	ng/m³ Air	22.541	367	125	80-120			QM-4X
Lead	11.7	0.225	ng/m³ Air	11.271	0.369	101	80-120			
Magnesium	302	78.6	ng/m³ Air	22.541	277	109	80-120			
Manganese	16.7	0.970	ng/m³ Air	6.7624	9.57	106	80-120			
Molybdenum	2.36	0.174	ng/m³ Air	1.1271	1.14	109	80-120			QB-01
Nickel	3.13	0.653	ng/m³ Air	2.2541	1.07	91.3	80-120			
Phosphorus	ND	1020	ng/m³ Air	11.271	ND		80-120			GC-BS, LJ, QM-4X, U
Potassium	171	31.0	ng/m³ Air	45.082	148	51.2	80-120			LJ, QM-07
Rubidium	1.23	0.0149	ng/m³ Air	1.1271	0.148	95.8	80-120			
Selenium	2.31	0.00896	ng/m³ Air	2.2541	0.152	95.6	80-120			
Sodium	2510	1630	ng/m³ Air	45.082	2420	198	80-120			QM-4X
Strontium	4.88	0.531	ng/m³ Air	1.1271	3.77	98.2	80-120			QB-01
Thallium	0.109	4.10E-4	ng/m³ Air	0.11271	8.96E-4	96.0	80-120			
Thorium	0.0521	0.00244	ng/m³ Air	0.11271	0.00827	38.9	80-120			LJ, QB-01, QM-07
Uranium	0.115	0.0139	ng/m³ Air	0.11271	ND	102	80-120			
Vanadium	3.79	0.0401	ng/m³ Air	2.2541	1.68	93.7	80-120			
Zinc	87.3	79.6	ng/m³ Air	67.624	ND	129	80-120			
Matrix Spike Dup (B3L0101-MSD1)		**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23						
Aluminum	386	26.2	ng/m³ Air	67.624	325	89.3	80-120	3.32	20	
Antimony	0.448	0.0359	ng/m³ Air	1.1271	0.0515	35.2	80-120	8.37	20	SL
Arsenic	2.32	0.00778	ng/m³ Air	2.2541	0.114	97.9	80-120	0.190	20	
Barium	27.2	0.773	ng/m³ Air	22.541	4.40	101	80-120	2.45	20	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0101 - ICP-MS Extraction										
Matrix Spike Dup (B3L0101-MSD1) Continued		**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23						
Beryllium	1.21	0.00271	ng/m³ Air	1.1271	0.0103	107	80-120	6.01	20	
Cadmium	1.14	0.0888	ng/m³ Air	1.1271	ND	101	80-120	2.21	20	
Calcium	669	238	ng/m³ Air	56.353	608	109	80-120	2.15	20	QB-01, GC-BS, LJ
Chromium	12.8	1.65	ng/m³ Air	11.271	1.81	97.5	80-120	2.94	20	
Cobalt	1.35	0.0127	ng/m³ Air	1.1271	0.194	103	80-120	1.61	20	QB-01
Copper	46.1	2.44	ng/m³ Air	22.541	21.0	111	80-120	3.11	20	
Iron	385	19.7	ng/m³ Air	22.541	367	76.7	80-120	2.78	20	QM-4X
Lead	11.6	0.225	ng/m³ Air	11.271	0.369	99.9	80-120	0.640	20	
Magnesium	294	78.6	ng/m³ Air	22.541	277	73.7	80-120	2.69	20	QM-4X
Manganese	16.3	0.970	ng/m³ Air	6.7624	9.57	99.6	80-120	2.47	20	
Molybdenum	2.36	0.174	ng/m³ Air	1.1271	1.14	108	80-120	0.0773	20	QB-01
Nickel	3.11	0.653	ng/m³ Air	2.2541	1.07	90.3	80-120	0.728	20	
Phosphorus	ND	1020	ng/m³ Air	11.271	ND		80-120		20	GC-BS, LJ, QM-4X, U
Potassium	173	31.0	ng/m³ Air	45.082	148	55.6	80-120	1.15	20	LJ, QM-07
Rubidium	1.20	0.0149	ng/m³ Air	1.1271	0.148	93.4	80-120	2.19	20	
Selenium	2.27	0.00896	ng/m³ Air	2.2541	0.152	94.1	80-120	1.42	20	
Sodium	2450	1630	ng/m³ Air	45.082	2420	46.4	80-120	2.76	20	QM-4X
Strontium	4.78	0.531	ng/m³ Air	1.1271	3.77	89.6	80-120	2.02	20	QB-01
Thallium	0.108	4.10E-4	ng/m³ Air	0.11271	8.96E-4	94.8	80-120	1.22	20	
Thorium	0.0484	0.00244	ng/m³ Air	0.11271	0.00827	35.6	80-120	7.25	20	LJ, QB-01, QM-07
Uranium	0.114	0.0139	ng/m³ Air	0.11271	ND	101	80-120	1.37	20	
Vanadium	3.70	0.0401	ng/m³ Air	2.2541	1.68	89.8	80-120	2.36	20	
Zinc	88.8	79.6	ng/m³ Air	67.624	ND	131	80-120	1.74	20	
Post Spike (B3L0101-PS1)		**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23						
Aluminum	347	26.2	ng/m³ Air	22.541	325	96.7	75-125			
Antimony	0.268	0.0359	ng/m³ Air	0.22541	0.0515	96.1	75-125			SL
Arsenic	1.18	0.00778	ng/m³ Air	1.1271	0.114	94.8	75-125			
Barium	6.72	0.773	ng/m³ Air	2.2541	4.40	103	75-125			
Beryllium	0.245	0.00271	ng/m³ Air	0.22541	0.0103	104	75-125			
Cadmium	0.118	0.0888	ng/m³ Air	0.11271	ND	105	75-125			
Calcium	648	238	ng/m³ Air	22.541	608	180	75-125			GC-BS, LJ, QB-01
Chromium	2.87	1.65	ng/m³ Air	1.1271	1.81	93.9	75-125			
Cobalt	0.426	0.0127	ng/m³ Air	0.22541	0.194	103	75-125			QB-01
Copper	32.7	2.44	ng/m³ Air	11.271	21.0	104	75-125			
Iron	395	19.7	ng/m³ Air	22.541	367	123	75-125			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0101 - ICP-MS Extraction										
Post Spike (B3L0101-PS1) Continued		**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23						
Lead	22.2	0.225	ng/m³ Air	22.541	0.369	97.0	75-125			
Magnesium	301	78.6	ng/m³ Air	22.541	277	107	75-125			
Manganese	11.9	0.970	ng/m³ Air	2.2541	9.57	102	75-125			
Molybdenum	2.28	0.174	ng/m³ Air	1.1271	1.14	101	75-125			QB-01
Nickel	3.37	0.653	ng/m³ Air	2.2541	1.07	102	75-125			
Phosphorus	ND	1020	ng/m³ Air	4.5082	ND		75-125			A-01, GC-BS, LJ, U
Potassium	171	31.0	ng/m³ Air	22.541	148	102	75-125			LJ
Rubidium	0.254	0.0149	ng/m³ Air	0.11271	0.148	93.7	75-125			
Selenium	1.23	0.00896	ng/m³ Air	1.1271	0.152	95.6	75-125			
Sodium	2470	1630	ng/m³ Air	22.541	2420	221	75-125			A-01
Strontium	4.80	0.531	ng/m³ Air	1.1271	3.77	91.8	75-125			QB-01
Thallium	0.0528	4.10E-4	ng/m³ Air	5.6353E-2	8.96E-4	92.0	75-125			
Thorium	0.0603	0.00244	ng/m³ Air	5.6353E-2	0.00827	92.4	75-125			LJ, QB-01
Uranium	0.0613	0.0139	ng/m³ Air	5.6353E-2	ND	109	75-125			
Vanadium	2.66	0.0401	ng/m³ Air	1.1271	1.68	87.4	75-125			
Zinc	ND	79.6	ng/m³ Air	22.541	ND		75-125			U
Dilution Check (B3L0101-SRL1)		**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23						
Aluminum	321	131	ng/m³ Air		325			1.34	10	
Antimony	ND	0.180	ng/m³ Air		ND				10	SL, U
Arsenic	0.122	0.0389	ng/m³ Air		0.114			7.13	10	
Barium	4.42	3.86	ng/m³ Air		4.40			0.366	10	
Beryllium	ND	0.0135	ng/m³ Air		ND				10	U
Cadmium	ND	0.444	ng/m³ Air		ND				10	U
Calcium	ND	1190	ng/m³ Air		ND				10	GC-BS, LJ, QB-01, U
Chromium	ND	8.27	ng/m³ Air		ND				10	U
Cobalt	0.195	0.0636	ng/m³ Air		0.194			0.471	10	QB-01
Copper	21.4	12.2	ng/m³ Air		21.0			1.74	10	
Iron	365	98.6	ng/m³ Air		367			0.594	10	
Lead	ND	1.12	ng/m³ Air		ND				10	U
Magnesium	ND	393	ng/m³ Air		ND				10	U
Manganese	9.59	4.85	ng/m³ Air		9.57			0.204	10	
Molybdenum	1.16	0.868	ng/m³ Air		1.14			1.64	10	QB-01
Nickel	ND	3.26	ng/m³ Air		ND				10	U
Phosphorus	ND	5090	ng/m³ Air		ND				10	GC-BS, LJ, U
Potassium	ND	155	ng/m³ Air		ND				10	LJ, U
Rubidium	0.154	0.0746	ng/m³ Air		0.148			3.58	10	
Selenium	0.157	0.0448	ng/m³ Air		0.152			3.68	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0101 - ICP-MS Extraction										
Dilution Check (B3L0101-SRL1) Continued			**Source: 3112929-05**		Prepared: 12/01/23 Analyzed: 12/04/23					
Sodium	ND	8150	ng/m³ Air		ND				10	U
Strontium	3.76	2.66	ng/m³ Air		3.77			0.194	10	QB-01
Thallium	ND	0.00205	ng/m³ Air		ND				10	U
Thorium	ND	0.0122	ng/m³ Air		ND				10	LJ, QB-01, U
Uranium	ND	0.0693	ng/m³ Air		ND				10	U
Vanadium	1.62	0.200	ng/m³ Air		1.68			3.58	10	
Zinc	ND	398	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QM-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.

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

December 14, 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 12/04/23 12:47.

