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

Kula, Maui

12/21/2023-12/29/2023

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

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

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

Results for Community Locations:
Ambient particulate air monitoring was performed to assess for the presence and concentrations of airborne particulates with a particle size aerodynamic diameter of 2.5 micrometers (µm) and less ($PM_{2.5}$), as well as 10 micrometers (µm) and less (PM_{10}). This particle size diameter is recognized for health evaluations and is identified as "$PM_{2.5}$" and "PM_{10}". The particle size diameters of 2.5 micrometers (µm) and 10 micrometers (µm) are small enough to be inhaled into a person's lungs. Monitoring for $PM_{2.5}$ and PM_{10} was conducted 7 days a week at each of the following locations: Top Property (AM-01) (December 21 – 29), Middle Property (AM-02) (December 21 – 29), Lower Property (AM-03) (December 21 – 29).

The results of PM10 monitoring found that screening levels were not exceeded during this reporting period.

The results of $PM_{2.5}$ monitoring found that screening levels were exceeded at the Top Property air monitoring station on December 23, 24, 25, 26, 28, and 29. On December 23 and 26, USACE crews were conducting activities approximately 300 meters (about 984.25 ft) west of the sampling site. These activities may have contributed to the exceedance during the time block of 08:00-10:00, all other elevated readings took place during the early morning or late evening hours, outside USACE crew operations. Dec 24 and 25 were approved observed holidays. No USACE crew activities took place during these days to contribute to exceedance, and no field observations were made. The exceedances on December 28 and 29 were not related to USACE debris removal activities as no USACE crews were conducting work at the site on these days. The property owners adjacent to the site were observed doing yard work, applying mulch, manicuring, and racking. Visible dust resulted from the property owner's activities.

The results of $PM_{2.5}$ monitoring found that screening levels were exceeded at the Middle Property air monitoring station on December 23, 25, 28, and 29. The exceedance on December 23 was not related to USACE debris ops activities because no USACE crews were conducting work at the site on this day. The elevated readings took place during the early morning or late evening hours, outside field crew operations. Dec 25 was approved observed holiday for Christmas and no USACE crew activities were

taking place during these days, nor were field observations collected. The exceedances on December 28 and 29 were not related to USACE debris ops activities as no USACE crews were conducting work at the site on these days. The property owners adjacent to the site were observed using heavy machinery for yard work and tree trimming. Visible dust resulted from the property owner's activities.

There were twenty-one samples collected for asbestos fibers at community monitoring locations throughout this time frame. No asbestos sample returned a value above the laboratory's detection limit, indicating fibers were not present in the air sampled. All asbestos results were below the public health screening level of 0.0034 fibers/cc (as well as the laboratory's detection limits).

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

Attachments:

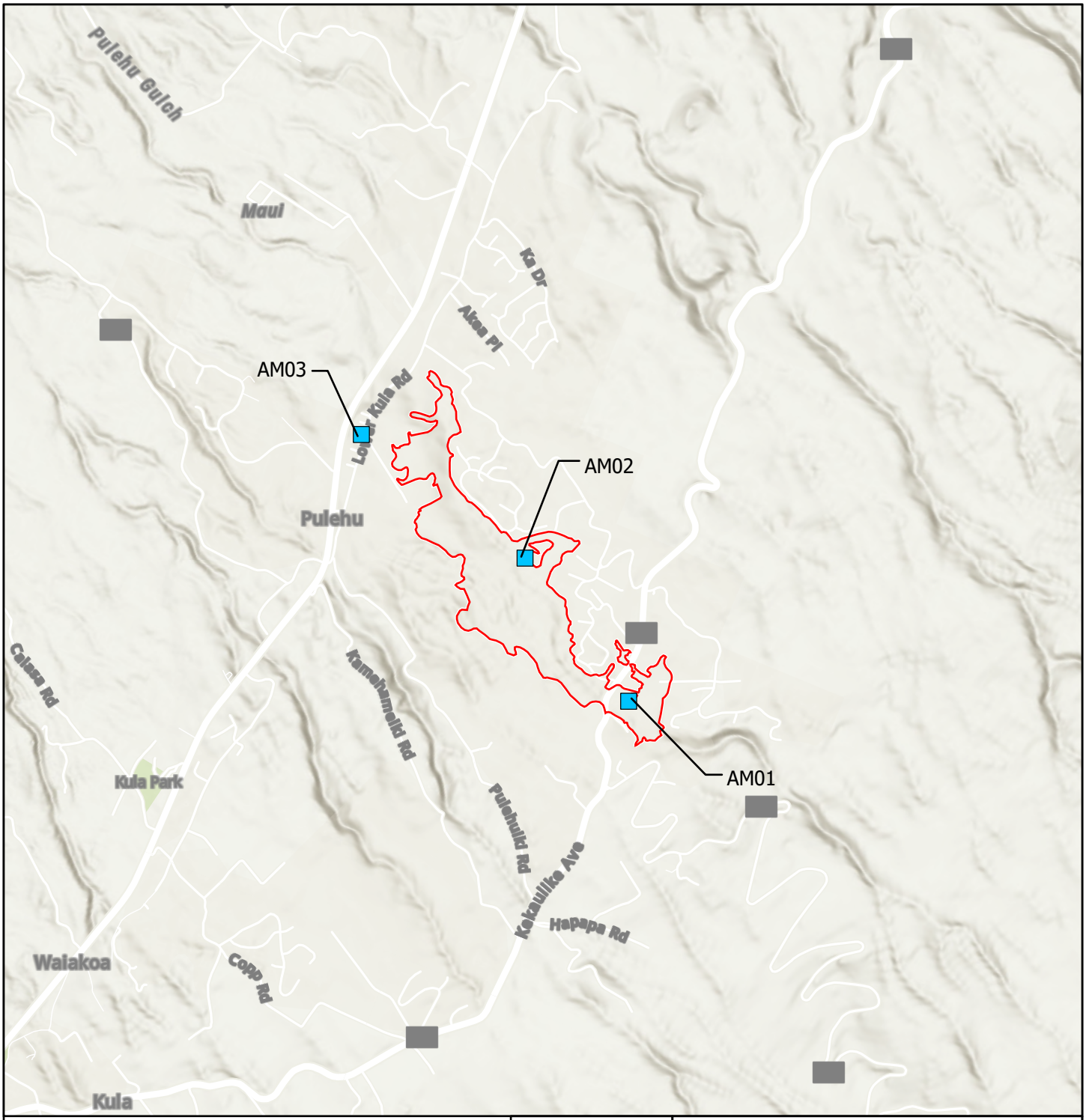
Analytical Sampling Results and Particulate Monitoring Results

Air Monitoring and Sampling Locations

Appendix:

Analytical Reports

Attachments



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

Table 1: HDOH CAB Ambient Community Monitoring and Sampling
Analytical Sampling Results
Maui Wildfire, Kula
12/21/2023-12/29/2023

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
12/21/2023	Top Property (AM-01)	<0.00039	N	0.0000962	0.000155	0.00516	0.0000151	ND	0.00184	0.000242	0.0188	0.000287	0.0138	0.000795	0.000721	0.000151	0.0000017	0.00153	ND
	Middle Property (AM-02)	<0.00074	N	0.000103	0.000158	0.00545	0.0000139	ND	ND	0.000219	0.0137	ND	0.0128	0.000927	ND	0.000159	0.00000162	0.00141	ND
	Lower Property (AM-03)	<0.00039	N	0.000149	0.000155	0.00635	0.0000144	ND	ND	0.000218	0.0169	0.000243	0.0126	0.000738	ND	0.000159	0.00000151	0.00127	ND
12/22/2023	Top Property (AM-01)	<0.00037	N	0.000101	0.000168	0.00671	0.0000172	ND	ND	0.000277	0.0283	0.000512	0.0158	0.000803	ND	0.000186	0.00000167	0.00151	ND
	Middle Property (AM-02)	<0.00048	N	0.0000718	0.000159	0.00664	0.0000165	ND	ND	0.000251	0.0115	0.000282	0.0157	0.000801	ND	0.000168	0.00000164	0.0014	ND
	Lower Property (AM-03)	<0.00049	N	0.000122	0.000134	0.00698	0.0000164	ND	ND	0.000252	0.0153	0.000276	0.0154	0.000707	ND	0.000166	0.00000156	0.00133	ND
12/23/2003	Top Property (AM-01)	<0.00037	N	0.0000834	0.000149	0.00499	0.0000128	ND	ND	0.000254	0.0196	0.000301	0.0136	0.000602	ND	0.000135	0.00000102	0.00138	ND
	Middle Property (AM-02)	<0.00044	N	0.000097	0.000225	0.00519	0.0000138	ND	ND	0.000261	0.012	ND	0.0142	0.000806	ND	0.000135	0.00000102	0.0014	ND
	Lower Property (AM-03)	<0.00046	N	0.000112	0.000119	0.00524	0.0000143	ND	ND	0.00025	0.0157	0.000215	0.0138	0.000724	ND	0.000126	0.000000926	0.00127	ND
12/24/2023	Top Property (AM-01)	<0.00039	N	0.000117	0.000144	0.00554	0.0000136	ND	ND	0.000268	0.0181	0.000258	0.0141	0.000594	ND	0.000153	0.00000126	0.00141	ND
	Middle Property (AM-02)	<0.00105	N	0.000112	0.000209	0.00729	0.0000177	ND	ND	0.000313	0.00925	0.000299	0.0183	0.000609	0.000687	0.000176	0.00000146	0.00186	ND
	Lower Property (AM-03)	<0.00097	N	0.000129	0.000135	0.00577	0.0000136	ND	ND	0.000241	0.0124	0.000296	0.0137	0.000652	0.000618	0.000163	0.00000128	0.00146	ND
12/25/2023	Top Property (AM-01)																		
	Middle Property (AM-02)																		
	Lower Property (AM-03)																		
12/26/2023	Top Property (AM-01)																		
	Middle Property (AM-02)																		
	Lower Property (AM-03)																		
12/27/2023	Top Property (AM-01)	<0.00042	N	0.0000662	0.0000606	0.00312	0.00000616	ND	ND	0.0000886	0.0184	ND	0.00559	0.000614	ND	0.0000336	0.000000598	0.000477	ND
	Middle Property (AM-02)	<0.00037	N	0.000126	0.000198	0.00572	0.0000134	ND	ND	0.000177	0.025	ND	0.0111	0.00144	ND	0.0000744	0.00000115	0.00101	ND
	Lower Property (AM-03)	<0.00030	N	0.000168	0.000139	0.00764	0.0000182	ND	ND	0.000205	0.041	ND	0.014	0.00246	ND	0.0000963	0.00000129	0.00112	ND
12/28/2023	Top Property (AM-01)	<0.00045	N	0.0000587	0.0000749	0.00269	0.00000613	ND	ND	0.000086	0.0175	ND	0.00525	0.000584	ND	0.0000917	0.000000694	0.000637	ND
	Middle Property (AM-02)	<0.00065	N	0.0000586	0.000082	0.00347	0.00000848	ND	ND	0.000102	0.01	ND	0.00663	0.000626	ND	0.000113	0.000000809	0.000771	ND
	Lower Property (AM-03)	<0.00038	N	0.0000902	0.000109	0.00611	0.0000177	ND	ND	0.000187	0.0194	0.000574	0.0147	0.000705	ND	0.000143	0.0000014	0.00108	ND
12/29/2023	Top Property (AM-01)	<0.00119	N	0.0000919	0.0000788	0.00522	0.0000128	ND	ND	0.000192	0.0211	0.000343	0.0111	0.000678	ND	0.000112	0.000000929	0.000939	ND
	Middle Property (AM-02)	<0.00045	N	0.0000744	0.000107	0.00477	0.000011	ND	ND	0.000154	0.0141	0.000286	0.0102	0.000696	ND	0.000105	0.00000079	0.000863	ND
	Lower Property (AM-03)	<0.00267	N	0.0000939	0.0000616	0.00496	0.0000129	ND	ND	0.000147	0.0124	ND	0.0105	0.000728	ND	0.0000899	0.000000804	0.000748	ND
95% Upper Confidence Limit [3]		0.00078		0.00011	0.00016	0.00612	0.000022	NA	NA	0.00036	0.02771	0.00034	0.015	0.00093	0.00078	0.00023	0.0000014	0.00136	NA

Notes:
Asbestos and Metals sampling was not deployed on the 24, and 25 due to the Christmas Holiday. Resulting in no asbestos or Metals samples for the 25, or 26.
NA = Not Available
f/cc = fibers per cubic centimeter
µg/m3= micrograms per cubic meter
ND = Not detected at or above the laboratory reporting limit or method detection limit
1 Fiber count sample result via Phase Contrast Microscopy
2 Confirmed asbestos sample result via Transmission Electron Microscopy
3 95% UCL determined through 'best fit' lognormal or normal parametric statistics via W test

Table 2: HDOH CAB Ambient Community Monitoring and Sampling
Particulate Monitoring Results
Maui Wildfire, Kula
12/21/2023-12/29/2023

Particulate Size		PM 2.5	PM 10
Screening Level	Location / ID	35 µg/m^3	150 µg/m^3
12/21/2023	Top Property (AM-01)	16	21
	Middle Property (AM-02)	33	5.6
	Lower Property (AM-03)	5.8	9.4
12/22/2023	Top Property (AM-01)	34	37
	Middle Property (AM-02)	21	5.0
	Lower Property (AM-03)	5.3	9.3
12/23/2003	Top Property (AM-01)	47	40
	Middle Property (AM-02)	38	7.2
	Lower Property (AM-03)	6.0	9.3
12/24/2023	Top Property (AM-01)	45	34
	Middle Property (AM-02)	31	6.0
	Lower Property (AM-03)	5.3	8.9
12/25/2023	Top Property (AM-01)	43	33
	Middle Property (AM-02)	40	5.7
	Lower Property (AM-03)	6.0	6.1
12/26/2023	Top Property (AM-01)	64	93
	Middle Property (AM-02)	11	4.0
	Lower Property (AM-03)	6.2	4.4
12/27/2023	Top Property (AM-01)	30	137
	Middle Property (AM-02)	35*	5.5
	Lower Property (AM-03)	6.4	7.6
12/28/2023	Top Property (AM-01)	53	41
	Middle Property (AM-02)	60	8.4
	Lower Property (AM-03)	8.7	12
12/29/2023	Top Property (AM-01)	40	29
	Middle Property (AM-02)	43	6.8
	Lower Property (AM-03)	6.7	5.8

Notes:
The exceedances at the Top and Middle Property on 12/24, and 12/25 were not related to USACE crew activities. Date range was under approved time off for the Christmas holiday. No observations were made.
The exceedances at the Top Property on 12/23 and 12/26 may have contributed to by USACE operations during the time block of 08:00-10:00.Other exceedances took place during non operation time periods (early am/late evening).
The exceedances on 12/23 at the Middle Property were not related to USACE crew activities. Exceedances took place in early moring and late evening hours.
The exceedances on 12/28 and 12/29 at the Top Property and Middle Property were not related to USACE crew activities. No USACE crew present.
* = The middle Property PM2.5 24hr TWA on 12/27 is rounded up from 34.51 and not considered a true exceedance.
Results are based on 24 hour TWA calculation
24 hour TWA calculation is presented in two significant figures
µg/m^3 = micrograms per cubic meter
ND = Not detected at or above the laboratory reporting limit
NA = Not Available

Appendix 1

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

January 05, 2024

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

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 12/28/23 13:04.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9551158	3122828-01	Air	12/21/23 23:59	12/28/23 13:04
TetraTech Q9524491	3122828-02	Air	12/21/23 23:59	12/28/23 13:04
TetraTech Q9524490	3122828-03	Air	12/21/23 23:59	12/28/23 13:04
TetraTech Q9524486 FB	3122828-04	Air	12/21/23 00:00	12/28/23 13:04
TetraTech Q9524487	3122828-05	Air	12/22/23 23:59	12/28/23 13:04
TetraTech Q9524477	3122828-06	Air	12/22/23 23:59	12/28/23 13:04
TetraTech Q9524489	3122828-07	Air	12/22/23 23:59	12/28/23 13:04
TetraTech Q9524485 FB	3122828-08	Air	12/22/23 00:00	12/28/23 13:04
TetraTech Q9524482	3122828-09	Air	12/24/23 23:59	12/28/23 13:04
TetraTech Q9524479	3122828-10	Air	12/24/23 23:59	12/28/23 13:04
TetraTech Q9524469	3122828-11	Air	12/24/23 23:59	12/28/23 13:04
TetraTech Q9524481 FB	3122828-12	Air	12/24/23 00:00	12/28/23 13:04
TetraTech Q9524478	3122828-13	Air	12/23/23 23:59	12/28/23 13:04
TetraTech Q9524484	3122828-14	Air	12/23/23 23:59	12/28/23 13:04
TetraTech Q9524483	3122828-15	Air	12/23/23 23:59	12/28/23 13:04
TetraTech Q9524480 FB	3122828-16	Air	12/23/23 00:00	12/28/23 13:04

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9551158
Matrix: Air
Comments: MFK-AM01-122123-HM

Lab ID: 3122828-01
Sample Volume: 1917.117 m³
Filter ID:

Sampled: 12/21/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 20:12

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**477**		**27.2**
Antimony	**7440-36-0**	**0.0962**	SL	**0.0374**
Arsenic	**7440-38-2**	**0.155**		**0.00810**
Barium	**7440-39-3**	**5.16**		**0.805**
Beryllium	**7440-41-7**	**0.0151**		**0.00282**
Cadmium	7440-43-9	0.00818	U	0.0925
Calcium	**7440-70-2**	**436**	LJ, QB-01	**248**
Chromium	**7440-47-3**	**1.84**		**1.72**
Cobalt	**7440-48-4**	**0.242**	QB-01	**0.0132**
Copper	**7440-50-8**	**18.8**		**2.55**
Iron	**7439-89-6**	**548**		**20.5**
Lead	**7439-92-1**	**0.287**		**0.234**
Magnesium	**7439-95-4**	**219**		**81.8**
Manganese	**7439-96-5**	**13.8**		**1.01**
Molybdenum	**7439-98-7**	**0.795**	QB-01	**0.181**
Nickel	**7440-02-0**	**0.721**		**0.680**
Phosphorus	7723-14-0	385	GC-BS, U	1060
Potassium	**7440-09-7**	**94.8**		**32.2**
Rubidium	**7440-17-7**	**0.175**		**0.0155**
Selenium	**7782-49-2**	**0.151**		**0.00934**
Sodium	**7440-23-5**	**1930**	E, GC-BS	**1700**
Strontium	**7440-24-6**	**3.50**	QB-01	**0.553**
Thallium	**7440-28-0**	**0.00170**		**4.27E-4**
Thorium	**7440-29-01**	**0.0110**		**0.00255**
Uranium	7440-61-1	0.0111	U	0.0144
Vanadium	**7440-62-2**	**1.53**		**0.0418**
Zinc	7440-66-6	31.2	U	82.9

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524491
Matrix: Air
Comments: MFK-AM02-122123-HM

Lab ID: 3122828-02
Sample Volume: 2016.319 m³
Filter ID:

Sampled: 12/21/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 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**	**402**		**25.9**
Antimony	**7440-36-0**	**0.103**	SL	**0.0356**
Arsenic	**7440-38-2**	**0.158**		**0.00771**
Barium	**7440-39-3**	**5.45**		**0.765**
Beryllium	**7440-41-7**	**0.0139**		**0.00268**
Cadmium	7440-43-9	0.00641	U	0.0880
Calcium	**7440-70-2**	**377**	LJ, QB-01	**236**
Chromium	7440-47-3	1.03	U	1.64
Cobalt	**7440-48-4**	**0.219**	QB-01	**0.0126**
Copper	**7440-50-8**	**13.7**		**2.42**
Iron	**7439-89-6**	**472**		**19.5**
Lead	7439-92-1	0.221	U	0.223
Magnesium	**7439-95-4**	**220**		**77.8**
Manganese	**7439-96-5**	**12.8**		**0.960**
Molybdenum	**7439-98-7**	**0.927**	QB-01	**0.172**
Nickel	7440-02-0	0.503	U	0.646
Phosphorus	7723-14-0	193	GC-BS, U	1010
Potassium	**7440-09-7**	**103**		**30.7**
Rubidium	**7440-17-7**	**0.166**		**0.0148**
Selenium	**7782-49-2**	**0.159**		**0.00888**
Sodium	**7440-23-5**	**1820**	E, GC-BS	**1610**
Strontium	**7440-24-6**	**3.45**	QB-01	**0.526**
Thallium	**7440-28-0**	**0.00162**		**4.06E-4**
Thorium	**7440-29-01**	**0.0134**		**0.00242**
Uranium	7440-61-1	0.00967	U	0.0137
Vanadium	**7440-62-2**	**1.41**		**0.0397**
Zinc	7440-66-6	21.8	U	78.8

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524490
Matrix: Air
Comments: MFK-AM03-122123-HM

Lab ID: 3122828-03
Sample Volume: 2287.288 m³
Filter ID:

Sampled: 12/21/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 20:40

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**318**		**22.8**
Antimony	**7440-36-0**	**0.149**	SL	**0.0314**
Arsenic	**7440-38-2**	**0.155**		**0.00679**
Barium	**7440-39-3**	**6.35**		**0.674**
Beryllium	**7440-41-7**	**0.0144**		**0.00236**
Cadmium	7440-43-9	0.0186	U	0.0775
Calcium	**7440-70-2**	**382**	LJ, QB-01	**208**
Chromium	7440-47-3	0.949	U	1.44
Cobalt	**7440-48-4**	**0.218**	QB-01	**0.0111**
Copper	**7440-50-8**	**16.9**		**2.13**
Iron	**7439-89-6**	**423**		**17.2**
Lead	**7439-92-1**	**0.243**		**0.196**
Magnesium	**7439-95-4**	**228**		**68.6**
Manganese	**7439-96-5**	**12.6**		**0.846**
Molybdenum	**7439-98-7**	**0.738**	QB-01	**0.152**
Nickel	7440-02-0	0.510	U	0.570
Phosphorus	7723-14-0	164	GC-BS, U	889
Potassium	**7440-09-7**	**105**		**27.0**
Rubidium	**7440-17-7**	**0.156**		**0.0130**
Selenium	**7782-49-2**	**0.159**		**0.00782**
Sodium	**7440-23-5**	**1850**	E, GC-BS	**1420**
Strontium	**7440-24-6**	**3.35**	QB-01	**0.464**
Thallium	**7440-28-0**	**0.00151**		**3.58E-4**
Thorium	**7440-29-01**	**0.0140**		**0.00213**
Uranium	7440-61-1	0.00836	U	0.0121
Vanadium	**7440-62-2**	**1.27**		**0.0350**
Zinc	7440-66-6	25.2	U	69.5

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524486 FB
Matrix: Air
Lab ID: 3122828-04
Sample Volume: 1917.117 m³
Filter ID:
Sampled: 12/21/23 00:00
Received: 12/28/23 13:04
Analysis Date: 01/02/24 20:54

Comments: MFK-FB01-122123-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	9.89	U	27.2
Antimony	7440-36-0	0.0170	SL, U	0.0374
Arsenic	7440-38-2	0.00343	U	0.00810
Barium	7440-39-3	0.681	U	0.805
Beryllium	7440-41-7	5.16E-4	U	0.00282
Cadmium	7440-43-9	0.00779	U	0.0925
Calcium	7440-70-2	144	LJ, QB-01, U	248
Chromium	7440-47-3	0.643	U	1.72
Cobalt	7440-48-4	0.00555	QB-01, U	0.0132
Copper	7440-50-8	0.253	U	2.55
Iron	7439-89-6	11.7	U	20.5
Lead	7439-92-1	0.0297	U	0.234
Magnesium	7439-95-4	22.6	U	81.8
Manganese	7439-96-5	0.147	U	1.01
Molybdenum	7439-98-7	0.0974	QB-01, U	0.181
Nickel	7440-02-0	0.188	U	0.680
Phosphorus	7723-14-0	172	GC-BS, U	1060
Potassium	7440-09-7	11.2	U	32.2
Rubidium	7440-17-7	0.00657	U	0.0155
Selenium	7782-49-2	0.00162	U	0.00934
Sodium	7440-23-5	547	GC-BS, U	1700
Strontium	7440-24-6	0.280	QB-01, U	0.553
Thallium	7440-28-0	1.94E-4	U	4.27E-4
Thorium	7440-29-01	0.00206	U	0.00255
Uranium	7440-61-1	7.49E-4	U	0.0144
Vanadium	7440-62-2	0.0164	U	0.0418
Zinc	7440-66-6	22.2	U	82.9

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524487
Matrix: Air
Comments: MFK-AM01-122223-HM

Lab ID: 3122828-05
Sample Volume: 1891.231 m³
Filter ID:

Sampled: 12/22/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 21:08

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**531**		**27.6**
Antimony	**7440-36-0**	**0.101**	SL	**0.0379**
Arsenic	**7440-38-2**	**0.168**		**0.00822**
Barium	**7440-39-3**	**6.71**		**0.816**
Beryllium	**7440-41-7**	**0.0172**		**0.00286**
Cadmium	7440-43-9	0.0120	U	0.0938
Calcium	**7440-70-2**	**442**	LJ, QB-01	**251**
Chromium	7440-47-3	1.23	U	1.75
Cobalt	**7440-48-4**	**0.277**	QB-01	**0.0134**
Copper	**7440-50-8**	**28.3**		**2.58**
Iron	**7439-89-6**	**604**		**20.8**
Lead	**7439-92-1**	**0.512**		**0.237**
Magnesium	**7439-95-4**	**282**		**82.9**
Manganese	**7439-96-5**	**15.8**		**1.02**
Molybdenum	**7439-98-7**	**0.803**	QB-01	**0.183**
Nickel	7440-02-0	0.564	U	0.689
Phosphorus	7723-14-0	202	GC-BS, U	1080
Potassium	**7440-09-7**	**115**		**32.7**
Rubidium	**7440-17-7**	**0.208**		**0.0157**
Selenium	**7782-49-2**	**0.186**		**0.00946**
Sodium	**7440-23-5**	**2280**	E, GC-BS	**1720**
Strontium	**7440-24-6**	**4.21**	QB-01	**0.561**
Thallium	**7440-28-0**	**0.00167**		**4.33E-4**
Thorium	**7440-29-01**	**0.0173**		**0.00258**
Uranium	7440-61-1	0.0123	U	0.0146
Vanadium	**7440-62-2**	**1.51**		**0.0423**
Zinc	7440-66-6	25.7	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: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524477
Matrix: Air
Comments: MFK-AM02-122223-HM

Lab ID: 3122828-06
Sample Volume: 2157.187 m³
Filter ID:

Sampled: 12/22/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 21:22

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**480**		**24.2**
Antimony	**7440-36-0**	**0.0718**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.159**		**0.00720**
Barium	**7440-39-3**	**6.64**		**0.715**
Beryllium	**7440-41-7**	**0.0165**		**0.00250**
Cadmium	7440-43-9	0.0110	U	0.0822
Calcium	**7440-70-2**	**390**	LJ, QB-01	**220**
Chromium	7440-47-3	1.06	U	1.53
Cobalt	**7440-48-4**	**0.251**	QB-01	**0.0118**
Copper	**7440-50-8**	**11.5**		**2.26**
Iron	**7439-89-6**	**546**		**18.3**
Lead	**7439-92-1**	**0.282**		**0.208**
Magnesium	**7439-95-4**	**252**		**72.7**
Manganese	**7439-96-5**	**15.7**		**0.898**
Molybdenum	**7439-98-7**	**0.801**	QB-01	**0.161**
Nickel	7440-02-0	0.498	U	0.604
Phosphorus	7723-14-0	195	GC-BS, U	943
Potassium	**7440-09-7**	**131**		**28.7**
Rubidium	**7440-17-7**	**0.239**		**0.0138**
Selenium	**7782-49-2**	**0.168**		**0.00830**
Sodium	**7440-23-5**	**2040**	E, GC-BS	**1510**
Strontium	**7440-24-6**	**3.99**	QB-01	**0.492**
Thallium	**7440-28-0**	**0.00164**		**3.79E-4**
Thorium	**7440-29-01**	**0.0169**		**0.00226**
Uranium	7440-61-1	0.0112	U	0.0128
Vanadium	**7440-62-2**	**1.40**		**0.0371**
Zinc	7440-66-6	20.5	U	73.7

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524489
Matrix: Air
Comments: MFK-AM03-122223-HM

Lab ID: 3122828-07
Sample Volume: 2305.563 m³
Filter ID:

Sampled: 12/22/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 21:36

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**399**		**22.7**
Antimony	**7440-36-0**	**0.122**	SL	**0.0311**
Arsenic	**7440-38-2**	**0.134**		**0.00674**
Barium	**7440-39-3**	**6.98**		**0.669**
Beryllium	**7440-41-7**	**0.0164**		**0.00234**
Cadmium	7440-43-9	0.00927	U	0.0769
Calcium	**7440-70-2**	**395**	LJ, QB-01	**206**
Chromium	7440-47-3	1.01	U	1.43
Cobalt	**7440-48-4**	**0.252**	QB-01	**0.0110**
Copper	**7440-50-8**	**15.3**		**2.12**
Iron	**7439-89-6**	**514**		**17.1**
Lead	**7439-92-1**	**0.276**		**0.195**
Magnesium	**7439-95-4**	**269**		**68.0**
Manganese	**7439-96-5**	**15.4**		**0.840**
Molybdenum	**7439-98-7**	**0.707**	QB-01	**0.150**
Nickel	7440-02-0	0.474	U	0.565
Phosphorus	7723-14-0	181	GC-BS, U	882
Potassium	**7440-09-7**	**121**		**26.8**
Rubidium	**7440-17-7**	**0.205**		**0.0129**
Selenium	**7782-49-2**	**0.166**		**0.00776**
Sodium	**7440-23-5**	**2140**	E, GC-BS	**1410**
Strontium	**7440-24-6**	**4.41**	QB-01	**0.460**
Thallium	**7440-28-0**	**0.00156**		**3.55E-4**
Thorium	**7440-29-01**	**0.0168**		**0.00212**
Uranium	7440-61-1	0.0103	U	0.0120
Vanadium	**7440-62-2**	**1.33**		**0.0347**
Zinc	7440-66-6	18.9	U	68.9

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524485 FB
Matrix: Air
Lab ID: 3122828-08
Sample Volume: 1891.231 m³
Filter ID:
Sampled: 12/22/23 00:00
Received: 12/28/23 13:04
Analysis Date: 01/02/24 21:50

Comments: MFK-FB01-122223-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	9.60	U	27.6
Antimony	7440-36-0	0.0147	SL, U	0.0379
Arsenic	7440-38-2	0.00377	U	0.00822
Barium	7440-39-3	0.719	U	0.816
Beryllium	7440-41-7	5.38E-4	U	0.00286
Cadmium	7440-43-9	0.00264	U	0.0938
Calcium	7440-70-2	139	LJ, QB-01, U	251
Chromium	7440-47-3	0.639	U	1.75
Cobalt	7440-48-4	0.00641	QB-01, U	0.0134
Copper	7440-50-8	0.195	U	2.58
Iron	7439-89-6	9.72	U	20.8
Lead	7439-92-1	0.0278	U	0.237
Magnesium	7439-95-4	23.3	U	82.9
Manganese	7439-96-5	0.149	U	1.02
Molybdenum	7439-98-7	0.0864	QB-01, U	0.183
Nickel	7440-02-0	0.182	U	0.689
Phosphorus	7723-14-0	167	GC-BS, U	1080
Potassium	7440-09-7	17.3	U	32.7
Rubidium	7440-17-7	0.00651	U	0.0157
Selenium	7782-49-2	0.00274	U	0.00946
Sodium	7440-23-5	557	GC-BS, U	1720
Strontium	7440-24-6	0.249	QB-01, U	0.561
Thallium	7440-28-0	1.54E-4	U	4.33E-4
Thorium	7440-29-01	0.00215	U	0.00258
Uranium	7440-61-1	6.87E-4	U	0.0146
Vanadium	7440-62-2	0.0177	U	0.0423
Zinc	7440-66-6	18.7	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: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524482
Matrix: Air
Comments: MFK-AM01-122423-HM

Lab ID: 3122828-09
Sample Volume: 1958.81 m³
Filter ID:

Sampled: 12/24/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 17:50

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**343**	QM-4X	**26.7**
Antimony	**7440-36-0**	**0.117**	SL	**0.0366**
Arsenic	**7440-38-2**	**0.144**		**0.00793**
Barium	**7440-39-3**	**5.54**		**0.787**
Beryllium	**7440-41-7**	**0.0136**		**0.00276**
Cadmium	7440-43-9	0.00716	U	0.0905
Calcium	**7440-70-2**	**516**	A-01, LJ, QB-01, QM-4X	**243**
Chromium	7440-47-3	1.10	U	1.69
Cobalt	**7440-48-4**	**0.268**	QB-01	**0.0130**
Copper	**7440-50-8**	**18.1**	QM-07	**2.49**
Iron	**7439-89-6**	**467**	A-01, QM-4X	**20.1**
Lead	**7439-92-1**	**0.258**		**0.229**
Magnesium	**7439-95-4**	**243**	QM-4X	**80.1**
Manganese	**7439-96-5**	**14.1**		**0.988**
Molybdenum	**7439-98-7**	**0.594**	QB-01	**0.177**
Nickel	7440-02-0	0.605	U	0.665
Phosphorus	7723-14-0	179	A-01, GC-BS, U	1040
Potassium	**7440-09-7**	**111**	QM-07	**31.6**
Rubidium	**7440-17-7**	**0.167**		**0.0152**
Selenium	**7782-49-2**	**0.153**		**0.00914**
Sodium	**7440-23-5**	**1880**	QM-4X, A-01, E, GC-BS	**1660**
Strontium	**7440-24-6**	**3.65**	QB-01	**0.542**
Thallium	**7440-28-0**	**0.00126**		**4.18E-4**
Thorium	**7440-29-01**	**0.0121**	QM-07	**0.00249**
Uranium	7440-61-1	0.00962	U	0.0141
Vanadium	**7440-62-2**	**1.41**		**0.0409**
Zinc	7440-66-6	39.1	U	81.2

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524479
Matrix: Air
Comments: MFK-AM02-122423-HM

Lab ID: 3122828-10
Sample Volume: 2041.741 m³
Filter ID:

Sampled: 12/24/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 22:04

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**529**		**25.6**
Antimony	**7440-36-0**	**0.112**	SL	**0.0351**
Arsenic	**7440-38-2**	**0.209**		**0.00761**
Barium	**7440-39-3**	**7.29**		**0.755**
Beryllium	**7440-41-7**	**0.0177**		**0.00265**
Cadmium	7440-43-9	0.0120	U	0.0869
Calcium	**7440-70-2**	**521**	LJ, QB-01	**233**
Chromium	7440-47-3	1.24	U	1.62
Cobalt	**7440-48-4**	**0.313**	QB-01	**0.0124**
Copper	**7440-50-8**	**9.25**		**2.39**
Iron	**7439-89-6**	**635**		**19.3**
Lead	**7439-92-1**	**0.299**		**0.220**
Magnesium	**7439-95-4**	**260**		**76.8**
Manganese	**7439-96-5**	**18.3**		**0.948**
Molybdenum	**7439-98-7**	**0.609**	QB-01	**0.170**
Nickel	**7440-02-0**	**0.687**		**0.638**
Phosphorus	7723-14-0	203	GC-BS, U	996
Potassium	**7440-09-7**	**132**		**30.3**
Rubidium	**7440-17-7**	**0.245**		**0.0146**
Selenium	**7782-49-2**	**0.176**		**0.00877**
Sodium	**7440-23-5**	**1960**	E, GC-BS	**1590**
Strontium	**7440-24-6**	**4.45**	QB-01	**0.520**
Thallium	**7440-28-0**	**0.00146**		**4.01E-4**
Thorium	**7440-29-01**	**0.0194**		**0.00239**
Uranium	**7440-61-1**	**0.0136**		**0.0135**
Vanadium	**7440-62-2**	**1.86**		**0.0392**
Zinc	7440-66-6	30.7	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: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524469
Matrix: Air
Comments: MFK-AM03-122423-HM

Lab ID: 3122828-11
Sample Volume: 2131.191 m³
Filter ID:

Sampled: 12/24/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 23:06

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**319**		**24.5**
Antimony	**7440-36-0**	**0.129**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.135**		**0.00729**
Barium	**7440-39-3**	**5.77**		**0.724**
Beryllium	**7440-41-7**	**0.0136**		**0.00253**
Cadmium	7440-43-9	0.00775	U	0.0832
Calcium	**7440-70-2**	**466**	LJ, QB-01	**223**
Chromium	7440-47-3	1.05	U	1.55
Cobalt	**7440-48-4**	**0.241**	QB-01	**0.0119**
Copper	**7440-50-8**	**12.4**		**2.29**
Iron	**7439-89-6**	**449**		**18.5**
Lead	**7439-92-1**	**0.296**		**0.211**
Magnesium	**7439-95-4**	**276**		**73.6**
Manganese	**7439-96-5**	**13.7**		**0.908**
Molybdenum	**7439-98-7**	**0.652**	QB-01	**0.163**
Nickel	**7440-02-0**	**0.618**		**0.612**
Phosphorus	7723-14-0	174	GC-BS, U	954
Potassium	**7440-09-7**	**109**		**29.0**
Rubidium	**7440-17-7**	**0.173**		**0.0140**
Selenium	**7782-49-2**	**0.163**		**0.00840**
Sodium	**7440-23-5**	**2040**	E, GC-BS	**1530**
Strontium	**7440-24-6**	**3.84**	QB-01	**0.498**
Thallium	**7440-28-0**	**0.00128**		**3.84E-4**
Thorium	**7440-29-01**	**0.0139**		**0.00229**
Uranium	7440-61-1	0.0102	U	0.0130
Vanadium	**7440-62-2**	**1.46**		**0.0376**
Zinc	7440-66-6	19.7	U	74.6

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524481 FB
Matrix: Air
Lab ID: 3122828-12
Sample Volume: 1958.81 m³
Filter ID:
Sampled: 12/24/23 00:00
Received: 12/28/23 13:04
Analysis Date: 01/02/24 23:21

Comments: MFK-FB01-122423-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	9.47	U	26.7
Antimony	7440-36-0	0.0153	SL, U	0.0366
Arsenic	7440-38-2	0.00299	U	0.00793
Barium	**7440-39-3**	**0.890**	FB-01	**0.787**
Beryllium	7440-41-7	5.95E-4	U	0.00276
Cadmium	7440-43-9	0.00128	U	0.0905
Calcium	7440-70-2	126	LJ, QB-01, U	243
Chromium	7440-47-3	0.633	U	1.69
Cobalt	7440-48-4	0.00573	QB-01, U	0.0130
Copper	7440-50-8	0.285	U	2.49
Iron	7439-89-6	9.22	U	20.1
Lead	7439-92-1	0.0333	U	0.229
Magnesium	7439-95-4	22.6	U	80.1
Manganese	7439-96-5	0.147	U	0.988
Molybdenum	7439-98-7	0.0840	QB-01, U	0.177
Nickel	7440-02-0	0.190	U	0.665
Phosphorus	7723-14-0	158	GC-BS, U	1040
Potassium	7440-09-7	13.5	U	31.6
Rubidium	7440-17-7	0.00684	U	0.0152
Selenium	7782-49-2	9.35E-4	U	0.00914
Sodium	7440-23-5	519	GC-BS, U	1660
Strontium	7440-24-6	0.246	QB-01, U	0.542
Thallium	7440-28-0	1.77E-4	U	4.18E-4
Thorium	7440-29-01	0.00208	U	0.00249
Uranium	7440-61-1	6.67E-4	U	0.0141
Vanadium	7440-62-2	0.0144	U	0.0409
Zinc	7440-66-6	19.8	U	81.2

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524478
Matrix: Air
Comments: MFK-AM01-122323-HM

Lab ID: 3122828-13
Sample Volume: 2054.738 m³
Filter ID:

Sampled: 12/23/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 23:35

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**380**		**25.4**
Antimony	**7440-36-0**	**0.0834**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.149**		**0.00756**
Barium	**7440-39-3**	**4.99**		**0.751**
Beryllium	**7440-41-7**	**0.0128**		**0.00263**
Cadmium	7440-43-9	0.00761	U	0.0863
Calcium	**7440-70-2**	**397**	LJ, QB-01	**231**
Chromium	7440-47-3	1.13	U	1.61
Cobalt	**7440-48-4**	**0.254**	QB-01	**0.0124**
Copper	**7440-50-8**	**19.6**		**2.38**
Iron	**7439-89-6**	**481**		**19.2**
Lead	**7439-92-1**	**0.301**		**0.219**
Magnesium	**7439-95-4**	**197**		**76.3**
Manganese	**7439-96-5**	**13.6**		**0.942**
Molybdenum	**7439-98-7**	**0.602**	QB-01	**0.169**
Nickel	7440-02-0	0.571	U	0.634
Phosphorus	7723-14-0	200	GC-BS, U	990
Potassium	**7440-09-7**	**95.7**		**30.1**
Rubidium	**7440-17-7**	**0.171**		**0.0145**
Selenium	**7782-49-2**	**0.135**		**0.00871**
Sodium	**7440-23-5**	**1590**	E, GC-BS	**1580**
Strontium	**7440-24-6**	**3.27**	QB-01	**0.516**
Thallium	**7440-28-0**	**0.00102**		**3.98E-4**
Thorium	**7440-29-01**	**0.0135**		**0.00238**
Uranium	7440-61-1	0.00921	U	0.0135
Vanadium	**7440-62-2**	**1.38**		**0.0390**
Zinc	7440-66-6	19.0	U	77.4

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: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524484
Matrix: Air
Comments: MFK-AM02-122323-HM

Lab ID: 3122828-14
Sample Volume: 2126.294 m³
Filter ID:

Sampled: 12/23/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/02/24 23:49

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**381**		**24.6**
Antimony	**7440-36-0**	**0.0970**	SL	**0.0337**
Arsenic	**7440-38-2**	**0.225**		**0.00731**
Barium	**7440-39-3**	**5.19**		**0.725**
Beryllium	**7440-41-7**	**0.0138**		**0.00254**
Cadmium	7440-43-9	0.00968	U	0.0834
Calcium	**7440-70-2**	**423**	LJ, QB-01	**223**
Chromium	7440-47-3	1.16	U	1.55
Cobalt	**7440-48-4**	**0.261**	QB-01	**0.0119**
Copper	**7440-50-8**	**12.0**		**2.30**
Iron	**7439-89-6**	**495**		**18.5**
Lead	7439-92-1	0.207	U	0.211
Magnesium	**7439-95-4**	**211**		**73.8**
Manganese	**7439-96-5**	**14.2**		**0.911**
Molybdenum	**7439-98-7**	**0.806**	QB-01	**0.163**
Nickel	7440-02-0	0.582	U	0.613
Phosphorus	7723-14-0	180	GC-BS, U	956
Potassium	**7440-09-7**	**102**		**29.1**
Rubidium	**7440-17-7**	**0.168**		**0.0140**
Selenium	**7782-49-2**	**0.135**		**0.00842**
Sodium	**7440-23-5**	**1640**	E, GC-BS	**1530**
Strontium	**7440-24-6**	**3.72**	QB-01	**0.499**
Thallium	**7440-28-0**	**0.00102**		**3.85E-4**
Thorium	**7440-29-01**	**0.0163**		**0.00230**
Uranium	7440-61-1	0.00963	U	0.0130
Vanadium	**7440-62-2**	**1.40**		**0.0376**
Zinc	7440-66-6	21.5	U	74.8

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: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524483
Matrix: Air
Comments: MFK-AM03-122323-HM

Lab ID: 3122828-15
Sample Volume: 2333.452 m³
Filter ID:

Sampled: 12/23/23 23:59
Received: 12/28/23 13:04
Analysis Date: 01/03/24 00:03

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**326**		**22.4**
Antimony	**7440-36-0**	**0.112**	SL	**0.0307**
Arsenic	**7440-38-2**	**0.119**		**0.00666**
Barium	**7440-39-3**	**5.24**		**0.661**
Beryllium	**7440-41-7**	**0.0143**		**0.00231**
Cadmium	7440-43-9	0.00656	U	0.0760
Calcium	**7440-70-2**	**399**	LJ, QB-01	**204**
Chromium	7440-47-3	1.01	U	1.42
Cobalt	**7440-48-4**	**0.250**	QB-01	**0.0109**
Copper	**7440-50-8**	**15.7**		**2.09**
Iron	**7439-89-6**	**461**		**16.9**
Lead	**7439-92-1**	**0.215**		**0.192**
Magnesium	**7439-95-4**	**222**		**67.2**
Manganese	**7439-96-5**	**13.8**		**0.830**
Molybdenum	**7439-98-7**	**0.724**	QB-01	**0.149**
Nickel	7440-02-0	0.517	U	0.558
Phosphorus	7723-14-0	170	GC-BS, U	872
Potassium	**7440-09-7**	**100**		**26.5**
Rubidium	**7440-17-7**	**0.159**		**0.0128**
Selenium	**7782-49-2**	**0.126**		**0.00767**
Sodium	**7440-23-5**	**1720**	E, GC-BS	**1390**
Strontium	**7440-24-6**	**3.42**	QB-01	**0.455**
Thallium	**7440-28-0**	**9.26E-4**		**3.51E-4**
Thorium	**7440-29-01**	**0.0155**		**0.00209**
Uranium	7440-61-1	0.00884	U	0.0119
Vanadium	**7440-62-2**	**1.27**		**0.0343**
Zinc	7440-66-6	20.3	U	68.1

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524480 FB
Matrix: Air
Lab ID: 3122828-16
Sample Volume: 2054.738 m³
Filter ID:
Sampled: 12/23/23 00:00
Received: 12/28/23 13:04
Analysis Date: 01/03/24 00:17

Comments: MFK-FB01-122323-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	8.36	U	25.4
Antimony	7440-36-0	0.0146	SL, U	0.0349
Arsenic	7440-38-2	0.00359	U	0.00756
Barium	**7440-39-3**	**0.919**	FB-01	**0.751**
Beryllium	7440-41-7	5.38E-4	U	0.00263
Cadmium	7440-43-9	0.00103	U	0.0863
Calcium	7440-70-2	105	LJ, QB-01, U	231
Chromium	7440-47-3	0.623	U	1.61
Cobalt	7440-48-4	0.00816	QB-01, U	0.0124
Copper	7440-50-8	0.244	U	2.38
Iron	7439-89-6	8.35	U	19.2
Lead	7439-92-1	0.0342	U	0.219
Magnesium	7439-95-4	21.7	U	76.3
Manganese	7439-96-5	0.128	U	0.942
Molybdenum	**7439-98-7**	**0.216**	FB-01, QB-01	**0.169**
Nickel	7440-02-0	0.204	U	0.634
Phosphorus	7723-14-0	157	GC-BS, U	990
Potassium	7440-09-7	29.5	U	30.1
Rubidium	7440-17-7	0.00696	U	0.0145
Selenium	7782-49-2	8.42E-4	U	0.00871
Sodium	7440-23-5	536	GC-BS, U	1580
Strontium	7440-24-6	0.228	QB-01, U	0.516
Thallium	7440-28-0	9.95E-5	U	3.98E-4
Thorium	7440-29-01	0.00205	U	0.00238
Uranium	7440-61-1	6.65E-4	U	0.0135
Vanadium	7440-62-2	0.0137	U	0.0390
Zinc	7440-66-6	13.5	U	77.4

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: 01/05/24 14:13
SUBMITTED: 12/28/23
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 2401002 - B4A0205										
Calibration Blank (2401002-CCB1)				Prepared & Analyzed: 01/02/24						
Aluminum	29.2		ng/l							
Antimony	0.334		ng/l							
Arsenic	4.98		ng/l							
Barium	-0.516		ng/l							U
Beryllium	0.0560		ng/l							
Cadmium	0.173		ng/l							
Calcium	101		ng/l							
Chromium	5.99		ng/l							
Cobalt	3.62E-4		ng/l							
Copper	12.9		ng/l							
Iron	-181		ng/l							U
Lead	2.85		ng/l							
Magnesium	-27.7		ng/l							U
Manganese	2.73		ng/l							
Molybdenum	13.4		ng/l							
Nickel	0.270		ng/l							
Phosphorus	-28.0		ng/l							U
Potassium	413		ng/l							
Rubidium	-0.352		ng/l							U
Selenium	-4.83		ng/l							U
Sodium	-431		ng/l							U
Strontium	-0.257		ng/l							U
Thallium	0.698		ng/l							
Thorium	0.505		ng/l							
Uranium	0.00426		ng/l							
Vanadium	24.2		ng/l							
Zinc	-48.1		ng/l							U
Calibration Blank (2401002-CCB2)				Prepared & Analyzed: 01/02/24						
Aluminum	60.1		ng/l							
Antimony	1.03		ng/l							
Arsenic	-1.10		ng/l							U
Barium	3.25		ng/l							
Beryllium	0.412		ng/l							
Cadmium	0.576		ng/l							
Calcium	160		ng/l							
Chromium	8.48		ng/l							
Cobalt	0.947		ng/l							
Copper	53.8		ng/l							

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
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FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
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 2401002 - B4A0205										
Calibration Blank (2401002-CCB2) Contin				Prepared & Analyzed: 01/02/24						
Iron	9.74		ng/l							
Lead	10.1		ng/l							
Magnesium	-32.5		ng/l							U
Manganese	10.7		ng/l							
Molybdenum	10.5		ng/l							
Nickel	2.89		ng/l							
Phosphorus	22.9		ng/l							
Potassium	-284		ng/l							U
Rubidium	0.182		ng/l							
Selenium	-0.317		ng/l							U
Sodium	-270		ng/l							U
Strontium	0.380		ng/l							
Thallium	1.19		ng/l							
Thorium	0.765		ng/l							
Uranium	0.0172		ng/l							
Vanadium	-4.91		ng/l							U
Zinc	-49.3		ng/l							U
Calibration Blank (2401002-CCB3)				Prepared & Analyzed: 01/02/24						
Aluminum	29.1		ng/l							
Antimony	0.949		ng/l							
Arsenic	1.33		ng/l							
Barium	2.83		ng/l							
Beryllium	0.206		ng/l							
Cadmium	0.661		ng/l							
Calcium	-378		ng/l							U
Chromium	6.51		ng/l							
Cobalt	1.11		ng/l							
Copper	55.8		ng/l							
Iron	77.2		ng/l							
Lead	9.47		ng/l							
Magnesium	9.66		ng/l							
Manganese	11.7		ng/l							
Molybdenum	9.87		ng/l							
Nickel	2.65		ng/l							
Phosphorus	-652		ng/l							U
Potassium	392		ng/l							
Rubidium	0.482		ng/l							
Selenium	-1.76		ng/l							U

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
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 2401002 - B4A0205										
Calibration Blank (2401002-CCB3) Contin				Prepared & Analyzed: 01/02/24						
Sodium	-5.82		ng/l							U
Strontium	0.427		ng/l							
Thallium	1.06		ng/l							
Thorium	0.812		ng/l							
Uranium	0.00232		ng/l							
Vanadium	-4.80		ng/l							U
Zinc	-50.0		ng/l							U
Calibration Blank (2401002-CCB4)				Prepared: 01/02/24 Analyzed: 01/03/24						
Aluminum	17.1		ng/l							
Antimony	0.744		ng/l							
Arsenic	6.62		ng/l							
Barium	14.6		ng/l							
Beryllium	0.464		ng/l							
Cadmium	0.660		ng/l							
Calcium	158		ng/l							
Chromium	7.05		ng/l							
Cobalt	1.07		ng/l							
Copper	58.2		ng/l							
Iron	-31.3		ng/l							U
Lead	9.09		ng/l							
Magnesium	2.39		ng/l							
Manganese	10.5		ng/l							
Molybdenum	11.5		ng/l							
Nickel	2.12		ng/l							
Phosphorus	-837		ng/l							U
Potassium	149		ng/l							
Rubidium	0.216		ng/l							
Selenium	-10.1		ng/l							U
Sodium	-217		ng/l							U
Strontium	1.75		ng/l							
Thallium	1.07		ng/l							
Thorium	0.802		ng/l							
Uranium	0.0146		ng/l							
Vanadium	-15.5		ng/l							U
Zinc	-44.8		ng/l							U
Calibration Check (2401002-CCV1)				Prepared & Analyzed: 01/02/24						
Aluminum	1.53E6		ng/l	1.5000E6		102	90-110			
Antimony	20100		ng/l	20000		100	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: 01/05/24 14:13
SUBMITTED: 12/28/23
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 2401002 - B4A0205										
Calibration Check (2401002-CCV1) Contin				Prepared & Analyzed: 01/02/24						
Arsenic	20100		ng/l	20000		101	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	5190		ng/l	5000.0		104	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Calcium	2.52E7		ng/l	2.5000E7		101	90-110			
Chromium	239000		ng/l	240000		99.5	90-110			
Cobalt	51300		ng/l	50000		103	90-110			
Copper	2.07E6		ng/l	2.0000E6		103	90-110			
Iron	2.54E6		ng/l	2.5000E6		102	90-110			
Lead	200000		ng/l	200000		100	90-110			
Magnesium	1.03E6		ng/l	1.0000E6		103	90-110			
Manganese	507000		ng/l	500000		101	90-110			
Molybdenum	50100		ng/l	50000		100	90-110			
Nickel	123000		ng/l	120000		103	90-110			
Phosphorus	202000		ng/l	200000		101	90-110			
Potassium	2.51E6		ng/l	2.5000E6		100	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	20400		ng/l	20000		102	90-110			
Sodium	2.61E6		ng/l	2.5000E6		105	90-110			
Strontium	50400		ng/l	50000		101	90-110			
Thallium	489		ng/l	500.00		97.7	90-110			
Thorium	493		ng/l	500.00		98.6	90-110			
Uranium	495		ng/l	500.00		99.0	90-110			
Vanadium	20000		ng/l	20000		99.9	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Calibration Check (2401002-CCV2)				Prepared & Analyzed: 01/02/24						
Aluminum	1.49E6		ng/l	1.5000E6		99.0	90-110			
Antimony	20200		ng/l	20000		101	90-110			
Arsenic	20100		ng/l	20000		101	90-110			
Barium	203000		ng/l	200000		102	90-110			
Beryllium	4840		ng/l	5000.0		96.8	90-110			
Cadmium	20300		ng/l	20000		102	90-110			
Calcium	2.49E7		ng/l	2.5000E7		99.5	90-110			
Chromium	254000		ng/l	240000		106	90-110			
Cobalt	50300		ng/l	50000		101	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Iron	2.49E6		ng/l	2.5000E6		99.7	90-110			
Lead	200000		ng/l	200000		100	90-110			

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/05/24 14:13
SUBMITTED: 12/28/23
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 2401002 - B4A0205										
Calibration Check (2401002-CCV2) Contin				Prepared & Analyzed: 01/02/24						
Magnesium	998000		ng/l	1.0000E6		99.8	90-110			
Manganese	496000		ng/l	500000		99.3	90-110			
Molybdenum	50600		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Phosphorus	196000		ng/l	200000		98.0	90-110			
Potassium	2.45E6		ng/l	2.5000E6		97.9	90-110			
Rubidium	10000		ng/l	10000		100	90-110			
Selenium	20200		ng/l	20000		101	90-110			
Sodium	2.57E6		ng/l	2.5000E6		103	90-110			
Strontium	50400		ng/l	50000		101	90-110			
Thallium	490		ng/l	500.00		98.0	90-110			
Thorium	497		ng/l	500.00		99.4	90-110			
Uranium	497		ng/l	500.00		99.3	90-110			
Vanadium	20300		ng/l	20000		101	90-110			
Zinc	533000		ng/l	500000		107	90-110			
Calibration Check (2401002-CCV3)				Prepared & Analyzed: 01/02/24						
Aluminum	1.48E6		ng/l	1.5000E6		98.4	90-110			
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		99.8	90-110			
Barium	202000		ng/l	200000		101	90-110			
Beryllium	5000		ng/l	5000.0		100	90-110			
Cadmium	20200		ng/l	20000		101	90-110			
Calcium	2.48E7		ng/l	2.5000E7		99.3	90-110			
Chromium	247000		ng/l	240000		103	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Iron	2.50E6		ng/l	2.5000E6		99.9	90-110			
Lead	201000		ng/l	200000		101	90-110			
Magnesium	998000		ng/l	1.0000E6		99.8	90-110			
Manganese	497000		ng/l	500000		99.4	90-110			
Molybdenum	50500		ng/l	50000		101	90-110			
Nickel	122000		ng/l	120000		101	90-110			
Phosphorus	192000		ng/l	200000		96.1	90-110			
Potassium	2.44E6		ng/l	2.5000E6		97.5	90-110			
Rubidium	10000		ng/l	10000		100	90-110			
Selenium	19900		ng/l	20000		99.4	90-110			
Sodium	2.56E6		ng/l	2.5000E6		103	90-110			
Strontium	50000		ng/l	50000		100	90-110			

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch 2401002 - B4A0205										
Calibration Check (2401002-CCV3) Contin				Prepared & Analyzed: 01/02/24						
Thallium	488		ng/l	500.00		97.7	90-110			
Thorium	494		ng/l	500.00		98.7	90-110			
Uranium	495		ng/l	500.00		99.0	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	530000		ng/l	500000		106	90-110			
Calibration Check (2401002-CCV4)				Prepared: 01/02/24 Analyzed: 01/03/24						
Aluminum	1.52E6		ng/l	1.5000E6		101	90-110			
Antimony	20400		ng/l	20000		102	90-110			
Arsenic	20300		ng/l	20000		102	90-110			
Barium	204000		ng/l	200000		102	90-110			
Beryllium	4780		ng/l	5000.0		95.6	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Calcium	2.53E7		ng/l	2.5000E7		101	90-110			
Chromium	260000		ng/l	240000		108	90-110			
Cobalt	51400		ng/l	50000		103	90-110			
Copper	2.10E6		ng/l	2.0000E6		105	90-110			
Iron	2.55E6		ng/l	2.5000E6		102	90-110			
Lead	203000		ng/l	200000		101	90-110			
Magnesium	1.03E6		ng/l	1.0000E6		103	90-110			
Manganese	509000		ng/l	500000		102	90-110			
Molybdenum	51300		ng/l	50000		103	90-110			
Nickel	124000		ng/l	120000		104	90-110			
Phosphorus	201000		ng/l	200000		101	90-110			
Potassium	2.47E6		ng/l	2.5000E6		98.9	90-110			
Rubidium	10100		ng/l	10000		101	90-110			
Selenium	20100		ng/l	20000		101	90-110			
Sodium	2.64E6		ng/l	2.5000E6		105	90-110			
Strontium	50900		ng/l	50000		102	90-110			
Thallium	487		ng/l	500.00		97.4	90-110			
Thorium	498		ng/l	500.00		99.6	90-110			
Uranium	502		ng/l	500.00		100	90-110			
Vanadium	20800		ng/l	20000		104	90-110			
Zinc	541000		ng/l	500000		108	90-110			
High Cal Check (2401002-HCV1)				Prepared & Analyzed: 01/02/24						
Aluminum	2.95E6		ng/l	3.0000E6		98.3	95-105			
Antimony	40000		ng/l	40000		99.9	95-105			
Arsenic	39900		ng/l	40000		99.8	95-105			
Barium	403000		ng/l	400000		101	95-105			