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9541902	3120430-01	Air	11/27/23 23:59	12/04/23 12:47
TetraTech Q9541901	3120430-02	Air	11/27/23 23:59	12/04/23 12:47
TetraTech Q9541925	3120430-03	Air	11/27/23 23:59	12/04/23 12:47
TetraTech Q9541900 FB	3120430-04	Air	11/27/23 00:00	12/04/23 12:47
TetraTech Q9541923	3120430-05	Air	11/28/23 23:59	12/04/23 12:47
TetraTech Q9541921	3120430-06	Air	11/28/23 23:59	12/04/23 12:47
TetraTech Q9541920	3120430-07	Air	11/28/23 23:59	12/04/23 12:47
TetraTech Q9541919	3120430-08	Air	11/29/23 23:59	12/04/23 12:47
TetraTech Q9541227	3120430-09	Air	11/29/23 23:59	12/04/23 12:47
TetraTech Q9541899	3120430-10	Air	11/29/23 23:59	12/04/23 12:47
TetraTech Q9541909 FB	3120430-11	Air	11/29/23 00:00	12/04/23 12:47
TetraTech Q9541226 FB	3120430-12	Air	11/28/23 00:00	12/04/23 12:47

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541902
Matrix: Air
Comments: MFK-AM01-112723-HM

Lab ID: 3120430-01
Sample Volume: 2038.818 m³
Filter ID:

Sampled: 11/27/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 21:29

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**6570**	E	**25.6**
Antimony	**7440-36-0**	**0.0770**	SL	**0.0352**
Barium	**7440-39-3**	**35.9**		**0.757**
Beryllium	**7440-41-7**	**0.187**		**0.00265**
Calcium	**7440-70-2**	**1260**	GC-BS, QB-01	**233**
Chromium	**7440-47-3**	**5.66**		**1.62**
Cobalt	**7440-48-4**	**2.20**	QB-01	**0.0124**
Copper	**7440-50-8**	**22.4**		**2.39**
Lead	**7439-92-1**	**1.18**		**0.220**
Magnesium	**7439-95-4**	**414**		**76.9**
Manganese	**7439-96-5**	**151**		**0.950**
Nickel	**7440-02-0**	**2.92**		**0.639**
Phosphorus	7723-14-0	677	U, GC-BS, LJ, QX	998
Potassium	**7440-09-7**	**175**		**30.3**
Sodium	7440-23-5	1510	U, GC-BS	1600
Thallium	**7440-28-0**	**0.00891**		**4.01E-4**
Thorium	**7440-29-01**	**0.162**		**0.00239**
Uranium	**7440-61-1**	**0.118**		**0.0136**
Vanadium	**7440-62-2**	**14.9**	E	**0.0393**
Zinc	7440-66-6	40.5	U	78.0

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541902
Matrix: Air
Comments: MFK-AM01-112723-HM

Lab ID: 3120430-01RE1
Sample Volume: 2038.818 m³
Filter ID:

Sampled: 11/27/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/11/23 22:57

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Arsenic	**7440-38-2**	**0.772**	D	**0.0381**
Cadmium	7440-43-9	0.0422	U, D	0.435
Molybdenum	**7439-98-7**	**1.19**	D, QB-01	**0.850**
Rubidium	**7440-17-7**	**1.00**	D	**0.0730**
Selenium	**7782-49-2**	**1.12**	D	**0.0439**
Strontium	**7440-24-6**	**23.2**	D, QB-01	**2.60**

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541902
Matrix: Air
Comments: MFK-AM01-112723-HM

Lab ID: 3120430-01RE2
Sample Volume: 2038.818 m³
Filter ID:

Sampled: 11/27/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/11/23 23:12

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Iron	**7439-89-6**	**6400**	D	**193**

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541901
Matrix: Air
Comments: MFK-AM02-112723-HM

Lab ID: 3120430-02
Sample Volume: 2026.064 m³
Filter ID:

Sampled: 11/27/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 21:47

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**707**	E	**25.8**
Antimony	**7440-36-0**	**0.0571**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.457**		**0.00767**
Barium	**7440-39-3**	**7.09**		**0.761**
Beryllium	**7440-41-7**	**0.0213**		**0.00267**
Cadmium	7440-43-9	0.0147	U	0.0875
Calcium	**7440-70-2**	**498**	GC-BS, QB-01	**234**
Chromium	**7440-47-3**	**1.86**		**1.63**
Cobalt	**7440-48-4**	**0.347**	QB-01	**0.0125**
Copper	**7440-50-8**	**22.1**		**2.41**
Iron	**7439-89-6**	**757**	QB-01	**19.4**
Lead	**7439-92-1**	**0.294**		**0.222**
Magnesium	**7439-95-4**	**217**		**77.4**
Manganese	**7439-96-5**	**20.1**		**0.956**
Molybdenum	**7439-98-7**	**1.37**	QB-01	**0.171**
Nickel	**7440-02-0**	**0.939**		**0.643**
Phosphorus	7723-14-0	373	U, GC-BS, LJ, QX	1000
Potassium	**7440-09-7**	**125**		**30.5**
Rubidium	**7440-17-7**	**0.217**		**0.0147**
Selenium	**7782-49-2**	**0.200**		**0.00883**
Sodium	**7440-23-5**	**1700**	E, GC-BS	**1610**
Strontium	**7440-24-6**	**5.06**	QB-01	**0.524**
Thallium	**7440-28-0**	**0.00154**		**4.04E-4**
Thorium	**7440-29-01**	**0.0221**		**0.00241**
Uranium	**7440-61-1**	**0.0165**		**0.0137**
Vanadium	**7440-62-2**	**2.74**		**0.0395**
Zinc	7440-66-6	31.6	U	78.5

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541925
Matrix: Air
Comments: MFK-AM03-112723-HM

Lab ID: 3120430-03
Sample Volume: 1925.486 m³
Filter ID:

Sampled: 11/27/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 22:05

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**329**		**27.1**
Antimony	**7440-36-0**	**0.0715**	SL	**0.0373**
Arsenic	**7440-38-2**	**0.103**		**0.00807**
Barium	**7440-39-3**	**5.19**		**0.801**
Beryllium	**7440-41-7**	**0.0133**		**0.00281**
Cadmium	7440-43-9	0.00668	U	0.0921
Calcium	**7440-70-2**	**603**	GC-BS, QB-01	**247**
Chromium	**7440-47-3**	**1.96**		**1.72**
Cobalt	**7440-48-4**	**0.232**	QB-01	**0.0132**
Copper	**7440-50-8**	**39.5**		**2.53**
Iron	**7439-89-6**	**428**	QB-01	**20.4**
Lead	7439-92-1	0.227	U	0.233
Magnesium	**7439-95-4**	**226**		**81.5**
Manganese	**7439-96-5**	**11.8**		**1.01**
Molybdenum	**7439-98-7**	**1.39**	QB-01	**0.180**
Nickel	**7440-02-0**	**1.00**		**0.677**
Phosphorus	7723-14-0	401	U, GC-BS, LJ, QX	1060
Potassium	**7440-09-7**	**113**		**32.1**
Rubidium	**7440-17-7**	**0.158**		**0.0155**
Selenium	**7782-49-2**	**0.152**		**0.00929**
Sodium	**7440-23-5**	**1950**	E, GC-BS	**1690**
Strontium	**7440-24-6**	**3.52**	QB-01	**0.551**
Thallium	**7440-28-0**	**9.45E-4**		**4.25E-4**
Thorium	**7440-29-01**	**0.0137**		**0.00253**
Uranium	7440-61-1	0.00951	U	0.0144
Vanadium	**7440-62-2**	**2.21**		**0.0416**
Zinc	7440-66-6	30.6	U	82.6

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541900 FB
Matrix: Air
Lab ID: 3120430-04
Sample Volume: 2038.818 m³
Filter ID:
Sampled: 11/27/23 00:00
Received: 12/04/23 12:47
Analysis Date: 12/08/23 22:20

Comments: MFK-FB01-112723-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	23.1	U	25.6
Antimony	7440-36-0	0.0100	U, SL	0.0352
Arsenic	7440-38-2	0.00478	U	0.00762
Barium	**7440-39-3**	**0.845**	FB-01	**0.757**
Beryllium	7440-41-7	0.00106	U	0.00265
Cadmium	7440-43-9	0.00145	U	0.0870
Calcium	7440-70-2	173	U, FB-01, GC-BS, QB-01	233
Chromium	7440-47-3	1.13	U	1.62
Cobalt	**7440-48-4**	**0.0292**	QB-01	**0.0124**
Copper	7440-50-8	0.256	U	2.39
Iron	**7439-89-6**	**21.4**	FB-01, QB-01	**19.3**
Lead	7439-92-1	0.0337	U	0.220
Magnesium	7439-95-4	37.8	U	76.9
Manganese	7439-96-5	0.391	U	0.950
Molybdenum	**7439-98-7**	**0.172**	FB-01, QB-01	**0.170**
Nickel	7440-02-0	0.219	U	0.639
Phosphorus	7723-14-0	298	U, GC-BS, LJ, QX	998
Potassium	**7440-09-7**	**43.4**	FB-01	**30.3**
Rubidium	7440-17-7	0.0131	U	0.0146
Selenium	7782-49-2	0.00482	U	0.00878
Sodium	7440-23-5	711	U, GC-BS	1600
Strontium	7440-24-6	0.381	U, QB-01	0.520
Thallium	7440-28-0	1.58E-4	U	4.01E-4
Thorium	7440-29-01	0.00213	U	0.00239
Uranium	7440-61-1	0.00131	U	0.0136
Vanadium	7440-62-2	0.0288	U	0.0393
Zinc	7440-66-6	18.7	U	78.0

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541923
Matrix: Air
Comments: MFK-AM01-112823-HM

Lab ID: 3120430-05
Sample Volume: 2018.075 m³
Filter ID:

Sampled: 11/28/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 22:35

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**2970**	E	**25.9**
Antimony	**7440-36-0**	**0.0518**	SL	**0.0356**
Arsenic	**7440-38-2**	**0.377**		**0.00770**
Barium	**7440-39-3**	**20.3**		**0.764**
Beryllium	**7440-41-7**	**0.0795**		**0.00268**
Cadmium	7440-43-9	0.0212	U	0.0879
Calcium	**7440-70-2**	**984**	GC-BS, QB-01	**235**
Chromium	**7440-47-3**	**3.58**		**1.64**
Cobalt	**7440-48-4**	**1.12**	QB-01	**0.0126**
Copper	**7440-50-8**	**17.6**		**2.42**
Lead	**7439-92-1**	**0.620**		**0.223**
Magnesium	**7439-95-4**	**253**		**77.7**
Manganese	**7439-96-5**	**80.7**		**0.959**
Molybdenum	**7439-98-7**	**0.896**	QB-01	**0.172**
Nickel	**7440-02-0**	**1.61**		**0.646**
Phosphorus	7723-14-0	512	U, GC-BS, LJ, QX	1010
Potassium	**7440-09-7**	**128**		**30.6**
Rubidium	**7440-17-7**	**0.469**		**0.0148**
Selenium	**7782-49-2**	**0.469**		**0.00887**
Sodium	7440-23-5	1190	U, GC-BS	1610
Strontium	**7440-24-6**	**11.8**	QB-01	**0.526**
Thallium	**7440-28-0**	**0.00452**		**4.06E-4**
Thorium	**7440-29-01**	**0.0703**		**0.00242**
Uranium	**7440-61-1**	**0.0519**		**0.0137**
Vanadium	**7440-62-2**	**7.12**		**0.0397**
Zinc	7440-66-6	38.1	U	78.8

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541923
Matrix: Air
Comments: MFK-AM01-112823-HM

Lab ID: 3120430-05RE1
Sample Volume: 2018.075 m³
Filter ID:

Sampled: 11/28/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/11/23 23:25

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Iron	**7439-89-6**	**2860**	D	**97.6**

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541921
Matrix: Air
Comments: MFK-AM02-112823-HM/MS/MSD

Lab ID: 3120430-06
Sample Volume: 2026.064 m³
Filter ID:

Sampled: 11/28/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 18:52

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**340**	A-01	**25.8**
Antimony	**7440-36-0**	**0.0483**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.169**		**0.00767**
Barium	**7440-39-3**	**4.13**		**0.761**
Beryllium	**7440-41-7**	**0.0113**		**0.00267**
Cadmium	7440-43-9	0.00755	U	0.0875
Calcium	**7440-70-2**	**527**	GC-BS, QB-01	**234**
Chromium	**7440-47-3**	**1.70**		**1.63**
Cobalt	**7440-48-4**	**0.176**	QB-01	**0.0125**
Copper	**7440-50-8**	**13.2**		**2.41**
Iron	**7439-89-6**	**360**	QB-01, QM-4X	**19.4**
Lead	7439-92-1	0.173	U	0.222
Magnesium	**7439-95-4**	**158**		**77.4**
Manganese	**7439-96-5**	**9.44**		**0.956**
Molybdenum	**7439-98-7**	**0.960**	QB-01	**0.171**
Nickel	7440-02-0	0.556	U	0.643
Phosphorus	7723-14-0	384	A-01, GC-BS, LJ, QM-4X, QX, U	1000
Potassium	**7440-09-7**	**116**	QM-07	**30.5**
Rubidium	**7440-17-7**	**0.173**		**0.0147**
Selenium	**7782-49-2**	**0.115**		**0.00883**
Sodium	7440-23-5	1420	A-01, GC-BS, QM-4X, U	1610
Strontium	**7440-24-6**	**3.24**	QB-01	**0.524**
Thallium	**7440-28-0**	**8.68E-4**		**4.04E-4**
Thorium	**7440-29-01**	**0.0114**	QM-07	**0.00241**
Uranium	7440-61-1	0.00844	U	0.0137
Vanadium	**7440-62-2**	**1.20**		**0.0395**
Zinc	7440-66-6	20.8	U	78.5