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2401002 - B4A0205

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
High Cal Check (2401002-HCV1) Continue				Prepared & Analyzed: 01/02/24						
Beryllium	10400		ng/l	10000		104	95-105			
Cadmium	39600		ng/l	40000		99.1	95-105			
Calcium	4.97E7		ng/l	5.0000E7		99.4	95-105			
Chromium	477000		ng/l	480000		99.3	95-105			
Cobalt	99000		ng/l	100000		99.0	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.8	95-105			
Iron	4.93E6		ng/l	5.0000E6		98.5	95-105			
Lead	400000		ng/l	400000		100	95-105			
Magnesium	1.96E6		ng/l	2.0000E6		98.2	95-105			
Manganese	986000		ng/l	1.0000E6		98.6	95-105			
Molybdenum	99600		ng/l	100000		99.6	95-105			
Nickel	236000		ng/l	240000		98.4	95-105			
Phosphorus	393000		ng/l	400000		98.3	95-105			
Potassium	4.99E6		ng/l	5.0000E6		99.7	95-105			
Rubidium	19800		ng/l	20000		99.2	95-105			
Selenium	39600		ng/l	40000		99.0	95-105			
Sodium	4.90E6		ng/l	5.0000E6		98.0	95-105			
Strontium	99300		ng/l	100000		99.3	95-105			
Thallium	987		ng/l	1000.0		98.7	95-105			
Thorium	996		ng/l	1000.0		99.6	95-105			
Uranium	1000		ng/l	1000.0		100	95-105			
Vanadium	40000		ng/l	40000		100	95-105			
Zinc	1.04E6		ng/l	1.0000E6		104	95-105			
Initial Cal Blank (2401002-ICB1)				Prepared & Analyzed: 01/02/24						
Aluminum	46.2		ng/l							
Antimony	1.67		ng/l							
Arsenic	4.49		ng/l							
Barium	2.17		ng/l							
Beryllium	0.253		ng/l							
Cadmium	0.503		ng/l							
Calcium	524		ng/l							
Chromium	16.1		ng/l							
Cobalt	1.01		ng/l							
Copper	55.6		ng/l							
Iron	31.2		ng/l							
Lead	12.7		ng/l							
Magnesium	-4.87		ng/l							U
Manganese	15.5		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 2401002 - B4A0205										
Initial Cal Blank (2401002-ICB1) Continu				Prepared & Analyzed: 01/02/24						
Molybdenum	17.2		ng/l							
Nickel	2.94		ng/l							
Phosphorus	-698		ng/l							U
Potassium	461		ng/l							
Rubidium	-0.262		ng/l							U
Selenium	-9.56		ng/l							U
Sodium	-311		ng/l							U
Strontium	-0.423		ng/l							U
Thallium	0.519		ng/l							
Thorium	0.436		ng/l							
Uranium	0.0182		ng/l							
Vanadium	16.8		ng/l							
Zinc	-29.2		ng/l							U
Initial Cal Check (2401002-ICV1)				Prepared & Analyzed: 01/02/24						
Aluminum	1.47E6		ng/l	1.5000E6		97.8	90-110			
Antimony	19900		ng/l	20000		99.3	90-110			
Arsenic	19900		ng/l	20000		99.5	90-110			
Barium	201000		ng/l	200000		101	90-110			
Beryllium	5460		ng/l	5000.0		109	90-110			
Cadmium	20600		ng/l	20000		103	90-110			
Calcium	2.46E7		ng/l	2.5000E7		98.5	90-110			
Chromium	237000		ng/l	240000		98.7	90-110			
Cobalt	50100		ng/l	50000		100	90-110			
Copper	2.02E6		ng/l	2.0000E6		101	90-110			
Iron	2.51E6		ng/l	2.5000E6		100	90-110			
Lead	199000		ng/l	200000		99.3	90-110			
Magnesium	991000		ng/l	1.0000E6		99.1	90-110			
Manganese	497000		ng/l	500000		99.5	90-110			
Molybdenum	49600		ng/l	50000		99.3	90-110			
Nickel	119000		ng/l	120000		99.4	90-110			
Phosphorus	199000		ng/l	200000		99.5	90-110			
Potassium	2.52E6		ng/l	2.5000E6		101	90-110			
Rubidium	9760		ng/l	10000		97.6	90-110			
Selenium	20700		ng/l	20000		104	90-110			
Sodium	2.54E6		ng/l	2.5000E6		102	90-110			
Strontium	50400		ng/l	50000		101	90-110			
Thallium	489		ng/l	500.00		97.9	90-110			
Thorium	484		ng/l	500.00		96.7	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 2401002 - B4A0205										
Initial Cal Check (2401002-ICV1) Continu				Prepared & Analyzed: 01/02/24						
Uranium	498		ng/l	500.00		99.6	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	532000		ng/l	500000		106	90-110			
Interference Check A (2401002-IFA1)				Prepared & Analyzed: 01/02/24						
Aluminum	1.45E7		ng/l	1.5000E7		96.6	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	9.49E7		ng/l	1.0040E8		94.5	80-120			
Chromium	0.00		ng/l				80-120			U
Cobalt	0.00		ng/l				80-120			U
Copper	0.00		ng/l				80-120			U
Iron	1.44E7		ng/l	1.5000E7		95.9	80-120			
Lead	0.00		ng/l				80-120			U
Magnesium	1.53E7		ng/l	1.5000E7		102	80-120			
Manganese	0.00		ng/l				80-120			U
Molybdenum	297000		ng/l	300000		98.9	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.60E7		ng/l	1.5000E7		106	80-120			
Potassium	1.44E7		ng/l	1.5000E7		95.7	80-120			
Rubidium	0.00		ng/l				80-120			U
Selenium	0.00		ng/l				80-120			U
Sodium	1.55E7		ng/l	1.5000E7		103	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 (2401002-IFB1)				Prepared & Analyzed: 01/02/24						
Aluminum	1.65E7		ng/l	1.6500E7		100	80-120			
Antimony	20700		ng/l	20000		103	80-120			
Arsenic	20600		ng/l	20000		103	80-120			
Barium	209000		ng/l	200000		104	80-120			
Beryllium	4590		ng/l	5000.0		91.8	80-120			
Cadmium	20100		ng/l	20000		100	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 2401002 - B4A0205

Interference Check B (2401002-IFB1) Co Prepared & Analyzed: 01/02/24

Calcium	1.19E8		ng/l	1.2540E8	95.2	80-120
Chromium	237000		ng/l	240000	98.8	80-120
Cobalt	50600		ng/l	50000	101	80-120
Copper	1.94E6		ng/l	2.0000E6	96.9	80-120
Iron	1.72E7		ng/l	1.7500E7	98.0	80-120
Lead	209000		ng/l	200000	105	80-120
Magnesium	1.67E7		ng/l	1.6000E7	104	80-120
Manganese	527000		ng/l	500000	105	80-120
Molybdenum	347000		ng/l	350000	99.0	80-120
Nickel	118000		ng/l	120000	98.6	80-120
Phosphorus	1.67E7		ng/l	1.5200E7	110	80-120
Potassium	1.74E7		ng/l	1.7500E7	99.4	80-120
Rubidium	10400		ng/l	10000	104	80-120
Selenium	19600		ng/l	20000	97.8	80-120
Sodium	1.90E7		ng/l	1.7500E7	108	80-120
Strontium	51900		ng/l	50000	104	80-120
Thallium	523		ng/l	500.00	105	80-120
Thorium	551		ng/l	500.00	110	80-120
Uranium	552		ng/l	500.00	110	80-120
Vanadium	19600		ng/l	20000	98.2	80-120
Zinc	494000		ng/l	500000	98.8	80-120

Batch B4A0205 - ICP-MS Extraction

Blank (B4A0205-BLK1) Prepared & Analyzed: 01/02/24

Aluminum	ND	32.1	ng/m³ Air	U
Antimony	ND	0.0441	ng/m³ Air	SL, U
Arsenic	ND	0.00955	ng/m³ Air	U
Barium	ND	0.948	ng/m³ Air	U
Beryllium	ND	0.00332	ng/m³ Air	U
Cadmium	ND	0.109	ng/m³ Air	U
Calcium	ND	292	ng/m³ Air	LJ, QB-01, U
Chromium	ND	2.03	ng/m³ Air	U
Cobalt	ND	0.0156	ng/m³ Air	QB-01, U
Copper	ND	3.00	ng/m³ Air	U
Iron	ND	24.2	ng/m³ Air	U
Lead	ND	0.276	ng/m³ Air	U
Magnesium	ND	96.4	ng/m³ Air	U
Manganese	ND	1.19	ng/m³ Air	U
Molybdenum	ND	0.213	ng/m³ Air	QB-01, U

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Inorganics by Compendium Method IO-3.5 - Quality Control										
Batch B4A0205 - ICP-MS Extraction										
Blank (B4A0205-BLK1) Continued				Prepared & Analyzed: 01/02/24						
Nickel	ND	0.801	ng/m³ Air							U
Phosphorus	ND	1250	ng/m³ Air							GC-BS, U
Potassium	ND	38.0	ng/m³ Air							U
Rubidium	ND	0.0183	ng/m³ Air							U
Selenium	ND	0.0110	ng/m³ Air							U
Sodium	ND	2000	ng/m³ Air							GC-BS, U
Strontium	ND	0.652	ng/m³ Air							QB-01, U
Thallium	ND	5.03E-4	ng/m³ Air							U
Thorium	ND	0.00300	ng/m³ Air							U
Uranium	ND	0.0170	ng/m³ Air							U
Vanadium	ND	0.0492	ng/m³ Air							U
Zinc	ND	97.7	ng/m³ Air							U
LCS (B4A0205-BS1)				Prepared & Analyzed: 01/02/24						
Aluminum	93.4	32.1	ng/m³ Air	82.975		113	80-120			
Antimony	0.515	0.0441	ng/m³ Air	1.3829		37.3	80-120			SL
Arsenic	2.72	0.00955	ng/m³ Air	2.7658		98.5	80-120			
Barium	28.4	0.948	ng/m³ Air	27.658		103	80-120			
Beryllium	1.29	0.00332	ng/m³ Air	1.3829		93.2	80-120			
Cadmium	1.38	0.109	ng/m³ Air	1.3829		100	80-120			
Calcium	642	292	ng/m³ Air	69.146		929	80-120			LJ, QB-01
Chromium	16.5	2.03	ng/m³ Air	13.829		119	80-120			
Cobalt	1.38	0.0156	ng/m³ Air	1.3829		99.7	80-120			QB-01
Copper	32.0	3.00	ng/m³ Air	27.658		116	80-120			
Iron	42.6	24.2	ng/m³ Air	27.658		154	80-120			
Lead	13.7	0.276	ng/m³ Air	13.829		99.3	80-120			
Magnesium	ND	96.4	ng/m³ Air	27.658			80-120			U
Manganese	8.94	1.19	ng/m³ Air	8.2975		108	80-120			
Molybdenum	1.65	0.213	ng/m³ Air	1.3829		120	80-120			QB-01
Nickel	3.11	0.801	ng/m³ Air	2.7658		113	80-120			
Phosphorus	ND	1250	ng/m³ Air	13.829			80-120			GC-BS, U
Potassium	68.3	38.0	ng/m³ Air	55.317		124	80-120			
Rubidium	1.35	0.0183	ng/m³ Air	1.3829		97.3	80-120			
Selenium	2.76	0.0110	ng/m³ Air	2.7658		99.7	80-120			
Sodium	ND	2000	ng/m³ Air	55.317			80-120			GC-BS, U
Strontium	2.28	0.652	ng/m³ Air	1.3829		165	80-120			QB-01
Thallium	0.135	5.03E-4	ng/m³ Air	0.13829		97.3	80-120			
Thorium	0.132	0.00300	ng/m³ Air	0.13829		95.6	80-120			
Uranium	0.133	0.0170	ng/m³ Air	0.13829		96.0	80-120			

Tetra Tech, Inc.
1777 Sentry Pkwy, Bldg 12
Blue Bell, PA 19422
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REPORTED: 01/05/24 14:13
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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 B4A0205 - ICP-MS Extraction										
LCS (B4A0205-BS1) Continued				Prepared & Analyzed: 01/02/24						
Vanadium	2.81	0.0492	ng/m³ Air	2.7658		102	80-120			
Zinc	126	97.7	ng/m³ Air	82.975		152	80-120			
Duplicate (B4A0205-DUP1)		**Source: 3122828-09**		Prepared & Analyzed: 01/02/24						
Aluminum	357	26.7	ng/m³ Air		343			4.07	10	
Antimony	0.119	0.0366	ng/m³ Air		0.117			1.44	10	SL
Arsenic	0.159	0.00793	ng/m³ Air		0.144			9.53	10	
Barium	5.62	0.787	ng/m³ Air		5.54			1.34	10	
Beryllium	0.0144	0.00276	ng/m³ Air		0.0136			5.82	10	
Cadmium	ND	0.0905	ng/m³ Air		ND				10	U
Calcium	525	243	ng/m³ Air		516			1.74	10	LJ, QB-01
Chromium	ND	1.69	ng/m³ Air		ND				10	U
Cobalt	0.274	0.0130	ng/m³ Air		0.268			2.27	10	QB-01
Copper	20.2	2.49	ng/m³ Air		18.1			11.2	10	
Iron	492	20.1	ng/m³ Air		467			5.19	10	
Lead	0.285	0.229	ng/m³ Air		0.258			9.69	10	
Magnesium	250	80.1	ng/m³ Air		243			2.89	10	
Manganese	14.4	0.988	ng/m³ Air		14.1			2.32	10	
Molybdenum	0.612	0.177	ng/m³ Air		0.594			2.96	10	QB-01
Nickel	ND	0.665	ng/m³ Air		ND				10	U
Phosphorus	ND	1040	ng/m³ Air		ND				10	GC-BS, U
Potassium	106	31.6	ng/m³ Air		111			4.71	10	
Rubidium	0.172	0.0152	ng/m³ Air		0.167			2.88	10	
Selenium	0.164	0.00914	ng/m³ Air		0.153			6.93	10	
Sodium	1920	1660	ng/m³ Air		1880			2.20	10	E, GC-BS
Strontium	3.77	0.542	ng/m³ Air		3.65			3.17	10	QB-01
Thallium	0.00129	4.18E-4	ng/m³ Air		0.00126			2.31	10	
Thorium	0.0139	0.00249	ng/m³ Air		0.0121			13.3	10	
Uranium	ND	0.0141	ng/m³ Air		ND				10	U
Vanadium	1.47	0.0409	ng/m³ Air		1.41			4.18	10	
Zinc	ND	81.2	ng/m³ Air		ND				10	U
Duplicate (B4A0205-DUP2)		**Source: 3122828-10**		Prepared & Analyzed: 01/02/24						
Aluminum	529	25.6	ng/m³ Air		529			0.00114	10	
Antimony	0.113	0.0351	ng/m³ Air		0.112			0.395	10	SL
Arsenic	0.209	0.00761	ng/m³ Air		0.209			0.311	10	
Barium	7.28	0.755	ng/m³ Air		7.29			0.206	10	
Beryllium	0.0175	0.00265	ng/m³ Air		0.0177			1.21	10	
Cadmium	ND	0.0869	ng/m³ Air		ND				10	U
Calcium	525	233	ng/m³ Air		521			0.750	10	LJ, QB-01