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541920
Matrix: Air
Comments: MFK-AM03-112823-HM

Lab ID: 3120430-07
Sample Volume: 1892.969 m³
Filter ID:

Sampled: 11/28/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 22:52

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**340**		**27.6**
Antimony	**7440-36-0**	**0.0727**	SL	**0.0379**
Arsenic	**7440-38-2**	**0.0950**		**0.00821**
Barium	**7440-39-3**	**6.24**		**0.815**
Beryllium	**7440-41-7**	**0.0148**		**0.00285**
Cadmium	7440-43-9	0.00721	U	0.0937
Calcium	**7440-70-2**	**566**	GC-BS, QB-01	**251**
Chromium	**7440-47-3**	**1.87**		**1.74**
Cobalt	**7440-48-4**	**0.220**	QB-01	**0.0134**
Copper	**7440-50-8**	**27.5**		**2.58**
Iron	**7439-89-6**	**420**	QB-01	**20.8**
Lead	**7439-92-1**	**0.457**		**0.237**
Magnesium	**7439-95-4**	**183**		**82.9**
Manganese	**7439-96-5**	**12.9**		**1.02**
Molybdenum	**7439-98-7**	**1.05**	QB-01	**0.183**
Nickel	7440-02-0	0.556	U	0.688
Phosphorus	7723-14-0	399	GC-BS, U, LJ, QX	1070
Potassium	**7440-09-7**	**101**		**32.7**
Rubidium	**7440-17-7**	**0.175**		**0.0157**
Selenium	**7782-49-2**	**0.132**		**0.00945**
Sodium	7440-23-5	1610	U, GC-BS	1720
Strontium	**7440-24-6**	**4.09**	QB-01	**0.560**
Thallium	**7440-28-0**	**0.00103**		**4.32E-4**
Thorium	**7440-29-01**	**0.0113**		**0.00258**
Uranium	7440-61-1	0.00963	U	0.0146
Vanadium	**7440-62-2**	**1.27**		**0.0423**
Zinc	7440-66-6	25.2	U	84.0

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541919
Matrix: Air
Comments: MFK-AM01-112923-HM

Lab ID: 3120430-08
Sample Volume: 2041.366 m³
Filter ID:

Sampled: 11/29/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 23:08

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**796**	E	**25.6**
Antimony	**7440-36-0**	**0.0435**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.143**		**0.00761**
Barium	**7440-39-3**	**5.82**		**0.756**
Beryllium	**7440-41-7**	**0.0195**		**0.00265**
Cadmium	7440-43-9	0.00847	U	0.0869
Calcium	**7440-70-2**	**549**	GC-BS, QB-01	**233**
Chromium	**7440-47-3**	**1.93**		**1.62**
Cobalt	**7440-48-4**	**0.296**	QB-01	**0.0124**
Copper	**7440-50-8**	**19.5**		**2.39**
Iron	**7439-89-6**	**755**	QB-01	**19.3**
Lead	**7439-92-1**	**0.313**		**0.220**
Magnesium	**7439-95-4**	**145**		**76.8**
Manganese	**7439-96-5**	**19.8**		**0.948**
Molybdenum	**7439-98-7**	**1.13**	QB-01	**0.170**
Nickel	7440-02-0	0.593	U	0.638
Phosphorus	7723-14-0	402	U, GC-BS, LJ, QX	996
Potassium	**7440-09-7**	**122**		**30.3**
Rubidium	**7440-17-7**	**0.234**		**0.0146**
Selenium	**7782-49-2**	**0.176**		**0.00877**
Sodium	7440-23-5	1200	U, GC-BS	1590
Strontium	**7440-24-6**	**4.41**	QB-01	**0.520**
Thallium	**7440-28-0**	**0.00141**		**4.01E-4**
Thorium	**7440-29-01**	**0.0167**		**0.00239**
Uranium	**7440-61-1**	**0.0143**		**0.0135**
Vanadium	**7440-62-2**	**1.77**		**0.0392**
Zinc	7440-66-6	16.4	U	77.9

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541227
Matrix: Air
Comments: MFK-AM02-112923-HM

Lab ID: 3120430-09
Sample Volume: 2027.752 m³
Filter ID:

Sampled: 11/29/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 23:23

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**121**		**25.8**
Antimony	**7440-36-0**	**0.0488**	SL	**0.0354**
Arsenic	**7440-38-2**	**0.107**		**0.00766**
Barium	**7440-39-3**	**3.20**		**0.761**
Beryllium	**7440-41-7**	**0.00394**		**0.00266**
Cadmium	7440-43-9	0.00481	U	0.0875
Calcium	**7440-70-2**	**243**	GC-BS, QB-01	**234**
Chromium	7440-47-3	1.24	U	1.63
Cobalt	**7440-48-4**	**0.0699**	QB-01	**0.0125**
Copper	**7440-50-8**	**16.2**		**2.41**
Iron	**7439-89-6**	**129**	QB-01	**19.4**
Lead	7439-92-1	0.0826	U	0.221
Magnesium	**7439-95-4**	**120**		**77.3**
Manganese	**7439-96-5**	**3.02**		**0.955**
Molybdenum	**7439-98-7**	**1.15**	QB-01	**0.171**
Nickel	7440-02-0	0.344	U	0.643
Phosphorus	7723-14-0	332	U, LJ, QX, GC-BS	1000
Potassium	**7440-09-7**	**117**		**30.5**
Rubidium	**7440-17-7**	**0.120**		**0.0147**
Selenium	**7782-49-2**	**0.0881**		**0.00883**
Sodium	7440-23-5	1200	U, GC-BS	1600
Strontium	**7440-24-6**	**1.32**	QB-01	**0.523**
Thallium	**7440-28-0**	**5.22E-4**		**4.04E-4**
Thorium	**7440-29-01**	**0.00451**		**0.00241**
Uranium	7440-61-1	0.00337	U	0.0136
Vanadium	**7440-62-2**	**0.319**		**0.0395**
Zinc	7440-66-6	14.8	U	78.4

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541899
Matrix: Air
Comments: MFK-AM03-112923-HM

Lab ID: 3120430-10
Sample Volume: 1805.088 m³
Filter ID:

Sampled: 11/29/23 23:59
Received: 12/04/23 12:47
Analysis Date: 12/08/23 23:36

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**155**		**28.9**
Antimony	**7440-36-0**	**0.0878**	SL	**0.0397**
Arsenic	**7440-38-2**	**0.0858**		**0.00861**
Barium	**7440-39-3**	**4.18**		**0.854**
Beryllium	**7440-41-7**	**0.00633**		**0.00299**
Cadmium	7440-43-9	0.00512	U	0.0982
Calcium	**7440-70-2**	**279**	GC-BS, QB-01	**263**
Chromium	7440-47-3	1.49	U	1.83
Cobalt	**7440-48-4**	**0.0929**	QB-01	**0.0141**
Copper	**7440-50-8**	**38.2**		**2.70**
Iron	**7439-89-6**	**184**	QB-01	**21.8**
Lead	7439-92-1	0.157	U	0.249
Magnesium	**7439-95-4**	**135**		**86.9**
Manganese	**7439-96-5**	**4.78**		**1.07**
Molybdenum	**7439-98-7**	**1.20**	QB-01	**0.192**
Nickel	7440-02-0	0.448	U	0.722
Phosphorus	7723-14-0	377	U, GC-BS, LJ, QX	1130
Potassium	**7440-09-7**	**94.3**		**34.3**
Rubidium	**7440-17-7**	**0.103**		**0.0165**
Selenium	**7782-49-2**	**0.123**		**0.00991**
Sodium	7440-23-5	1470	U, GC-BS	1800
Strontium	**7440-24-6**	**1.75**	QB-01	**0.588**
Thallium	**7440-28-0**	**6.73E-4**		**4.53E-4**
Thorium	**7440-29-01**	**0.00607**		**0.00270**
Uranium	7440-61-1	0.00469	U	0.0153
Vanadium	**7440-62-2**	**0.496**		**0.0443**
Zinc	7440-66-6	22.3	U	88.1

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541909 FB
Matrix: Air
Lab ID: 3120430-11
Sample Volume: 2041.366 m³
Filter ID:
Sampled: 11/29/23 00:00
Received: 12/04/23 12:47
Analysis Date: 12/09/23 01:04

Comments: MFK-FB01-112923-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	17.3	U	25.6
Antimony	7440-36-0	0.00602	U, SL	0.0351
Arsenic	7440-38-2	0.00518	U	0.00761
Barium	7440-39-3	0.626	U	0.756
Beryllium	7440-41-7	0.00115	U	0.00265
Cadmium	7440-43-9	0.00178	U	0.0869
Calcium	**7440-70-2**	**359**	FB-01, GC-BS, QB-01	**233**
Chromium	7440-47-3	1.36	U	1.62
Cobalt	**7440-48-4**	**0.0350**	FB-01, QB-01	**0.0124**
Copper	7440-50-8	0.313	U	2.39
Iron	**7439-89-6**	**21.6**	FB-01, QB-01	**19.3**
Lead	7439-92-1	0.0496	U	0.220
Magnesium	7439-95-4	44.1	U	76.8
Manganese	7439-96-5	0.301	U	0.948
Molybdenum	**7439-98-7**	**0.233**	QB-01, FB-01	**0.170**
Nickel	7440-02-0	0.234	U	0.638
Phosphorus	7723-14-0	348	U, GC-BS, LJ, QX	996
Potassium	7440-09-7	29.8	U	30.3
Rubidium	**7440-17-7**	**0.0165**	FB-01	**0.0146**
Selenium	7782-49-2	0.00728	U	0.00877
Sodium	7440-23-5	712	U, GC-BS	1590
Strontium	**7440-24-6**	**0.738**	FB-01, QB-01	**0.520**
Thallium	7440-28-0	1.21E-4	U	4.01E-4
Thorium	7440-29-01	0.00230	U	0.00239
Uranium	7440-61-1	0.00178	U	0.0135
Vanadium	7440-62-2	0.0147	U	0.0392
Zinc	7440-66-6	10.4	U	77.9

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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9541226 FB
Matrix: Air
Lab ID: 3120430-12
Sample Volume: 2018.075 m³
Filter ID:
Sampled: 11/28/23 00:00
Received: 12/04/23 12:47
Analysis Date: 12/09/23 01:19

Comments: MFK-FB01-112823-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	17.8	U	25.9
Antimony	7440-36-0	0.0117	U, SL	0.0356
Arsenic	7440-38-2	0.00456	U	0.00770
Barium	7440-39-3	0.580	U	0.764
Beryllium	7440-41-7	0.00101	U	0.00268
Cadmium	7440-43-9	0.00220	U	0.0879
Calcium	7440-70-2	169	GC-BS, QB-01, U	235
Chromium	7440-47-3	1.16	U	1.64
Cobalt	**7440-48-4**	**0.0316**	FB-01, QB-01	**0.0126**
Copper	7440-50-8	0.268	U	2.42
Iron	7439-89-6	18.5	QB-01, U	19.5
Lead	7439-92-1	0.0445	U	0.223
Magnesium	7439-95-4	36.6	U	77.7
Manganese	7439-96-5	0.351	U	0.959
Molybdenum	**7439-98-7**	**0.181**	FB-01, QB-01	**0.172**
Nickel	7440-02-0	0.273	U	0.646
Phosphorus	7723-14-0	305	GC-BS, LJ, QX, U	1010
Potassium	7440-09-7	14.5	U	30.6
Rubidium	7440-17-7	0.0115	U	0.0148
Selenium	7782-49-2	0.00469	U	0.00887
Sodium	7440-23-5	687	GC-BS, U	1610
Strontium	7440-24-6	0.400	QB-01, U	0.526
Thallium	7440-28-0	1.58E-4	U	4.06E-4
Thorium	7440-29-01	0.00200	U	0.00242
Uranium	7440-61-1	0.00131	U	0.0137
Vanadium	7440-62-2	0.0254	U	0.0397
Zinc	7440-66-6	13.0	U	78.8

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: 12/14/23 11:51
SUBMITTED: 12/04/23
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 2312024 - B3L0605										
Calibration Blank (2312024-CCB1)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	22.7		ng/l							
Antimony	1.43		ng/l							
Arsenic	2.60		ng/l							
Barium	2.14		ng/l							
Beryllium	1.30		ng/l							
Cadmium	0.788		ng/l							
Calcium	583		ng/l							
Chromium	3.60		ng/l							
Cobalt	0.421		ng/l							
Copper	114		ng/l							
Iron	120		ng/l							
Lead	3.23		ng/l							
Magnesium	22.4		ng/l							
Manganese	6.32		ng/l							
Molybdenum	26.6		ng/l							
Nickel	3.26		ng/l							
Phosphorus	118		ng/l							LJ, QX
Potassium	2310		ng/l							
Rubidium	0.519		ng/l							
Selenium	11.4		ng/l							
Sodium	107		ng/l							
Strontium	0.650		ng/l							
Thallium	0.403		ng/l							
Thorium	0.267		ng/l							
Uranium	-0.0238		ng/l							U
Vanadium	-48.3		ng/l							U
Zinc	16.1		ng/l							
Calibration Blank (2312024-CCB2)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	-39.2		ng/l							U
Antimony	0.577		ng/l							
Arsenic	-2.80		ng/l							U
Barium	2.41		ng/l							
Beryllium	0.868		ng/l							
Cadmium	0.476		ng/l							
Calcium	409		ng/l							
Chromium	4.62		ng/l							
Cobalt	0.530		ng/l							
Copper	79.1		ng/l							