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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 B4A0205 - ICP-MS Extraction										
Duplicate (B4A0205-DUP2) Continued		**Source: 3122828-10**		Prepared & Analyzed: 01/02/24						
Chromium	ND	1.62	ng/m³ Air		ND				10	U
Cobalt	0.311	0.0124	ng/m³ Air		0.313			0.667	10	QB-01
Copper	9.31	2.39	ng/m³ Air		9.25			0.646	10	
Iron	632	19.3	ng/m³ Air		635			0.546	10	
Lead	0.296	0.220	ng/m³ Air		0.299			1.02	10	
Magnesium	261	76.8	ng/m³ Air		260			0.667	10	
Manganese	18.3	0.948	ng/m³ Air		18.3			0.0661	10	
Molybdenum	0.608	0.170	ng/m³ Air		0.609			0.0869	10	QB-01
Nickel	0.689	0.638	ng/m³ Air		0.687			0.249	10	
Phosphorus	ND	996	ng/m³ Air		ND				10	GC-BS, U
Potassium	133	30.3	ng/m³ Air		132			0.936	10	
Rubidium	0.248	0.0146	ng/m³ Air		0.245			1.11	10	
Selenium	0.181	0.00877	ng/m³ Air		0.176			2.41	10	
Sodium	1950	1590	ng/m³ Air		1960			0.630	10	E, GC-BS
Strontium	4.41	0.520	ng/m³ Air		4.45			0.722	10	QB-01
Thallium	0.00140	4.01E-4	ng/m³ Air		0.00146			4.19	10	
Thorium	0.0194	0.00239	ng/m³ Air		0.0194			0.266	10	
Uranium	ND	0.0135	ng/m³ Air		0.0136				10	U
Vanadium	1.86	0.0392	ng/m³ Air		1.86			0.114	10	
Zinc	ND	77.9	ng/m³ Air		ND				10	U
Matrix Spike (B4A0205-MS1)		**Source: 3122828-09**		Prepared & Analyzed: 01/02/24						
Aluminum	426	26.7	ng/m³ Air	68.919	343	121	80-120			QM-4X
Antimony	0.850	0.0366	ng/m³ Air	1.1487	0.117	63.8	80-120			SL
Arsenic	2.40	0.00793	ng/m³ Air	2.2973	0.144	98.2	80-120			
Barium	28.9	0.787	ng/m³ Air	22.973	5.54	102	80-120			
Beryllium	1.07	0.00276	ng/m³ Air	1.1487	0.0136	92.1	80-120			
Cadmium	1.17	0.0905	ng/m³ Air	1.1487	ND	102	80-120			
Calcium	592	243	ng/m³ Air	57.433	516	132	80-120			LJ, QB-01, QM-4X
Chromium	13.3	1.69	ng/m³ Air	11.487	ND	116	80-120			
Cobalt	1.40	0.0130	ng/m³ Air	1.1487	0.268	98.9	80-120			QB-01
Copper	46.4	2.49	ng/m³ Air	22.973	18.1	123	80-120			QM-07
Iron	517	20.1	ng/m³ Air	22.973	467	217	80-120			QM-4X
Lead	11.8	0.229	ng/m³ Air	11.487	0.258	101	80-120			
Magnesium	274	80.1	ng/m³ Air	22.973	243	135	80-120			QM-4X
Manganese	21.7	0.988	ng/m³ Air	6.8919	14.1	111	80-120			
Molybdenum	1.71	0.177	ng/m³ Air	1.1487	0.594	97.2	80-120			QB-01
Nickel	2.94	0.665	ng/m³ Air	2.2973	ND	128	80-120			

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FILE #: 0000.00
REPORTED: 01/05/24 14:13
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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 B4A0205 - ICP-MS Extraction										
Matrix Spike (B4A0205-MS1) Continued Source: 3122828-09 Prepared & Analyzed: 01/02/24										
Phosphorus	ND	1040	ng/m³ Air	11.487	ND		80-120			GC-BS, U
Potassium	151	31.6	ng/m³ Air	45.946	111	88.2	80-120			
Rubidium	1.25	0.0152	ng/m³ Air	1.1487	0.167	94.1	80-120			
Selenium	2.40	0.00914	ng/m³ Air	2.2973	0.153	97.8	80-120			
Sodium	1980	1660	ng/m³ Air	45.946	1880	215	80-120			E, GC-BS, QM-4X
Strontium	4.89	0.542	ng/m³ Air	1.1487	3.65	108	80-120			QB-01
Thallium	0.115	4.18E-4	ng/m³ Air	0.11487	0.00126	98.7	80-120			
Thorium	0.0649	0.00249	ng/m³ Air	0.11487	0.0121	45.9	80-120			QM-07
Uranium	0.121	0.0141	ng/m³ Air	0.11487	ND	106	80-120			
Vanadium	3.76	0.0409	ng/m³ Air	2.2973	1.41	102	80-120			
Zinc	107	81.2	ng/m³ Air	68.919	ND	156	80-120			
Matrix Spike Dup (B4A0205-MSD1) Source: 3122828-09 Prepared & Analyzed: 01/02/24										
Aluminum	430	26.7	ng/m³ Air	68.919	343	127	80-120	0.963	20	QM-4X
Antimony	0.830	0.0366	ng/m³ Air	1.1487	0.117	62.0	80-120	2.46	20	SL
Arsenic	2.37	0.00793	ng/m³ Air	2.2973	0.144	97.0	80-120	1.18	20	
Barium	28.8	0.787	ng/m³ Air	22.973	5.54	101	80-120	0.412	20	
Beryllium	1.09	0.00276	ng/m³ Air	1.1487	0.0136	94.1	80-120	2.12	20	
Cadmium	1.15	0.0905	ng/m³ Air	1.1487	ND	99.8	80-120	2.31	20	
Calcium	593	243	ng/m³ Air	57.433	516	134	80-120	0.245	20	LJ, QB-01, QM-4X
Chromium	13.1	1.69	ng/m³ Air	11.487	ND	114	80-120	1.68	20	
Cobalt	1.40	0.0130	ng/m³ Air	1.1487	0.268	98.1	80-120	0.658	20	QB-01
Copper	45.9	2.49	ng/m³ Air	22.973	18.1	121	80-120	0.946	20	QM-07
Iron	511	20.1	ng/m³ Air	22.973	467	189	80-120	1.26	20	QM-4X
Lead	11.7	0.229	ng/m³ Air	11.487	0.258	99.9	80-120	0.852	20	
Magnesium	277	80.1	ng/m³ Air	22.973	243	146	80-120	0.962	20	QM-4X
Manganese	21.9	0.988	ng/m³ Air	6.8919	14.1	113	80-120	0.609	20	
Molybdenum	1.67	0.177	ng/m³ Air	1.1487	0.594	93.6	80-120	2.46	20	QB-01
Nickel	2.92	0.665	ng/m³ Air	2.2973	ND	127	80-120	0.884	20	
Phosphorus	ND	1040	ng/m³ Air	11.487	ND		80-120		20	GC-BS, U
Potassium	144	31.6	ng/m³ Air	45.946	111	73.2	80-120	4.64	20	QM-07
Rubidium	1.24	0.0152	ng/m³ Air	1.1487	0.167	93.0	80-120	0.996	20	
Selenium	2.43	0.00914	ng/m³ Air	2.2973	0.153	99.1	80-120	1.24	20	
Sodium	2000	1660	ng/m³ Air	45.946	1880	265	80-120	1.17	20	E, GC-BS, QM-4X
Strontium	4.93	0.542	ng/m³ Air	1.1487	3.65	111	80-120	0.728	20	QB-01
Thallium	0.113	4.18E-4	ng/m³ Air	0.11487	0.00126	97.4	80-120	1.33	20	
Thorium	0.0625	0.00249	ng/m³ Air	0.11487	0.0121	43.8	80-120	3.78	20	QM-07

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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 B4A0205 - ICP-MS Extraction										
Matrix Spike Dup (B4A0205-MSD1) Conti			**Source: 3122828-09**		Prepared & Analyzed: 01/02/24					
Uranium	0.120	0.0141	ng/m³ Air	0.11487	ND	104	80-120	1.42	20	
Vanadium	3.75	0.0409	ng/m³ Air	2.2973	1.41	102	80-120	0.226	20	
Zinc	106	81.2	ng/m³ Air	68.919	ND	154	80-120	0.996	20	
Post Spike (B4A0205-PS1)			**Source: 3122828-09**		Prepared & Analyzed: 01/02/24					
Aluminum	371	26.7	ng/m³ Air	22.973	343	123	75-125			
Antimony	0.346	0.0366	ng/m³ Air	0.22973	0.117	99.3	75-125			SL
Arsenic	1.26	0.00793	ng/m³ Air	1.1487	0.144	96.7	75-125			
Barium	7.90	0.787	ng/m³ Air	2.2973	5.54	102	75-125			
Beryllium	0.229	0.00276	ng/m³ Air	0.22973	0.0136	93.9	75-125			
Cadmium	0.123	0.0905	ng/m³ Air	0.11487	ND	107	75-125			
Calcium	558	243	ng/m³ Air	22.973	516	182	75-125			A-01, LJ, QB-01
Chromium	2.28	1.69	ng/m³ Air	1.1487	ND	198	75-125			
Cobalt	0.501	0.0130	ng/m³ Air	0.22973	0.268	101	75-125			QB-01
Copper	30.7	2.49	ng/m³ Air	11.487	18.1	110	75-125			
Iron	496	20.1	ng/m³ Air	22.973	467	126	75-125			A-01
Lead	23.1	0.229	ng/m³ Air	22.973	0.258	99.3	75-125			
Magnesium	269	80.1	ng/m³ Air	22.973	243	112	75-125			
Manganese	16.6	0.988	ng/m³ Air	2.2973	14.1	109	75-125			
Molybdenum	1.68	0.177	ng/m³ Air	1.1487	0.594	94.7	75-125			QB-01
Nickel	2.88	0.665	ng/m³ Air	2.2973	ND	125	75-125			
Phosphorus	ND	1040	ng/m³ Air	4.5946	ND		75-125			A-01, GC-BS, U
Potassium	134	31.6	ng/m³ Air	22.973	111	100	75-125			
Rubidium	0.270	0.0152	ng/m³ Air	0.11487	0.167	90.0	75-125			
Selenium	1.27	0.00914	ng/m³ Air	1.1487	0.153	97.3	75-125			
Sodium	1920	1660	ng/m³ Air	22.973	1880	185	75-125			A-01, E, GC-BS
Strontium	4.78	0.542	ng/m³ Air	1.1487	3.65	98.5	75-125			QB-01
Thallium	0.0559	4.18E-4	ng/m³ Air	5.7433E-2	0.00126	95.1	75-125			
Thorium	0.0663	0.00249	ng/m³ Air	5.7433E-2	0.0121	94.3	75-125			
Uranium	0.0649	0.0141	ng/m³ Air	5.7433E-2	ND	113	75-125			
Vanadium	2.55	0.0409	ng/m³ Air	1.1487	1.41	99.9	75-125			
Zinc	ND	81.2	ng/m³ Air	22.973	ND		75-125			U
Dilution Check (B4A0205-SRL1)			**Source: 3122828-09**		Prepared & Analyzed: 01/02/24					
Aluminum	329	133	ng/m³ Air		343			4.01	10	
Antimony	ND	0.183	ng/m³ Air		ND				10	SL, U
Arsenic	0.145	0.0397	ng/m³ Air		0.144			0.426	10	
Barium	5.38	3.94	ng/m³ Air		5.54			2.98	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 B4A0205 - ICP-MS Extraction										
Dilution Check (B4A0205-SRL1) ContinueSource: 3122828-09 Prepared & Analyzed: 01/02/24										
Beryllium	0.0150	0.0138	ng/m³ Air		ND			9.86	10	
Cadmium	ND	0.453	ng/m³ Air		ND				10	U
Calcium	ND	1210	ng/m³ Air		ND				10	LJ, QB-01, U
Chromium	ND	8.43	ng/m³ Air		ND				10	U
Cobalt	0.263	0.0648	ng/m³ Air		0.268			2.05	10	QB-01
Copper	17.8	12.5	ng/m³ Air		18.1			1.62	10	
Iron	455	101	ng/m³ Air		467			2.65	10	
Lead	ND	1.15	ng/m³ Air		ND				10	U
Magnesium	ND	400	ng/m³ Air		ND				10	U
Manganese	13.7	4.94	ng/m³ Air		14.1			2.95	10	
Molybdenum	ND	0.885	ng/m³ Air		ND				10	QB-01, U
Nickel	ND	3.33	ng/m³ Air		ND				10	U
Phosphorus	ND	5190	ng/m³ Air		ND				10	GC-BS, U
Potassium	ND	158	ng/m³ Air		ND				10	U
Rubidium	0.163	0.0760	ng/m³ Air		0.167			2.21	10	
Selenium	0.167	0.0457	ng/m³ Air		0.153			8.95	10	
Sodium	ND	8310	ng/m³ Air		ND				10	GC-BS, U
Strontium	3.57	2.71	ng/m³ Air		3.65			2.08	10	QB-01
Thallium	ND	0.00209	ng/m³ Air		ND				10	U
Thorium	ND	0.0125	ng/m³ Air		ND				10	U
Uranium	ND	0.0706	ng/m³ Air		ND				10	U
Vanadium	1.38	0.204	ng/m³ Air		1.41			1.78	10	
Zinc	ND	406	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
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

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

Stage 1 Data Verification Checklist - Metals

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 01/08/2024 & Shanna Vasser 1/9/2024
Laboratory: Eastern Research Group – Morrisville, NC
Analysis Date: 01/02/2024 and 01/03/2024
Report No: 3122828

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

Discrepancies:

1. Samples MFK-AM01-122323-HM and MFK-AM03-122323-HM were swapped on the CoC. The laboratory logged the samples in as they were received and matched them with the correct physical filters and labels.