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FILE #: 0000.00
REPORTED: 12/14/23 11:51
SUBMITTED: 12/04/23
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 2312024 - B3L0605										
Calibration Blank (2312024-CCB2) Contin				Prepared: 12/07/23 Analyzed: 12/08/23						
Iron	90.1		ng/l							
Lead	3.54		ng/l							
Magnesium	57.3		ng/l							
Manganese	8.13		ng/l							
Molybdenum	11.8		ng/l							
Nickel	4.68		ng/l							
Phosphorus	-140		ng/l							LJ, QX, U
Potassium	1510		ng/l							
Rubidium	1.09		ng/l							
Selenium	17.4		ng/l							
Sodium	4.88		ng/l							
Strontium	1.49		ng/l							
Thallium	0.554		ng/l							
Thorium	0.228		ng/l							
Uranium	-0.0186		ng/l							U
Vanadium	-54.6		ng/l							U
Zinc	46.9		ng/l							
Calibration Blank (2312024-CCB3)				Prepared: 12/07/23 Analyzed: 12/09/23						
Aluminum	-29.2		ng/l							U
Antimony	0.769		ng/l							
Arsenic	3.29		ng/l							
Barium	4.74		ng/l							
Beryllium	0.638		ng/l							
Cadmium	0.435		ng/l							
Calcium	635		ng/l							
Chromium	8.92		ng/l							
Cobalt	0.938		ng/l							
Copper	83.1		ng/l							
Iron	306		ng/l							
Lead	4.48		ng/l							
Magnesium	12.0		ng/l							
Manganese	11.4		ng/l							
Molybdenum	13.0		ng/l							
Nickel	7.00		ng/l							
Phosphorus	448		ng/l							LJ, QX
Potassium	1370		ng/l							
Rubidium	1.34		ng/l							
Selenium	19.5		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: 12/14/23 11:51
SUBMITTED: 12/04/23
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 2312024 - B3L0605										
Calibration Blank (2312024-CCB3) Contin				Prepared: 12/07/23 Analyzed: 12/09/23						
Sodium	-40.6		ng/l							U
Strontium	2.24		ng/l							
Thallium	0.478		ng/l							
Thorium	0.161		ng/l							
Uranium	-0.00840		ng/l							U
Vanadium	-63.5		ng/l							U
Zinc	8.53		ng/l							
Calibration Blank (2312024-CCB4)				Prepared: 12/07/23 Analyzed: 12/09/23						
Aluminum	-27.2		ng/l							U
Antimony	0.628		ng/l							
Arsenic	-1.84		ng/l							U
Barium	2.54		ng/l							
Beryllium	0.732		ng/l							
Cadmium	0.323		ng/l							
Calcium	497		ng/l							
Chromium	5.53		ng/l							
Cobalt	0.699		ng/l							
Copper	63.0		ng/l							
Iron	45.0		ng/l							
Lead	3.14		ng/l							
Magnesium	-3.93		ng/l							U
Manganese	8.06		ng/l							
Molybdenum	9.16		ng/l							
Nickel	3.98		ng/l							
Phosphorus	86.5		ng/l							LJ, QX
Potassium	840		ng/l							
Rubidium	0.219		ng/l							
Selenium	7.92		ng/l							
Sodium	-146		ng/l							U
Strontium	1.17		ng/l							
Thallium	0.405		ng/l							
Thorium	0.0532		ng/l							
Uranium	-0.0161		ng/l							U
Vanadium	-64.8		ng/l							U
Zinc	-5.55		ng/l							U
Calibration Check (2312024-CCV1)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	1.55E6		ng/l	1.5000E6		103	90-110			
Antimony	20200		ng/l	20000		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: 12/14/23 11:51
SUBMITTED: 12/04/23
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 2312024 - B3L0605										
Calibration Check (2312024-CCV1) Contin				Prepared: 12/07/23 Analyzed: 12/08/23						
Arsenic	20200		ng/l	20000		101	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	4820		ng/l	5000.0		96.3	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Calcium	2.49E7		ng/l	2.5000E7		99.8	90-110			
Chromium	237000		ng/l	240000		98.7	90-110			
Cobalt	50700		ng/l	50000		101	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Iron	2.53E6		ng/l	2.5000E6		101	90-110			
Lead	198000		ng/l	200000		99.2	90-110			
Magnesium	1.04E6		ng/l	1.0000E6		104	90-110			
Manganese	499000		ng/l	500000		99.8	90-110			
Molybdenum	50000		ng/l	50000		100	90-110			
Nickel	123000		ng/l	120000		102	90-110			
Phosphorus	207000		ng/l	200000		104	90-110			LJ, QX
Potassium	2.52E6		ng/l	2.5000E6		101	90-110			
Rubidium	9990		ng/l	10000		99.9	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Sodium	2.56E6		ng/l	2.5000E6		103	90-110			
Strontium	49800		ng/l	50000		99.6	90-110			
Thallium	483		ng/l	500.00		96.5	90-110			
Thorium	500		ng/l	500.00		99.9	90-110			
Uranium	489		ng/l	500.00		97.8	90-110			
Vanadium	19800		ng/l	20000		98.8	90-110			
Zinc	520000		ng/l	500000		104	90-110			
Calibration Check (2312024-CCV2)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	1.50E6		ng/l	1.5000E6		99.9	90-110			
Antimony	20300		ng/l	20000		102	90-110			
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	196000		ng/l	200000		97.8	90-110			
Beryllium	4860		ng/l	5000.0		97.2	90-110			
Cadmium	20500		ng/l	20000		102	90-110			
Calcium	2.47E7		ng/l	2.5000E7		98.9	90-110			
Chromium	248000		ng/l	240000		103	90-110			
Cobalt	49500		ng/l	50000		99.0	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.1	90-110			
Iron	2.48E6		ng/l	2.5000E6		99.3	90-110			
Lead	198000		ng/l	200000		98.8	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: 12/14/23 11:51
SUBMITTED: 12/04/23
AQS SITE CODE:
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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312024 - B3L0605										
Calibration Check (2312024-CCV2) Contin				Prepared: 12/07/23 Analyzed: 12/08/23						
Magnesium	1.02E6		ng/l	1.0000E6		102	90-110			
Manganese	492000		ng/l	500000		98.4	90-110			
Molybdenum	49500		ng/l	50000		98.9	90-110			
Nickel	121000		ng/l	120000		100	90-110			
Phosphorus	200000		ng/l	200000		99.8	90-110			LJ, QX
Potassium	2.47E6		ng/l	2.5000E6		99.0	90-110			
Rubidium	10000		ng/l	10000		100	90-110			
Selenium	19700		ng/l	20000		98.6	90-110			
Sodium	2.49E6		ng/l	2.5000E6		99.6	90-110			
Strontium	49400		ng/l	50000		98.8	90-110			
Thallium	479		ng/l	500.00		95.8	90-110			
Thorium	496		ng/l	500.00		99.2	90-110			
Uranium	485		ng/l	500.00		97.0	90-110			
Vanadium	20000		ng/l	20000		100	90-110			
Zinc	516000		ng/l	500000		103	90-110			
Calibration Check (2312024-CCV3)				Prepared: 12/07/23 Analyzed: 12/09/23						
Aluminum	1.45E6		ng/l	1.5000E6		96.8	90-110			
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		99.1	90-110			
Barium	199000		ng/l	200000		99.4	90-110			
Beryllium	4530		ng/l	5000.0		90.7	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Calcium	2.43E7		ng/l	2.5000E7		97.0	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	48900		ng/l	50000		97.8	90-110			
Copper	1.98E6		ng/l	2.0000E6		98.9	90-110			
Iron	2.43E6		ng/l	2.5000E6		97.3	90-110			
Lead	195000		ng/l	200000		97.4	90-110			
Magnesium	998000		ng/l	1.0000E6		99.8	90-110			
Manganese	482000		ng/l	500000		96.5	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	119000		ng/l	120000		99.5	90-110			
Phosphorus	195000		ng/l	200000		97.7	90-110			LJ, QX
Potassium	2.42E6		ng/l	2.5000E6		96.8	90-110			
Rubidium	9840		ng/l	10000		98.4	90-110			
Selenium	19700		ng/l	20000		98.7	90-110			
Sodium	2.46E6		ng/l	2.5000E6		98.5	90-110			
Strontium	48600		ng/l	50000		97.2	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312024 - B3L0605										
Calibration Check (2312024-CCV3) Contin				Prepared: 12/07/23 Analyzed: 12/09/23						
Thallium	473		ng/l	500.00		94.6	90-110			
Thorium	491		ng/l	500.00		98.2	90-110			
Uranium	485		ng/l	500.00		97.1	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	510000		ng/l	500000		102	90-110			
Calibration Check (2312024-CCV4)				Prepared: 12/07/23 Analyzed: 12/09/23						
Aluminum	1.44E6		ng/l	1.5000E6		96.3	90-110			
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19600		ng/l	20000		98.1	90-110			
Barium	198000		ng/l	200000		98.9	90-110			
Beryllium	4720		ng/l	5000.0		94.4	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Calcium	2.42E7		ng/l	2.5000E7		96.8	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	48800		ng/l	50000		97.7	90-110			
Copper	1.98E6		ng/l	2.0000E6		99.2	90-110			
Iron	2.43E6		ng/l	2.5000E6		97.2	90-110			
Lead	195000		ng/l	200000		97.4	90-110			
Magnesium	986000		ng/l	1.0000E6		98.6	90-110			
Manganese	485000		ng/l	500000		97.0	90-110			
Molybdenum	49900		ng/l	50000		99.9	90-110			
Nickel	120000		ng/l	120000		99.8	90-110			
Phosphorus	197000		ng/l	200000		98.6	90-110			LJ, QX
Potassium	2.41E6		ng/l	2.5000E6		96.4	90-110			
Rubidium	9830		ng/l	10000		98.3	90-110			
Selenium	19600		ng/l	20000		98.2	90-110			
Sodium	2.44E6		ng/l	2.5000E6		97.6	90-110			
Strontium	48100		ng/l	50000		96.3	90-110			
Thallium	469		ng/l	500.00		93.7	90-110			
Thorium	485		ng/l	500.00		97.0	90-110			
Uranium	481		ng/l	500.00		96.3	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	509000		ng/l	500000		102	90-110			
High Cal Check (2312024-HCV1)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	2.93E6		ng/l	3.0000E6		97.7	95-105			
Antimony	39300		ng/l	40000		98.3	95-105			
Arsenic	39800		ng/l	40000		99.4	95-105			
Barium	393000		ng/l	400000		98.2	95-105			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312024 - B3L0605										
High Cal Check (2312024-HCV1) Continue				Prepared: 12/07/23 Analyzed: 12/08/23						
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	39300		ng/l	40000		98.3	95-105			
Calcium	4.95E7		ng/l	5.0000E7		98.9	95-105			
Chromium	472000		ng/l	480000		98.3	95-105			
Cobalt	98600		ng/l	100000		98.6	95-105			
Copper	3.91E6		ng/l	4.0000E6		97.8	95-105			
Iron	4.94E6		ng/l	5.0000E6		98.9	95-105			
Lead	395000		ng/l	400000		98.9	95-105			
Magnesium	1.95E6		ng/l	2.0000E6		97.5	95-105			
Manganese	993000		ng/l	1.0000E6		99.3	95-105			
Molybdenum	98400		ng/l	100000		98.4	95-105			
Nickel	235000		ng/l	240000		98.0	95-105			
Phosphorus	397000		ng/l	400000		99.2	95-105			LJ, QX
Potassium	4.97E6		ng/l	5.0000E6		99.4	95-105			
Rubidium	19600		ng/l	20000		98.2	95-105			
Selenium	40000		ng/l	40000		100	95-105			
Sodium	4.91E6		ng/l	5.0000E6		98.3	95-105			
Strontium	98200		ng/l	100000		98.2	95-105			
Thallium	985		ng/l	1000.0		98.5	95-105			
Thorium	989		ng/l	1000.0		98.9	95-105			
Uranium	983		ng/l	1000.0		98.3	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	1.01E6		ng/l	1.0000E6		101	95-105			
Initial Cal Blank (2312024-ICB1)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	-0.915		ng/l							U
Antimony	2.30		ng/l							
Arsenic	-2.34		ng/l							U
Barium	3.25		ng/l							
Beryllium	1.62		ng/l							
Cadmium	0.996		ng/l							
Calcium	684		ng/l							
Chromium	3.67		ng/l							
Cobalt	0.808		ng/l							
Copper	102		ng/l							
Iron	84.9		ng/l							
Lead	4.47		ng/l							
Magnesium	6.80		ng/l							
Manganese	9.90		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312024 - B3L0605										
Initial Cal Blank (2312024-ICB1) Continu				Prepared: 12/07/23 Analyzed: 12/08/23						
Molybdenum	11.8		ng/l							
Nickel	-0.595		ng/l							U
Phosphorus	51.2		ng/l							LJ, QX
Potassium	1170		ng/l							
Rubidium	0.668		ng/l							
Selenium	15.6		ng/l							
Sodium	-118		ng/l							U
Strontium	1.84		ng/l							
Thallium	0.475		ng/l							
Thorium	0.354		ng/l							
Uranium	-0.00553		ng/l							U
Vanadium	-42.1		ng/l							U
Zinc	114		ng/l							
Initial Cal Check (2312024-ICV1)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	1.46E6		ng/l	1.5000E6		97.2	90-110			
Antimony	19600		ng/l	20000		98.2	90-110			
Arsenic	19800		ng/l	20000		99.1	90-110			
Barium	197000		ng/l	200000		98.5	90-110			
Beryllium	4880		ng/l	5000.0		97.6	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Calcium	2.42E7		ng/l	2.5000E7		96.7	90-110			
Chromium	241000		ng/l	240000		100	90-110			
Cobalt	49800		ng/l	50000		99.6	90-110			
Copper	2.00E6		ng/l	2.0000E6		99.8	90-110			
Iron	2.50E6		ng/l	2.5000E6		100	90-110			
Lead	195000		ng/l	200000		97.7	90-110			
Magnesium	988000		ng/l	1.0000E6		98.8	90-110			
Manganese	489000		ng/l	500000		97.8	90-110			
Molybdenum	49600		ng/l	50000		99.2	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Phosphorus	198000		ng/l	200000		99.2	90-110			LJ, QX
Potassium	2.48E6		ng/l	2.5000E6		99.2	90-110			
Rubidium	9590		ng/l	10000		95.9	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Sodium	2.44E6		ng/l	2.5000E6		97.8	90-110			
Strontium	49300		ng/l	50000		98.7	90-110			
Thallium	474		ng/l	500.00		94.7	90-110			
Thorium	482		ng/l	500.00		96.4	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312024 - B3L0605										
Initial Cal Check (2312024-ICV1) Continu				Prepared: 12/07/23 Analyzed: 12/08/23						
Uranium	488		ng/l	500.00		97.5	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	518000		ng/l	500000		104	90-110			
Interference Check A (2312024-IFA1)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	1.47E7		ng/l	1.5000E7		98.0	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	9.23E7		ng/l	1.0040E8		91.9	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	1.47E7		ng/l	1.5000E7		98.1	80-120			
Lead	0.00		ng/l				80-120			U
Magnesium	1.51E7		ng/l	1.5000E7		101	80-120			
Manganese	0.00		ng/l				80-120			U
Molybdenum	301000		ng/l	300000		100	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.58E7		ng/l	1.5000E7		105	80-120			LJ, QX
Potassium	1.46E7		ng/l	1.5000E7		97.6	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 (2312024-IFB1)				Prepared: 12/07/23 Analyzed: 12/08/23						
Aluminum	1.64E7		ng/l	1.6500E7		99.6	80-120			
Antimony	20200		ng/l	20000		101	80-120			
Arsenic	20700		ng/l	20000		103	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	5080		ng/l	5000.0		102	80-120			
Cadmium	19600		ng/l	20000		98.0	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312024 - B3L0605										
Interference Check B (2312024-IFB1) Co				Prepared: 12/07/23 Analyzed: 12/08/23						
Calcium	1.17E8		ng/l	1.2540E8		93.3	80-120			
Chromium	233000		ng/l	240000		97.2	80-120			
Cobalt	49600		ng/l	50000		99.1	80-120			
Copper	1.91E6		ng/l	2.0000E6		95.6	80-120			
Iron	1.76E7		ng/l	1.7500E7		101	80-120			
Lead	207000		ng/l	200000		103	80-120			
Magnesium	1.64E7		ng/l	1.6000E7		102	80-120			
Manganese	521000		ng/l	500000		104	80-120			
Molybdenum	358000		ng/l	350000		102	80-120			
Nickel	116000		ng/l	120000		96.9	80-120			
Phosphorus	1.65E7		ng/l	1.5200E7		109	80-120			LJ, QX
Potassium	1.74E7		ng/l	1.7500E7		99.5	80-120			
Rubidium	10200		ng/l	10000		102	80-120			
Selenium	19100		ng/l	20000		95.6	80-120			
Sodium	1.84E7		ng/l	1.7500E7		105	80-120			
Strontium	50800		ng/l	50000		102	80-120			
Thallium	523		ng/l	500.00		105	80-120			
Thorium	541		ng/l	500.00		108	80-120			
Uranium	541		ng/l	500.00		108	80-120			
Vanadium	19500		ng/l	20000		97.5	80-120			
Zinc	476000		ng/l	500000		95.2	80-120			
Batch 2312031 - B3L0605										
Calibration Blank (2312031-CCB1)				Prepared & Analyzed: 12/11/23						
Aluminum	59.8		ng/l							
Antimony	1.50		ng/l							
Arsenic	3.31		ng/l							
Barium	1.64		ng/l							
Beryllium	1.03		ng/l							
Cadmium	0.307		ng/l							
Calcium	464		ng/l							
Chromium	3.37		ng/l							
Cobalt	0.408		ng/l							
Copper	131		ng/l							
Iron	26.4		ng/l							
Lead	6.23		ng/l							
Magnesium	19.6		ng/l							
Manganese	7.20		ng/l							
Molybdenum	29.3		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312031 - B3L0605										
Calibration Blank (2312031-CCB1) Contin				Prepared & Analyzed: 12/11/23						
Nickel	0.370		ng/l							
Phosphorus	-845		ng/l							U
Potassium	-973		ng/l							U
Rubidium	0.315		ng/l							
Selenium	0.969		ng/l							
Sodium	-65.2		ng/l							U
Strontium	0.544		ng/l							
Thallium	0.487		ng/l							
Thorium	0.453		ng/l							
Uranium	-0.0185		ng/l							U
Vanadium	-34.9		ng/l							U
Zinc	-12.6		ng/l							U
Calibration Blank (2312031-CCB2)				Prepared & Analyzed: 12/11/23						
Aluminum	32.1		ng/l							
Antimony	0.841		ng/l							
Arsenic	1.40		ng/l							
Barium	5.28		ng/l							
Beryllium	0.261		ng/l							
Cadmium	0.590		ng/l							
Calcium	109		ng/l							
Chromium	6.86		ng/l							
Cobalt	1.31		ng/l							
Copper	78.1		ng/l							
Iron	116		ng/l							
Lead	6.09		ng/l							
Magnesium	29.2		ng/l							
Manganese	12.8		ng/l							
Molybdenum	6.48		ng/l							
Nickel	1.64		ng/l							
Phosphorus	-98.5		ng/l							U
Potassium	-2030		ng/l							U
Rubidium	-0.520		ng/l							U
Selenium	2.55		ng/l							
Sodium	-139		ng/l							U
Strontium	1.31		ng/l							
Thallium	0.342		ng/l							
Thorium	0.775		ng/l							
Uranium	0.00284		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: 12/14/23 11:51
SUBMITTED: 12/04/23
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 2312031 - B3L0605										
Calibration Blank (2312031-CCB2) Contin				Prepared & Analyzed: 12/11/23						
Vanadium	-27.2		ng/l							U
Zinc	86.5		ng/l							
Calibration Blank (2312031-CCB3)				Prepared & Analyzed: 12/11/23						
Aluminum	93.4		ng/l							
Antimony	1.38		ng/l							
Arsenic	0.532		ng/l							
Barium	9.11		ng/l							
Beryllium	-0.404		ng/l							U
Cadmium	0.751		ng/l							
Calcium	1790		ng/l							
Chromium	8.74		ng/l							
Cobalt	2.10		ng/l							
Copper	103		ng/l							
Iron	89.9		ng/l							
Lead	9.51		ng/l							
Magnesium	57.1		ng/l							
Manganese	19.5		ng/l							
Molybdenum	7.67		ng/l							
Nickel	4.18		ng/l							
Phosphorus	240		ng/l							
Potassium	-1680		ng/l							U
Rubidium	0.833		ng/l							
Selenium	-5.47		ng/l							U
Sodium	35.1		ng/l							
Strontium	1.98		ng/l							
Thallium	0.377		ng/l							
Thorium	0.618		ng/l							
Uranium	0.00625		ng/l							
Vanadium	-34.9		ng/l							U
Zinc	36.8		ng/l							
Calibration Blank (2312031-CCB4)				Prepared: 12/11/23 Analyzed: 12/12/23						
Aluminum	89.9		ng/l							
Antimony	1.68		ng/l							
Arsenic	0.642		ng/l							
Barium	11.3		ng/l							
Beryllium	-0.336		ng/l							U
Cadmium	1.03		ng/l							
Calcium	1970		ng/l							

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312031 - B3L0605										
Calibration Blank (2312031-CCB4) Contin				Prepared: 12/11/23 Analyzed: 12/12/23						
Chromium	14.4		ng/l							
Cobalt	2.56		ng/l							
Copper	124		ng/l							
Iron	168		ng/l							
Lead	11.5		ng/l							
Magnesium	77.9		ng/l							
Manganese	25.5		ng/l							
Molybdenum	8.01		ng/l							
Nickel	6.18		ng/l							
Phosphorus	-615		ng/l							U
Potassium	-1600		ng/l							U
Rubidium	0.323		ng/l							
Selenium	-2.85		ng/l							U
Sodium	122		ng/l							
Strontium	3.46		ng/l							
Thallium	0.497		ng/l							
Thorium	0.642		ng/l							
Uranium	0.0164		ng/l							
Vanadium	-34.0		ng/l							U
Zinc	38.0		ng/l							
Calibration Check (2312031-CCV1)				Prepared & Analyzed: 12/11/23						
Aluminum	1.53E6		ng/l	1.5000E6		102	90-110			
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	19900		ng/l	20000		99.7	90-110			
Barium	200000		ng/l	200000		100	90-110			
Beryllium	4940		ng/l	5000.0		98.8	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Calcium	2.48E7		ng/l	2.5000E7		99.1	90-110			
Chromium	241000		ng/l	240000		101	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Iron	2.49E6		ng/l	2.5000E6		99.7	90-110			
Lead	198000		ng/l	200000		98.8	90-110			
Magnesium	1.03E6		ng/l	1.0000E6		103	90-110			
Manganese	488000		ng/l	500000		97.6	90-110			
Molybdenum	49600		ng/l	50000		99.2	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Phosphorus	198000		ng/l	200000		98.9	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312031 - B3L0605										
Calibration Check (2312031-CCV1) Contin					Prepared & Analyzed: 12/11/23					
Potassium	2.49E6		ng/l	2.5000E6		99.5	90-110			
Rubidium	9990		ng/l	10000		99.9	90-110			
Selenium	19900		ng/l	20000		99.7	90-110			
Sodium	2.61E6		ng/l	2.5000E6		104	90-110			
Strontium	49900		ng/l	50000		99.8	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Thorium	496		ng/l	500.00		99.2	90-110			
Uranium	494		ng/l	500.00		98.9	90-110			
Vanadium	19800		ng/l	20000		99.2	90-110			
Zinc	519000		ng/l	500000		104	90-110			
Calibration Check (2312031-CCV2)					Prepared & Analyzed: 12/11/23					
Aluminum	1.47E6		ng/l	1.5000E6		98.2	90-110			
Antimony	19900		ng/l	20000		99.6	90-110			
Arsenic	19600		ng/l	20000		97.8	90-110			
Barium	198000		ng/l	200000		99.1	90-110			
Beryllium	4930		ng/l	5000.0		98.5	90-110			
Cadmium	19800		ng/l	20000		98.9	90-110			
Calcium	2.43E7		ng/l	2.5000E7		97.3	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	48800		ng/l	50000		97.6	90-110			
Copper	1.96E6		ng/l	2.0000E6		97.9	90-110			
Iron	2.42E6		ng/l	2.5000E6		96.8	90-110			
Lead	195000		ng/l	200000		97.3	90-110			
Magnesium	982000		ng/l	1.0000E6		98.2	90-110			
Manganese	477000		ng/l	500000		95.3	90-110			
Molybdenum	49000		ng/l	50000		98.1	90-110			
Nickel	118000		ng/l	120000		98.1	90-110			
Phosphorus	186000		ng/l	200000		93.1	90-110			
Potassium	2.42E6		ng/l	2.5000E6		96.7	90-110			
Rubidium	9860		ng/l	10000		98.6	90-110			
Selenium	20000		ng/l	20000		99.9	90-110			
Sodium	2.47E6		ng/l	2.5000E6		98.8	90-110			
Strontium	48800		ng/l	50000		97.6	90-110			
Thallium	471		ng/l	500.00		94.2	90-110			
Thorium	482		ng/l	500.00		96.4	90-110			
Uranium	477		ng/l	500.00		95.5	90-110			
Vanadium	19500		ng/l	20000		97.5	90-110			
Zinc	507000		ng/l	500000		101	90-110			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312031 - B3L0605										
Calibration Check (2312031-CCV3)				Prepared & Analyzed: 12/11/23						
Aluminum	1.49E6		ng/l	1.5000E6		99.5	90-110			
Antimony	20300		ng/l	20000		101	90-110			
Arsenic	19800		ng/l	20000		99.2	90-110			
Barium	199000		ng/l	200000		99.3	90-110			
Beryllium	4560		ng/l	5000.0		91.3	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Calcium	2.46E7		ng/l	2.5000E7		98.4	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	49400		ng/l	50000		98.8	90-110			
Copper	2.01E6		ng/l	2.0000E6		100	90-110			
Iron	2.46E6		ng/l	2.5000E6		98.6	90-110			
Lead	197000		ng/l	200000		98.7	90-110			
Magnesium	1.00E6		ng/l	1.0000E6		100	90-110			
Manganese	487000		ng/l	500000		97.3	90-110			
Molybdenum	49200		ng/l	50000		98.4	90-110			
Nickel	120000		ng/l	120000		99.7	90-110			
Phosphorus	197000		ng/l	200000		98.6	90-110			
Potassium	2.43E6		ng/l	2.5000E6		97.2	90-110			
Rubidium	9930		ng/l	10000		99.3	90-110			
Selenium	20000		ng/l	20000		100	90-110			
Sodium	2.54E6		ng/l	2.5000E6		102	90-110			
Strontium	49700		ng/l	50000		99.3	90-110			
Thallium	480		ng/l	500.00		96.0	90-110			
Thorium	496		ng/l	500.00		99.1	90-110			
Uranium	489		ng/l	500.00		97.7	90-110			
Vanadium	19900		ng/l	20000		99.6	90-110			
Zinc	517000		ng/l	500000		103	90-110			
Calibration Check (2312031-CCV4)				Prepared & Analyzed: 12/11/23						
Aluminum	1.50E6		ng/l	1.5000E6		100	90-110			
Antimony	20500		ng/l	20000		102	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	4550		ng/l	5000.0		91.1	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Calcium	2.49E7		ng/l	2.5000E7		99.6	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	49700		ng/l	50000		99.4	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312031 - B3L0605										
Calibration Check (2312031-CCV4) Contin				Prepared & Analyzed: 12/11/23						
Iron	2.48E6		ng/l	2.5000E6		99.2	90-110			
Lead	200000		ng/l	200000		99.9	90-110			
Magnesium	1.00E6		ng/l	1.0000E6		100	90-110			
Manganese	491000		ng/l	500000		98.2	90-110			
Molybdenum	50300		ng/l	50000		101	90-110			
Nickel	120000		ng/l	120000		99.8	90-110			
Phosphorus	193000		ng/l	200000		96.7	90-110			
Potassium	2.45E6		ng/l	2.5000E6		97.9	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Sodium	2.55E6		ng/l	2.5000E6		102	90-110			
Strontium	50300		ng/l	50000		101	90-110			
Thallium	485		ng/l	500.00		97.0	90-110			
Thorium	500		ng/l	500.00		100	90-110			
Uranium	498		ng/l	500.00		99.7	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	523000		ng/l	500000		105	90-110			
High Cal Check (2312031-HCV1)				Prepared & Analyzed: 12/11/23						
Aluminum	2.93E6		ng/l	3.0000E6		97.6	95-105			
Antimony	39900		ng/l	40000		99.7	95-105			
Arsenic	39800		ng/l	40000		99.5	95-105			
Barium	400000		ng/l	400000		99.9	95-105			
Beryllium	10300		ng/l	10000		103	95-105			
Cadmium	39300		ng/l	40000		98.3	95-105			
Calcium	4.93E7		ng/l	5.0000E7		98.7	95-105			
Chromium	473000		ng/l	480000		98.5	95-105			
Cobalt	98300		ng/l	100000		98.3	95-105			
Copper	3.94E6		ng/l	4.0000E6		98.5	95-105			
Iron	4.94E6		ng/l	5.0000E6		98.8	95-105			
Lead	397000		ng/l	400000		99.2	95-105			
Magnesium	1.96E6		ng/l	2.0000E6		97.9	95-105			
Manganese	986000		ng/l	1.0000E6		98.6	95-105			
Molybdenum	99400		ng/l	100000		99.4	95-105			
Nickel	235000		ng/l	240000		98.0	95-105			
Phosphorus	394000		ng/l	400000		98.5	95-105			
Potassium	4.90E6		ng/l	5.0000E6		98.1	95-105			
Rubidium	19900		ng/l	20000		99.3	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312031 - B3L0605										
High Cal Check (2312031-HCV1) Continue				Prepared & Analyzed: 12/11/23						
Sodium	4.90E6		ng/l	5.0000E6		98.0	95-105			
Strontium	99600		ng/l	100000		99.6	95-105			
Thallium	995		ng/l	1000.0		99.5	95-105			
Thorium	990		ng/l	1000.0		99.0	95-105			
Uranium	996		ng/l	1000.0		99.6	95-105			
Vanadium	39600		ng/l	40000		99.1	95-105			
Zinc	1.02E6		ng/l	1.0000E6		102	95-105			
Initial Cal Blank (2312031-ICB1)				Prepared & Analyzed: 12/11/23						
Aluminum	61.1		ng/l							
Antimony	1.48		ng/l							
Arsenic	-0.519		ng/l							U
Barium	3.07		ng/l							
Beryllium	1.36		ng/l							
Cadmium	0.359		ng/l							
Calcium	888		ng/l							
Chromium	5.64		ng/l							
Cobalt	0.725		ng/l							
Copper	77.3		ng/l							
Iron	99.8		ng/l							
Lead	7.11		ng/l							
Magnesium	0.0695		ng/l							
Manganese	8.48		ng/l							
Molybdenum	13.3		ng/l							
Nickel	0.0933		ng/l							
Phosphorus	-217		ng/l							U
Potassium	-1150		ng/l							U
Rubidium	0.811		ng/l							
Selenium	-2.72		ng/l							U
Sodium	-108		ng/l							U
Strontium	0.976		ng/l							
Thallium	0.339		ng/l							
Thorium	0.469		ng/l							
Uranium	-0.00424		ng/l							U
Vanadium	-32.0		ng/l							U
Zinc	-15.8		ng/l							U
Initial Cal Check (2312031-ICV1)				Prepared & Analyzed: 12/11/23						
Aluminum	1.45E6		ng/l	1.5000E6		96.5	90-110			
Antimony	19500		ng/l	20000		97.3	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312031 - B3L0605										
Initial Cal Check (2312031-ICV1) Continu				Prepared & Analyzed: 12/11/23						
Arsenic	19500		ng/l	20000		97.5	90-110			
Barium	196000		ng/l	200000		98.0	90-110			
Beryllium	5090		ng/l	5000.0		102	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Calcium	2.40E7		ng/l	2.5000E7		96.1	90-110			
Chromium	246000		ng/l	240000		103	90-110			
Cobalt	49000		ng/l	50000		98.0	90-110			
Copper	1.97E6		ng/l	2.0000E6		98.6	90-110			
Iron	2.45E6		ng/l	2.5000E6		98.2	90-110			
Lead	193000		ng/l	200000		96.4	90-110			
Magnesium	967000		ng/l	1.0000E6		96.7	90-110			
Manganese	479000		ng/l	500000		95.9	90-110			
Molybdenum	48700		ng/l	50000		97.3	90-110			
Nickel	117000		ng/l	120000		97.8	90-110			
Phosphorus	190000		ng/l	200000		95.2	90-110			
Potassium	2.45E6		ng/l	2.5000E6		98.0	90-110			
Rubidium	9540		ng/l	10000		95.4	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Sodium	2.48E6		ng/l	2.5000E6		99.2	90-110			
Strontium	49000		ng/l	50000		98.0	90-110			
Thallium	468		ng/l	500.00		93.7	90-110			
Thorium	474		ng/l	500.00		94.7	90-110			
Uranium	479		ng/l	500.00		95.8	90-110			
Vanadium	19700		ng/l	20000		98.3	90-110			
Zinc	515000		ng/l	500000		103	90-110			
Interference Check A (2312031-IFA1)				Prepared & Analyzed: 12/11/23						
Aluminum	1.45E7		ng/l	1.5000E7		96.4	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	9.11E7		ng/l	1.0040E8		90.8	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

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: 12/14/23 11:51
SUBMITTED: 12/04/23
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 2312031 - B3L0605										
Interference Check A (2312031-IFA1) Co				Prepared & Analyzed: 12/11/23						
Magnesium	1.50E7		ng/l	1.5000E7		99.9	80-120			
Manganese	0.00		ng/l				80-120			U
Molybdenum	293000		ng/l	300000		97.6	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.55E7		ng/l	1.5000E7		104	80-120			
Potassium	1.43E7		ng/l	1.5000E7		95.1	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 (2312031-IFB1)				Prepared & Analyzed: 12/11/23						
Aluminum	1.58E7		ng/l	1.6500E7		96.0	80-120			
Antimony	19900		ng/l	20000		99.5	80-120			
Arsenic	20000		ng/l	20000		100	80-120			
Barium	202000		ng/l	200000		101	80-120			
Beryllium	4640		ng/l	5000.0		92.7	80-120			
Cadmium	19200		ng/l	20000		95.8	80-120			
Calcium	1.14E8		ng/l	1.2540E8		90.9	80-120			
Chromium	227000		ng/l	240000		94.4	80-120			
Cobalt	48200		ng/l	50000		96.4	80-120			
Copper	1.86E6		ng/l	2.0000E6		93.1	80-120			
Iron	1.66E7		ng/l	1.7500E7		95.1	80-120			
Lead	205000		ng/l	200000		102	80-120			
Magnesium	1.59E7		ng/l	1.6000E7		99.7	80-120			
Manganese	501000		ng/l	500000		100	80-120			
Molybdenum	341000		ng/l	350000		97.4	80-120			
Nickel	113000		ng/l	120000		93.8	80-120			
Phosphorus	1.58E7		ng/l	1.5200E7		104	80-120			
Potassium	1.69E7		ng/l	1.7500E7		96.3	80-120			
Rubidium	10100		ng/l	10000		101	80-120			
Selenium	18800		ng/l	20000		94.1	80-120			
Sodium	1.79E7		ng/l	1.7500E7		102	80-120			
Strontium	49900		ng/l	50000		99.9	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2312031 - B3L0605										
Interference Check B (2312031-IFB1) Co				Prepared & Analyzed: 12/11/23						
Thallium	516		ng/l	500.00		103	80-120			
Thorium	530		ng/l	500.00		106	80-120			
Uranium	539		ng/l	500.00		108	80-120			
Vanadium	19000		ng/l	20000		95.2	80-120			
Zinc	469000		ng/l	500000		93.7	80-120			
Batch B3L0605 - ICP-MS Extraction										
Blank (B3L0605-BLK1)				Prepared: 12/06/23 Analyzed: 12/08/23						
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							GC-BS, 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							QB-01, 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, LJ, QX 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
Vanadium	ND	0.0492	ng/m³ Air							U
Zinc	ND	97.7	ng/m³ Air							U
LCS (B3L0605-BS1)				Prepared: 12/06/23 Analyzed: 12/08/23						
Aluminum	105	32.1	ng/m³ Air	82.975		126	80-120			

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0605 - ICP-MS Extraction										
LCS (B3L0605-BS1) Continued					Prepared: 12/06/23 Analyzed: 12/08/23					
Antimony	0.541	0.0441	ng/m³ Air	1.3829		39.1	80-120			SL
Arsenic	2.72	0.00955	ng/m³ Air	2.7658		98.2	80-120			
Barium	27.9	0.948	ng/m³ Air	27.658		101	80-120			
Beryllium	1.31	0.00332	ng/m³ Air	1.3829		94.9	80-120			
Cadmium	1.39	0.109	ng/m³ Air	1.3829		101	80-120			
Calcium	580	292	ng/m³ Air	69.146		839	80-120			GC-BS, QB-01
Chromium	15.7	2.03	ng/m³ Air	13.829		114	80-120			
Cobalt	1.38	0.0156	ng/m³ Air	1.3829		99.8	80-120			QB-01
Copper	30.5	3.00	ng/m³ Air	27.658		110	80-120			QB-01
Iron	53.3	24.2	ng/m³ Air	27.658		193	80-120			QB-01
Lead	13.4	0.276	ng/m³ Air	13.829		96.6	80-120			
Magnesium	ND	96.4	ng/m³ Air	27.658			80-120			U
Manganese	8.80	1.19	ng/m³ Air	8.2975		106	80-120			
Molybdenum	1.69	0.213	ng/m³ Air	1.3829		122	80-120			QB-01
Nickel	3.05	0.801	ng/m³ Air	2.7658		110	80-120			
Phosphorus	ND	1250	ng/m³ Air	13.829			80-120			GC-BS, LJ, QX U
Potassium	70.6	38.0	ng/m³ Air	55.317		128	80-120			
Rubidium	1.33	0.0183	ng/m³ Air	1.3829		96.1	80-120			
Selenium	2.71	0.0110	ng/m³ Air	2.7658		97.9	80-120			
Sodium	ND	2000	ng/m³ Air	55.317			80-120			GC-BS, U
Strontium	2.32	0.652	ng/m³ Air	1.3829		168	80-120			QB-01
Thallium	0.129	5.03E-4	ng/m³ Air	0.13829		93.5	80-120			
Thorium	0.127	0.00300	ng/m³ Air	0.13829		91.8	80-120			
Uranium	0.130	0.0170	ng/m³ Air	0.13829		94.3	80-120			
Vanadium	2.75	0.0492	ng/m³ Air	2.7658		99.6	80-120			
Zinc	104	97.7	ng/m³ Air	82.975		125	80-120			
Duplicate (B3L0605-DUP1)		**Source: 3120430-06**			Prepared: 12/06/23 Analyzed: 12/08/23					
Aluminum	331	25.8	ng/m³ Air		340			2.71	10	
Antimony	0.0449	0.0354	ng/m³ Air		0.0483			7.27	10	SL
Arsenic	0.165	0.00767	ng/m³ Air		0.169			2.84	10	
Barium	4.42	0.761	ng/m³ Air		4.13			6.65	10	
Beryllium	0.0119	0.00267	ng/m³ Air		0.0113			4.73	10	
Cadmium	ND	0.0875	ng/m³ Air		ND				10	U
Calcium	525	234	ng/m³ Air		527			0.265	10	GC-BS, QB-01
Chromium	1.75	1.63	ng/m³ Air		1.70			2.73	10	
Cobalt	0.189	0.0125	ng/m³ Air		0.176			7.27	10	QB-01
Copper	13.2	2.41	ng/m³ Air		13.2			0.320	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0605 - ICP-MS Extraction										
Duplicate (B3L0605-DUP1) Continued		**Source: 3120430-06**		Prepared: 12/06/23 Analyzed: 12/08/23						
Iron	352	19.4	ng/m³ Air		360			2.21	10	QB-01
Lead	ND	0.222	ng/m³ Air		ND				10	U
Magnesium	158	77.4	ng/m³ Air		158			0.0230	10	
Manganese	9.52	0.956	ng/m³ Air		9.44			0.883	10	
Molybdenum	0.964	0.171	ng/m³ Air		0.960			0.499	10	QB-01
Nickel	ND	0.643	ng/m³ Air		ND				10	U
Phosphorus	ND	1000	ng/m³ Air		ND				10	U, GC-BS, LJ, QX
Potassium	102	30.5	ng/m³ Air		116			12.1	10	
Rubidium	0.173	0.0147	ng/m³ Air		0.173			0.169	10	
Selenium	0.128	0.00883	ng/m³ Air		0.115			10.7	10	
Sodium	ND	1610	ng/m³ Air		ND				10	U, GC-BS
Strontium	3.24	0.524	ng/m³ Air		3.24			0.0620	10	QB-01
Thallium	7.75E-4	4.04E-4	ng/m³ Air		8.68E-4			11.2	10	
Thorium	0.00976	0.00241	ng/m³ Air		0.0114			15.2	10	
Uranium	ND	0.0137	ng/m³ Air		ND				10	U
Vanadium	1.20	0.0395	ng/m³ Air		1.20			0.623	10	
Zinc	ND	78.5	ng/m³ Air		ND				10	U
Duplicate (B3L0605-DUP2)		**Source: 3120430-10**		Prepared: 12/06/23 Analyzed: 12/08/23						
Aluminum	157	28.9	ng/m³ Air		155			1.57	10	
Antimony	0.0888	0.0397	ng/m³ Air		0.0878			1.04	10	SL
Arsenic	0.0872	0.00861	ng/m³ Air		0.0858			1.58	10	
Barium	4.20	0.854	ng/m³ Air		4.18			0.578	10	
Beryllium	0.00662	0.00299	ng/m³ Air		0.00633			4.49	10	
Cadmium	ND	0.0982	ng/m³ Air		ND				10	U
Calcium	286	263	ng/m³ Air		279			2.47	10	GC-BS, QB-01
Chromium	ND	1.83	ng/m³ Air		ND				10	U
Cobalt	0.0933	0.0141	ng/m³ Air		0.0929			0.444	10	QB-01
Copper	38.7	2.70	ng/m³ Air		38.2			1.41	10	
Iron	185	21.8	ng/m³ Air		184			0.540	10	QB-01
Lead	ND	0.249	ng/m³ Air		ND				10	U
Magnesium	135	86.9	ng/m³ Air		135			0.359	10	
Manganese	4.80	1.07	ng/m³ Air		4.78			0.399	10	
Molybdenum	1.20	0.192	ng/m³ Air		1.20			0.0441	10	QB-01
Nickel	ND	0.722	ng/m³ Air		ND				10	U
Phosphorus	ND	1130	ng/m³ Air		ND				10	U, GC-BS, LJ, QX
Potassium	94.6	34.3	ng/m³ Air		94.3			0.255	10	
Rubidium	0.108	0.0165	ng/m³ Air		0.103			4.97	10	

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0605 - ICP-MS Extraction										
Duplicate (B3L0605-DUP2) Continued		**Source: 3120430-10**		Prepared: 12/06/23 Analyzed: 12/08/23						
Selenium	0.117	0.00991	ng/m³ Air		0.123			4.38	10	
Sodium	ND	1800	ng/m³ Air		ND				10	U, GC-BS
Strontium	1.76	0.588	ng/m³ Air		1.75			0.505	10	QB-01
Thallium	7.31E-4	4.53E-4	ng/m³ Air		6.73E-4			8.25	10	
Thorium	0.00605	0.00270	ng/m³ Air		0.00607			0.298	10	
Uranium	ND	0.0153	ng/m³ Air		ND				10	U
Vanadium	0.499	0.0443	ng/m³ Air		0.496			0.696	10	
Zinc	ND	88.1	ng/m³ Air		ND				10	U
Matrix Spike (B3L0605-MS1)		**Source: 3120430-06**		Prepared: 12/06/23 Analyzed: 12/08/23						
Aluminum	409	25.8	ng/m³ Air	66.632	340	103	80-120			
Antimony	0.533	0.0354	ng/m³ Air	1.1105	0.0483	43.6	80-120			SL
Arsenic	2.35	0.00767	ng/m³ Air	2.2211	0.169	98.4	80-120			
Barium	25.5	0.761	ng/m³ Air	22.211	4.13	96.4	80-120			
Beryllium	1.04	0.00267	ng/m³ Air	1.1105	0.0113	92.3	80-120			
Cadmium	1.12	0.0875	ng/m³ Air	1.1105	ND	101	80-120			
Calcium	588	234	ng/m³ Air	55.526	527	111	80-120			GC-BS, QB-01
Chromium	13.1	1.63	ng/m³ Air	11.105	1.70	103	80-120			
Cobalt	1.24	0.0125	ng/m³ Air	1.1105	0.176	96.2	80-120			QB-01
Copper	37.1	2.41	ng/m³ Air	22.211	13.2	108	80-120			QB-01
Iron	383	19.4	ng/m³ Air	22.211	360	102	80-120			QB-01
Lead	10.9	0.222	ng/m³ Air	11.105	ND	98.1	80-120			
Magnesium	183	77.4	ng/m³ Air	22.211	158	111	80-120			
Manganese	16.4	0.956	ng/m³ Air	6.6632	9.44	104	80-120			
Molybdenum	2.04	0.171	ng/m³ Air	1.1105	0.960	97.5	80-120			QB-01
Nickel	2.80	0.643	ng/m³ Air	2.2211	ND	126	80-120			
Phosphorus	ND	1000	ng/m³ Air	11.105	ND		80-120			GC-BS, LJ, QM-4X, QX, U
Potassium	166	30.5	ng/m³ Air	44.421	116	113	80-120			
Rubidium	1.20	0.0147	ng/m³ Air	1.1105	0.173	92.6	80-120			
Selenium	2.26	0.00883	ng/m³ Air	2.2211	0.115	96.7	80-120			
Sodium	ND	1610	ng/m³ Air	44.421	ND		80-120			GC-BS, QM-4X, U
Strontium	4.29	0.524	ng/m³ Air	1.1105	3.24	94.9	80-120			QB-01
Thallium	0.103	4.04E-4	ng/m³ Air	0.11105	8.68E-4	91.7	80-120			
Thorium	0.0619	0.00241	ng/m³ Air	0.11105	0.0114	45.5	80-120			QM-07
Uranium	0.110	0.0137	ng/m³ Air	0.11105	ND	99.2	80-120			
Vanadium	3.42	0.0395	ng/m³ Air	2.2211	1.20	99.7	80-120			
Zinc	85.9	78.5	ng/m³ Air	66.632	ND	129	80-120			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0605 - ICP-MS Extraction										
Matrix Spike Dup (B3L0605-MSD1)		**Source: 3120430-06**		Prepared: 12/06/23		Analyzed: 12/08/23				
Aluminum	403	25.8	ng/m³ Air	66.632	340	94.9	80-120	1.36	20	
Antimony	0.572	0.0354	ng/m³ Air	1.1105	0.0483	47.1	80-120	7.04	20	SL
Arsenic	2.36	0.00767	ng/m³ Air	2.2211	0.169	98.8	80-120	0.348	20	
Barium	25.8	0.761	ng/m³ Air	22.211	4.13	97.5	80-120	0.967	20	
Beryllium	1.02	0.00267	ng/m³ Air	1.1105	0.0113	90.5	80-120	1.94	20	
Cadmium	1.14	0.0875	ng/m³ Air	1.1105	ND	102	80-120	0.957	20	
Calcium	586	234	ng/m³ Air	55.526	527	106	80-120	0.459	20	GC-BS, QB-01
Chromium	12.9	1.63	ng/m³ Air	11.105	1.70	101	80-120	1.43	20	
Cobalt	1.25	0.0125	ng/m³ Air	1.1105	0.176	97.0	80-120	0.741	20	QB-01
Copper	38.5	2.41	ng/m³ Air	22.211	13.2	114	80-120	3.71	20	
Iron	376	19.4	ng/m³ Air	22.211	360	70.6	80-120	1.84	20	QB-01, QM-4X
Lead	11.0	0.222	ng/m³ Air	11.105	ND	99.3	80-120	1.20	20	
Magnesium	180	77.4	ng/m³ Air	22.211	158	98.9	80-120	1.53	20	
Manganese	16.2	0.956	ng/m³ Air	6.6632	9.44	101	80-120	0.981	20	
Molybdenum	2.05	0.171	ng/m³ Air	1.1105	0.960	98.5	80-120	0.530	20	QB-01
Nickel	2.85	0.643	ng/m³ Air	2.2211	ND	128	80-120	1.92	20	
Phosphorus	ND	1000	ng/m³ Air	11.105	ND		80-120		20	GC-BS, LJ, QM-4X, QX, U
Potassium	149	30.5	ng/m³ Air	44.421	116	74.4	80-120	10.8	20	QM-07
Rubidium	1.22	0.0147	ng/m³ Air	1.1105	0.173	94.3	80-120	1.53	20	
Selenium	2.27	0.00883	ng/m³ Air	2.2211	0.115	96.9	80-120	0.172	20	
Sodium	ND	1610	ng/m³ Air	44.421	ND		80-120		20	GC-BS, QM-4X, U
Strontium	4.24	0.524	ng/m³ Air	1.1105	3.24	90.2	80-120	1.21	20	QB-01
Thallium	0.105	4.04E-4	ng/m³ Air	0.11105	8.68E-4	93.8	80-120	2.28	20	
Thorium	0.0637	0.00241	ng/m³ Air	0.11105	0.0114	47.1	80-120	2.85	20	QM-07
Uranium	0.112	0.0137	ng/m³ Air	0.11105	ND	101	80-120	1.90	20	
Vanadium	3.39	0.0395	ng/m³ Air	2.2211	1.20	98.5	80-120	0.743	20	
Zinc	88.0	78.5	ng/m³ Air	66.632	ND	132	80-120	2.51	20	
Post Spike (B3L0605-PS1)		**Source: 3120430-06**		Prepared: 12/06/23		Analyzed: 12/08/23				
Aluminum	368	25.8	ng/m³ Air	22.211	340	125	75-125			A-01
Antimony	0.268	0.0354	ng/m³ Air	0.22211	0.0483	99.1	75-125			SL
Arsenic	1.25	0.00767	ng/m³ Air	1.1105	0.169	96.9	75-125			
Barium	6.28	0.761	ng/m³ Air	2.2211	4.13	96.7	75-125			
Beryllium	0.217	0.00267	ng/m³ Air	0.22211	0.0113	92.4	75-125			
Cadmium	0.119	0.0875	ng/m³ Air	0.11105	ND	108	75-125			
Calcium	565	234	ng/m³ Air	22.211	527	175	75-125			A-01, GC-BS, QB-01
Chromium	2.82	1.63	ng/m³ Air	1.1105	1.70	101	75-125			

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: 12/14/23 11:51
SUBMITTED: 12/04/23
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 B3L0605 - ICP-MS Extraction										
Post Spike (B3L0605-PS1) Continued		**Source: 3120430-06**		Prepared: 12/06/23		Analyzed: 12/08/23				
Cobalt	0.393	0.0125	ng/m³ Air	0.22211	0.176	97.9	75-125			QB-01
Copper	24.6	2.41	ng/m³ Air	11.105	13.2	103	75-125			
Iron	386	19.4	ng/m³ Air	22.211	360	117	75-125			QB-01
Lead	21.8	0.222	ng/m³ Air	22.211	ND	98.3	75-125			
Magnesium	182	77.4	ng/m³ Air	22.211	158	108	75-125			
Manganese	11.8	0.956	ng/m³ Air	2.2211	9.44	105	75-125			
Molybdenum	2.00	0.171	ng/m³ Air	1.1105	0.960	93.7	75-125			QB-01
Nickel	2.73	0.643	ng/m³ Air	2.2211	ND	123	75-125			
Phosphorus	ND	1000	ng/m³ Air	4.4421	ND		75-125			A-01, GC-BS, LJ, QX, U
Potassium	138	30.5	ng/m³ Air	22.211	116	101	75-125			
Rubidium	0.285	0.0147	ng/m³ Air	0.11105	0.173	101	75-125			
Selenium	1.22	0.00883	ng/m³ Air	1.1105	0.115	99.8	75-125			
Sodium	ND	1610	ng/m³ Air	22.211	ND		75-125			A-01, GC-BS, U
Strontium	4.31	0.524	ng/m³ Air	1.1105	3.24	96.1	75-125			QB-01
Thallium	0.0524	4.04E-4	ng/m³ Air	5.5526E-2	8.68E-4	92.8	75-125			
Thorium	0.0627	0.00241	ng/m³ Air	5.5526E-2	0.0114	92.5	75-125			
Uranium	0.0597	0.0137	ng/m³ Air	5.5526E-2	ND	107	75-125			
Vanadium	2.28	0.0395	ng/m³ Air	1.1105	1.20	97.1	75-125			
Zinc	ND	78.5	ng/m³ Air	22.211	ND		75-125			U
Dilution Check (B3L0605-SRL1)		**Source: 3120430-06**		Prepared: 12/06/23		Analyzed: 12/08/23				
Aluminum	341	129	ng/m³ Air		340			0.264	10	
Antimony	ND	0.177	ng/m³ Air		ND				10	SL, U
Arsenic	0.177	0.0383	ng/m³ Air		0.169			4.56	10	
Barium	4.10	3.81	ng/m³ Air		4.13			0.802	10	
Beryllium	ND	0.0133	ng/m³ Air		ND				10	U
Cadmium	ND	0.438	ng/m³ Air		ND				10	U
Calcium	ND	1170	ng/m³ Air		ND				10	QB-01, GC-BS U
Chromium	ND	8.15	ng/m³ Air		ND				10	U
Cobalt	0.175	0.0626	ng/m³ Air		0.176			0.381	10	QB-01
Copper	13.1	12.0	ng/m³ Air		13.2			0.144	10	
Iron	363	97.2	ng/m³ Air		360			0.707	10	QB-01
Lead	ND	1.11	ng/m³ Air		ND				10	U
Magnesium	ND	387	ng/m³ Air		ND				10	U
Manganese	9.48	4.78	ng/m³ Air		9.44			0.420	10	
Molybdenum	0.960	0.855	ng/m³ Air		0.960			2.48E-5	10	QB-01
Nickel	ND	3.22	ng/m³ Air		ND				10	U

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Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B3L0605 - ICP-MS Extraction										
Dilution Check (B3L0605-SRL1) Continue Source: 3120430-06 Prepared: 12/06/23 Analyzed: 12/08/23										
Phosphorus	ND	5020	ng/m³ Air		ND				10	GC-BS, LJ, QX U
Potassium	ND	153	ng/m³ Air		ND				10	U
Rubidium	0.186	0.0735	ng/m³ Air		0.173			7.08	10	
Selenium	0.133	0.0442	ng/m³ Air		0.115			14.1	10	
Sodium	ND	8030	ng/m³ Air		ND				10	GC-BS, U
Strontium	3.29	2.62	ng/m³ Air		3.24			1.44	10	QB-01
Thallium	ND	0.00202	ng/m³ Air		ND				10	U
Thorium	ND	0.0120	ng/m³ Air		ND				10	U
Uranium	ND	0.0683	ng/m³ Air		ND				10	U
Vanadium	1.20	0.198	ng/m³ Air		1.20			0.651	10	
Zinc	ND	392	ng/m³ Air		ND				10	U

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Notes and Definitions

U	Under Detection Limit
SL	The spike recovery was outside acceptance limits. Reported value may be biased low.
QX	Compound does not meet QC criteria. Results should be considered an estimate.
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).
D	This result obtained by dilution.
A-01	Parent sample >4x spike amount
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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