Notes:

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

Stage 1 Data Verification Checklist - Metals

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 01/09/2024 & Shanna Vasser 1/10/2024
Laboratory: Eastern Research Group – Morrisville, NC
Analysis Date: 01/04/2024
Report No: 4010214

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

Discrepancies: None

Notes:

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

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

January 09, 2024

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

Dear Ms. Chelsea Saber,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 01/02/24 11:20 through 01/03/24 12:50.

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

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

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

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

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
TetraTech Q9524471	4010214-01	Air	12/27/23 23:59	01/02/24 11:20
TetraTech Q9524470	4010214-02	Air	12/27/23 23:59	01/02/24 11:20
TetraTech Q9524472	4010214-03	Air	12/27/23 23:59	01/02/24 11:20
TetraTech Q9524467 FB	4010214-04	Air	12/27/23 00:00	01/02/24 11:20
TetraTech Q9524473	4010353-01	Air	12/28/23 23:59	01/03/24 12:50
TetraTech Q9524468	4010353-02	Air	12/28/23 23:59	01/03/24 12:50
TetraTech Q9524465	4010353-03	Air	12/28/23 23:59	01/03/24 12:50
TetraTech Q9524466	4010353-04	Air	12/29/23 23:59	01/03/24 12:50
TetraTech Q9524474	4010353-05	Air	12/29/23 23:59	01/03/24 12:50
TetraTech Q9524464	4010353-06	Air	12/29/23 23:59	01/03/24 12:50

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524471
Matrix: Air
Comments: MFK-AM01-122723-HM

Lab ID: 4010214-01
Sample Volume: 2034.182 m³
Filter ID:

Sampled: 12/27/23 23:59
Received: 01/02/24 11:20
Analysis Date: 01/04/24 19:48

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**189**		**25.7**
Antimony	**7440-36-0**	**0.0662**	SL	**0.0353**
Arsenic	**7440-38-2**	**0.0606**		**0.00764**
Barium	**7440-39-3**	**3.12**		**0.758**
Beryllium	**7440-41-7**	**0.00616**		**0.00266**
Cadmium	7440-43-9	0.00521	U	0.0872
Calcium	7440-70-2	214	GC-BS, LJ, QB-01, U	234
Chromium	7440-47-3	0.798	U	1.62
Cobalt	**7440-48-4**	**0.0886**	QB-01	**0.0125**
Copper	**7440-50-8**	**18.4**		**2.40**
Iron	**7439-89-6**	**203**		**19.4**
Lead	7439-92-1	0.205	U	0.221
Magnesium	7439-95-4	44.9	U	77.1
Manganese	**7439-96-5**	**5.59**		**0.952**
Molybdenum	**7439-98-7**	**0.614**	QB-01	**0.170**
Nickel	7440-02-0	0.589	U	0.641
Phosphorus	7723-14-0	186	GC-BS, U	1000
Potassium	**7440-09-7**	**48.7**		**30.4**
Rubidium	**7440-17-7**	**0.0902**		**0.0146**
Selenium	**7782-49-2**	**0.0336**		**0.00880**
Sodium	7440-23-5	567	GC-BS, U	1600
Strontium	**7440-24-6**	**1.17**	QB-01	**0.521**
Thallium	**7440-28-0**	**5.98E-4**		**4.02E-4**
Thorium	**7440-29-01**	**0.00491**		**0.00240**
Uranium	7440-61-1	0.00441	U	0.0136
Vanadium	**7440-62-2**	**0.477**		**0.0394**
Zinc	7440-66-6	27.9	U	78.1

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524470
Matrix: Air
Comments: MFK-AM02-122723-HM-MS-MSD

Lab ID: 4010214-02
Sample Volume: 1005.15 m³
Filter ID:

Sampled: 12/27/23 23:59
Received: 01/02/24 11:20
Analysis Date: 01/04/24 17:16

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**380**		**52.0**
Antimony	**7440-36-0**	**0.126**	SL	**0.0714**
Arsenic	**7440-38-2**	**0.198**		**0.0155**
Barium	**7440-39-3**	**5.72**		**1.53**
Beryllium	**7440-41-7**	**0.0134**		**0.00537**
Cadmium	7440-43-9	0.0441	U	0.176
Calcium	7440-70-2	459	A-01, GC-BS, LJ, QB-01, QM-4X, U	473
Chromium	7440-47-3	1.54	U	3.29
Cobalt	**7440-48-4**	**0.177**	QB-01	**0.0253**
Copper	**7440-50-8**	**25.0**	QM-07	**4.86**
Iron	**7439-89-6**	**406**		**39.2**
Lead	7439-92-1	0.274	U	0.447
Magnesium	7439-95-4	96.2	U	156
Manganese	**7439-96-5**	**11.1**		**1.93**
Molybdenum	**7439-98-7**	**1.44**	QB-01	**0.345**
Nickel	7440-02-0	0.569	U	1.30
Phosphorus	7723-14-0	369	GC-BS, QM-4X, U	2020
Potassium	**7440-09-7**	**119**	QM-07	**61.5**
Rubidium	**7440-17-7**	**0.193**		**0.0296**
Selenium	**7782-49-2**	**0.0744**		**0.0178**
Sodium	7440-23-5	1140	GC-BS, QM-4X, U	3240
Strontium	**7440-24-6**	**2.74**	QB-01	**1.06**
Thallium	**7440-28-0**	**0.00115**		**8.14E-4**
Thorium	**7440-29-01**	**0.0123**	QM-07	**0.00486**
Uranium	7440-61-1	0.00913	U	0.0275
Vanadium	**7440-62-2**	**1.01**		**0.0796**
Zinc	7440-66-6	52.3	U	158

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524472
Matrix: Air
Comments: MFK-AM03-122723-HM

Lab ID: 4010214-03
Sample Volume: 1028.79 m³
Filter ID:

Sampled: 12/27/23 23:59
Received: 01/02/24 11:20
Analysis Date: 01/04/24 20:07

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**390**		**50.8**
Antimony	**7440-36-0**	**0.168**	SL	**0.0697**
Arsenic	**7440-38-2**	**0.139**		**0.0151**
Barium	**7440-39-3**	**7.64**		**1.50**
Beryllium	**7440-41-7**	**0.0182**		**0.00525**
Cadmium	7440-43-9	0.00857	U	0.172
Calcium	7440-70-2	457	GC-BS, LJ, QB-01, U	462
Chromium	7440-47-3	1.56	U	3.21
Cobalt	**7440-48-4**	**0.205**	QB-01	**0.0247**
Copper	**7440-50-8**	**41.0**		**4.74**
Iron	**7439-89-6**	**460**		**38.3**
Lead	7439-92-1	0.271	U	0.436
Magnesium	7439-95-4	132	U	152
Manganese	**7439-96-5**	**14.0**		**1.88**
Molybdenum	**7439-98-7**	**2.46**	QB-01	**0.337**
Nickel	7440-02-0	0.665	U	1.27
Phosphorus	7723-14-0	370	GC-BS, U	1980
Potassium	**7440-09-7**	**191**		**60.1**
Rubidium	**7440-17-7**	**0.254**		**0.0289**
Selenium	**7782-49-2**	**0.0963**		**0.0174**
Sodium	7440-23-5	1260	GC-BS, U	3160
Strontium	**7440-24-6**	**3.46**	QB-01	**1.03**
Thallium	**7440-28-0**	**0.00129**		**7.95E-4**
Thorium	**7440-29-01**	**0.0142**		**0.00474**
Uranium	7440-61-1	0.00993	U	0.0269
Vanadium	**7440-62-2**	**1.12**		**0.0778**
Zinc	7440-66-6	50.5	U	155

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524467 FB
Matrix: Air
Lab ID: 4010214-04
Sample Volume: 2034.182 m³
Filter ID:
Sampled: 12/27/23 00:00
Received: 01/02/24 11:20
Analysis Date: 01/04/24 20:21

Comments: MFK-FB01-122723-HM Field Blank

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	7429-90-5	9.36	U	25.7
Antimony	7440-36-0	0.0145	SL, U	0.0353
Arsenic	7440-38-2	0.00300	U	0.00764
Barium	**7440-39-3**	**0.955**	FB-01	**0.758**
Beryllium	7440-41-7	5.60E-4	U	0.00266
Cadmium	7440-43-9	0.00214	U	0.0872
Calcium	7440-70-2	138	GC-BS, LJ, QB-01, U	234
Chromium	7440-47-3	0.638	U	1.62
Cobalt	7440-48-4	0.00787	QB-01, U	0.0125
Copper	7440-50-8	0.206	U	2.40
Iron	7439-89-6	11.3	U	19.4
Lead	7439-92-1	0.0345	U	0.221
Magnesium	7439-95-4	22.0	U	77.1
Manganese	7439-96-5	0.151	U	0.952
Molybdenum	7439-98-7	0.0872	QB-01, U	0.170
Nickel	7440-02-0	0.238	U	0.641
Phosphorus	7723-14-0	155	GC-BS, U	1000
Potassium	7440-09-7	10.9	U	30.4
Rubidium	7440-17-7	0.00669	U	0.0146
Selenium	7782-49-2	ND	U	0.00880
Sodium	7440-23-5	502	GC-BS, U	1600
Strontium	7440-24-6	0.337	QB-01, U	0.521
Thallium	7440-28-0	1.97E-4	U	4.02E-4
Thorium	7440-29-01	0.00199	U	0.00240
Uranium	7440-61-1	6.31E-4	U	0.0136
Vanadium	7440-62-2	0.0113	U	0.0394
Zinc	7440-66-6	18.9	U	78.1

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524473
Matrix: Air
Comments: MFK-AM01-122823-HM

Lab ID: 4010353-01
Sample Volume: 2057.307 m³
Filter ID:

Sampled: 12/28/23 23:59
Received: 01/03/24 12:50
Analysis Date: 01/04/24 20:36

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**182**		**25.4**
Antimony	**7440-36-0**	**0.0587**	SL	**0.0349**
Arsenic	**7440-38-2**	**0.0749**		**0.00755**
Barium	**7440-39-3**	**2.69**		**0.750**
Beryllium	**7440-41-7**	**0.00613**		**0.00263**
Cadmium	7440-43-9	0.00639	U	0.0862
Calcium	**7440-70-2**	**296**	GC-BS, LJ, QB-01	**231**
Chromium	7440-47-3	0.791	U	1.61
Cobalt	**7440-48-4**	**0.0860**	QB-01	**0.0123**
Copper	**7440-50-8**	**17.5**		**2.37**
Iron	**7439-89-6**	**203**		**19.1**
Lead	7439-92-1	0.207	U	0.218
Magnesium	**7439-95-4**	**169**		**76.2**
Manganese	**7439-96-5**	**5.25**		**0.941**
Molybdenum	**7439-98-7**	**0.584**	QB-01	**0.168**
Nickel	7440-02-0	0.352	U	0.633
Phosphorus	7723-14-0	181	GC-BS, U	989
Potassium	**7440-09-7**	**81.8**		**30.1**
Rubidium	**7440-17-7**	**0.102**		**0.0145**
Selenium	**7782-49-2**	**0.0917**		**0.00870**
Sodium	7440-23-5	1550	GC-BS, U	1580
Strontium	**7440-24-6**	**1.95**	QB-01	**0.516**
Thallium	**7440-28-0**	**6.94E-4**		**3.98E-4**
Thorium	**7440-29-01**	**0.00575**		**0.00237**
Uranium	7440-61-1	0.00511	U	0.0134
Vanadium	**7440-62-2**	**0.637**		**0.0389**
Zinc	7440-66-6	22.8	U	77.3

CERTIFICATE OF ANALYSIS

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

FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524468
Matrix: Air
Comments: MFK-AM02-122823-HM

Lab ID: 4010353-02
Sample Volume: 2153.885 m³
Filter ID:

Sampled: 12/28/23 23:59
Received: 01/03/24 12:50
Analysis Date: 01/04/24 20:51

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**258**		**24.2**
Antimony	**7440-36-0**	**0.0586**	SL	**0.0333**
Arsenic	**7440-38-2**	**0.0820**		**0.00721**
Barium	**7440-39-3**	**3.47**		**0.716**
Beryllium	**7440-41-7**	**0.00848**		**0.00251**
Cadmium	7440-43-9	0.00535	U	0.0823
Calcium	**7440-70-2**	**277**	GC-BS, LJ, QB-01	**221**
Chromium	7440-47-3	0.787	U	1.53
Cobalt	**7440-48-4**	**0.102**	QB-01	**0.0118**
Copper	**7440-50-8**	**10.0**		**2.27**
Iron	**7439-89-6**	**268**		**18.3**
Lead	7439-92-1	0.195	U	0.208
Magnesium	**7439-95-4**	**191**		**72.8**
Manganese	**7439-96-5**	**6.63**		**0.899**
Molybdenum	**7439-98-7**	**0.626**	QB-01	**0.161**
Nickel	7440-02-0	0.376	U	0.605
Phosphorus	7723-14-0	176	GC-BS, U	944
Potassium	**7440-09-7**	**91.2**		**28.7**
Rubidium	**7440-17-7**	**0.114**		**0.0138**
Selenium	**7782-49-2**	**0.113**		**0.00831**
Sodium	**7440-23-5**	**1710**	E, GC-BS	**1510**
Strontium	**7440-24-6**	**2.27**	QB-01	**0.493**
Thallium	**7440-28-0**	**8.09E-4**		**3.80E-4**
Thorium	**7440-29-01**	**0.00754**		**0.00227**
Uranium	7440-61-1	0.00661	U	0.0128
Vanadium	**7440-62-2**	**0.771**		**0.0372**
Zinc	7440-66-6	19.9	U	73.8

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: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524465
Matrix: Air
Comments: MFK-AM03-122823-HM

Lab ID: 4010353-03
Sample Volume: 2322.877 m³
Filter ID:

Sampled: 12/28/23 23:59
Received: 01/03/24 12:50
Analysis Date: 01/04/24 21:05

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**385**		**22.5**
Antimony	**7440-36-0**	**0.0902**	SL	**0.0309**
Arsenic	**7440-38-2**	**0.109**		**0.00669**
Barium	**7440-39-3**	**6.11**		**0.664**
Beryllium	**7440-41-7**	**0.0177**		**0.00233**
Cadmium	7440-43-9	0.00942	U	0.0763
Calcium	**7440-70-2**	**308**	GC-BS, LJ, QB-01	**205**
Chromium	7440-47-3	0.907	U	1.42
Cobalt	**7440-48-4**	**0.187**	QB-01	**0.0109**
Copper	**7440-50-8**	**19.4**		**2.10**
Iron	**7439-89-6**	**463**		**17.0**
Lead	**7439-92-1**	**0.574**		**0.193**
Magnesium	**7439-95-4**	**223**		**67.5**
Manganese	**7439-96-5**	**14.7**		**0.834**
Molybdenum	**7439-98-7**	**0.705**	QB-01	**0.149**
Nickel	7440-02-0	0.436	U	0.561
Phosphorus	7723-14-0	193	GC-BS, U	876
Potassium	**7440-09-7**	**113**		**26.6**
Rubidium	**7440-17-7**	**0.171**		**0.0128**
Selenium	**7782-49-2**	**0.143**		**0.00770**
Sodium	**7440-23-5**	**1780**	E, GC-BS	**1400**
Strontium	**7440-24-6**	**3.59**	QB-01	**0.457**
Thallium	**7440-28-0**	**0.00140**		**3.52E-4**
Thorium	**7440-29-01**	**0.0120**		**0.00210**
Uranium	**7440-61-1**	**0.0124**		**0.0119**
Vanadium	**7440-62-2**	**1.08**		**0.0345**
Zinc	7440-66-6	23.7	U	68.4

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: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524466
Matrix: Air
Comments: MFK-AM01-122923-HM

Lab ID: 4010353-04
Sample Volume: 1666.744 m³
Filter ID:

Sampled: 12/29/23 23:59
Received: 01/03/24 12:50
Analysis Date: 01/04/24 21:21

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**360**		**31.3**
Antimony	**7440-36-0**	**0.0919**	SL	**0.0430**
Arsenic	**7440-38-2**	**0.0788**		**0.00932**
Barium	**7440-39-3**	**5.22**		**0.925**
Beryllium	**7440-41-7**	**0.0128**		**0.00324**
Cadmium	7440-43-9	0.0242	U	0.106
Calcium	**7440-70-2**	**300**	GC-BS, LJ, QB-01	**285**
Chromium	7440-47-3	1.34	U	1.98
Cobalt	**7440-48-4**	**0.192**	QB-01	**0.0152**
Copper	**7440-50-8**	**21.1**		**2.93**
Iron	**7439-89-6**	**402**		**23.6**
Lead	**7439-92-1**	**0.343**		**0.269**
Magnesium	**7439-95-4**	**151**		**94.1**
Manganese	**7439-96-5**	**11.1**		**1.16**
Molybdenum	**7439-98-7**	**0.678**	QB-01	**0.208**
Nickel	7440-02-0	0.546	U	0.782
Phosphorus	7723-14-0	230	GC-BS, U	1220
Potassium	**7440-09-7**	**70.4**		**37.1**
Rubidium	**7440-17-7**	**0.147**		**0.0179**
Selenium	**7782-49-2**	**0.112**		**0.0107**
Sodium	7440-23-5	1390	GC-BS, U	1950
Strontium	**7440-24-6**	**2.59**	QB-01	**0.636**
Thallium	**7440-28-0**	**9.29E-4**		**4.91E-4**
Thorium	**7440-29-01**	**0.00998**		**0.00293**
Uranium	7440-61-1	0.00847	U	0.0166
Vanadium	**7440-62-2**	**0.939**		**0.0480**
Zinc	7440-66-6	26.3	U	95.4

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: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524474
Matrix: Air
Comments: MFK-AM02-122923-HM

Lab ID: 4010353-05
Sample Volume: 1804.992 m³
Filter ID:

Sampled: 12/29/23 23:59
Received: 01/03/24 12:50
Analysis Date: 01/04/24 21:36

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**342**		**28.9**
Antimony	**7440-36-0**	**0.0744**	SL	**0.0398**
Arsenic	**7440-38-2**	**0.107**		**0.00861**
Barium	**7440-39-3**	**4.77**		**0.855**
Beryllium	**7440-41-7**	**0.0110**		**0.00299**
Cadmium	7440-43-9	0.00588	U	0.0983
Calcium	**7440-70-2**	**284**	GC-BS, LJ, QB-01	**263**
Chromium	7440-47-3	0.984	U	1.83
Cobalt	**7440-48-4**	**0.154**	QB-01	**0.0141**
Copper	**7440-50-8**	**14.1**		**2.70**
Iron	**7439-89-6**	**374**		**21.8**
Lead	**7439-92-1**	**0.286**		**0.249**
Magnesium	**7439-95-4**	**137**		**86.9**
Manganese	**7439-96-5**	**10.2**		**1.07**
Molybdenum	**7439-98-7**	**0.696**	QB-01	**0.192**
Nickel	7440-02-0	0.371	U	0.722
Phosphorus	7723-14-0	212	GC-BS, U	1130
Potassium	**7440-09-7**	**71.4**		**34.3**
Rubidium	**7440-17-7**	**0.148**		**0.0165**
Selenium	**7782-49-2**	**0.105**		**0.00992**
Sodium	7440-23-5	1290	GC-BS, U	1800
Strontium	**7440-24-6**	**2.51**	QB-01	**0.588**
Thallium	**7440-28-0**	**7.90E-4**		**4.53E-4**
Thorium	**7440-29-01**	**0.0107**		**0.00270**
Uranium	7440-61-1	0.00786	U	0.0153
Vanadium	**7440-62-2**	**0.863**		**0.0443**
Zinc	7440-66-6	22.1	U	88.1

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FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Description: TetraTech Q9524464
Matrix: Air
Comments: MFK-AM03-122923-HM

Lab ID: 4010353-06
Sample Volume: 1934.288 m³
Filter ID:

Sampled: 12/29/23 23:59
Received: 01/03/24 12:50
Analysis Date: 01/04/24 21:51

Inorganics by Compendium Method IO-3.5

Analyte	CAS Number	Results ng/m³ Air	Flag	MDL ng/m³ Air
Aluminum	**7429-90-5**	**298**		**27.0**
Antimony	**7440-36-0**	**0.0939**	SL	**0.0371**
Arsenic	**7440-38-2**	**0.0616**		**0.00803**
Barium	**7440-39-3**	**4.96**		**0.797**
Beryllium	**7440-41-7**	**0.0129**		**0.00279**
Cadmium	7440-43-9	0.00639	U	0.0917
Calcium	**7440-70-2**	**255**	GC-BS, LJ, QB-01	**246**
Chromium	7440-47-3	0.952	U	1.71
Cobalt	**7440-48-4**	**0.147**	QB-01	**0.0131**
Copper	**7440-50-8**	**12.4**		**2.52**
Iron	**7439-89-6**	**339**		**20.4**
Lead	7439-92-1	0.219	U	0.232
Magnesium	**7439-95-4**	**123**		**81.1**
Manganese	**7439-96-5**	**10.5**		**1.00**
Molybdenum	**7439-98-7**	**0.728**	QB-01	**0.179**
Nickel	7440-02-0	0.333	U	0.674
Phosphorus	7723-14-0	206	GC-BS, U	1050
Potassium	**7440-09-7**	**66.1**		**32.0**
Rubidium	**7440-17-7**	**0.131**		**0.0154**
Selenium	**7782-49-2**	**0.0899**		**0.00925**
Sodium	7440-23-5	1140	GC-BS, U	1680
Strontium	**7440-24-6**	**2.45**	QB-01	**0.548**
Thallium	**7440-28-0**	**8.04E-4**		**4.23E-4**
Thorium	**7440-29-01**	**0.0103**		**0.00252**
Uranium	7440-61-1	0.00748	U	0.0143
Vanadium	**7440-62-2**	**0.748**		**0.0414**
Zinc	7440-66-6	22.4	U	82.2

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FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
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 2401011 - B4A0401										
Calibration Blank (2401011-CCB1)				Prepared & Analyzed: 01/04/24						
Aluminum	-79.4		ng/l							U
Antimony	0.720		ng/l							
Arsenic	1.07		ng/l							
Barium	0.862		ng/l							
Beryllium	0.151		ng/l							
Cadmium	0.116		ng/l							
Calcium	519		ng/l							
Chromium	3.39		ng/l							
Cobalt	0.164		ng/l							
Copper	10.6		ng/l							
Iron	24.2		ng/l							
Lead	3.74		ng/l							
Magnesium	19.9		ng/l							
Manganese	4.26		ng/l							
Molybdenum	11.6		ng/l							
Nickel	0.362		ng/l							
Phosphorus	-266		ng/l							U
Potassium	-727		ng/l							U
Rubidium	-0.296		ng/l							U
Selenium	-14.3		ng/l							U
Sodium	-187		ng/l							U
Strontium	-0.112		ng/l							U
Thallium	0.609		ng/l							
Thorium	0.298		ng/l							
Uranium	-0.00246		ng/l							U
Vanadium	-28.1		ng/l							U
Zinc	-42.8		ng/l							U
Calibration Blank (2401011-CCB2)				Prepared & Analyzed: 01/04/24						
Aluminum	-91.1		ng/l							U
Antimony	1.09		ng/l							
Arsenic	7.75		ng/l							
Barium	4.87		ng/l							
Beryllium	0.507		ng/l							
Cadmium	0.566		ng/l							
Calcium	643		ng/l							
Chromium	6.13		ng/l							
Cobalt	1.24		ng/l							
Copper	59.3		ng/l							

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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 2401011 - B4A0401										
Calibration Blank (2401011-CCB2) Contin				Prepared & Analyzed: 01/04/24						
Iron	-42.4		ng/l							U
Lead	12.4		ng/l							
Magnesium	17.5		ng/l							
Manganese	14.0		ng/l							
Molybdenum	11.1		ng/l							
Nickel	2.85		ng/l							
Phosphorus	118		ng/l							
Potassium	-662		ng/l							U
Rubidium	0.235		ng/l							
Selenium	-7.96		ng/l							U
Sodium	-161		ng/l							U
Strontium	2.34		ng/l							
Thallium	1.20		ng/l							
Thorium	0.569		ng/l							
Uranium	0.00481		ng/l							
Vanadium	-36.0		ng/l							U
Zinc	-45.0		ng/l							U
Calibration Blank (2401011-CCB3)				Prepared & Analyzed: 01/04/24						
Aluminum	-64.4		ng/l							U
Antimony	0.991		ng/l							
Arsenic	6.08		ng/l							
Barium	0.616		ng/l							
Beryllium	0.686		ng/l							
Cadmium	0.192		ng/l							
Calcium	154		ng/l							
Chromium	2.05		ng/l							
Cobalt	0.384		ng/l							
Copper	20.0		ng/l							
Iron	143		ng/l							
Lead	6.33		ng/l							
Magnesium	-14.9		ng/l							U
Manganese	2.92		ng/l							
Molybdenum	9.85		ng/l							
Nickel	1.02		ng/l							
Phosphorus	-187		ng/l							U
Potassium	-114		ng/l							U
Rubidium	-0.0106		ng/l							U
Selenium	9.65		ng/l							

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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 2401011 - B4A0401										
Calibration Blank (2401011-CCB3) Contin				Prepared & Analyzed: 01/04/24						
Sodium	-53.6		ng/l							U
Strontium	0.510		ng/l							
Thallium	1.19		ng/l							
Thorium	0.578		ng/l							
Uranium	0.0107		ng/l							
Vanadium	-38.9		ng/l							U
Zinc	102		ng/l							
Calibration Check (2401011-CCV1)				Prepared & Analyzed: 01/04/24						
Aluminum	1.49E6		ng/l	1.5000E6		99.2	90-110			
Antimony	19200		ng/l	20000		96.0	90-110			
Arsenic	19500		ng/l	20000		97.6	90-110			
Barium	195000		ng/l	200000		97.3	90-110			
Beryllium	4960		ng/l	5000.0		99.2	90-110			
Cadmium	19400		ng/l	20000		97.1	90-110			
Calcium	2.44E7		ng/l	2.5000E7		97.5	90-110			
Chromium	230000		ng/l	240000		95.8	90-110			
Cobalt	49600		ng/l	50000		99.2	90-110			
Copper	1.99E6		ng/l	2.0000E6		99.7	90-110			
Iron	2.46E6		ng/l	2.5000E6		98.5	90-110			
Lead	193000		ng/l	200000		96.5	90-110			
Magnesium	990000		ng/l	1.0000E6		99.0	90-110			
Manganese	493000		ng/l	500000		98.7	90-110			
Molybdenum	48500		ng/l	50000		97.0	90-110			
Nickel	119000		ng/l	120000		99.0	90-110			
Phosphorus	196000		ng/l	200000		98.0	90-110			
Potassium	2.45E6		ng/l	2.5000E6		97.9	90-110			
Rubidium	9780		ng/l	10000		97.8	90-110			
Selenium	19800		ng/l	20000		98.9	90-110			
Sodium	2.51E6		ng/l	2.5000E6		101	90-110			
Strontium	48500		ng/l	50000		97.0	90-110			
Thallium	474		ng/l	500.00		94.8	90-110			
Thorium	471		ng/l	500.00		94.2	90-110			
Uranium	472		ng/l	500.00		94.5	90-110			
Vanadium	19200		ng/l	20000		96.2	90-110			
Zinc	511000		ng/l	500000		102	90-110			
Calibration Check (2401011-CCV2)				Prepared & Analyzed: 01/04/24						
Aluminum	1.49E6		ng/l	1.5000E6		99.0	90-110			
Antimony	20000		ng/l	20000		100	90-110			

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FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
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 2401011 - B4A0401										
Calibration Check (2401011-CCV2) Contin					Prepared & Analyzed: 01/04/24					
Arsenic	20000		ng/l	20000		100	90-110			
Barium	201000		ng/l	200000		100	90-110			
Beryllium	5230		ng/l	5000.0		105	90-110			
Cadmium	20100		ng/l	20000		100	90-110			
Calcium	2.50E7		ng/l	2.5000E7		100	90-110			
Chromium	249000		ng/l	240000		104	90-110			
Cobalt	49800		ng/l	50000		99.6	90-110			
Copper	2.05E6		ng/l	2.0000E6		102	90-110			
Iron	2.48E6		ng/l	2.5000E6		99.4	90-110			
Lead	200000		ng/l	200000		100	90-110			
Magnesium	998000		ng/l	1.0000E6		99.8	90-110			
Manganese	496000		ng/l	500000		99.3	90-110			
Molybdenum	49900		ng/l	50000		99.9	90-110			
Nickel	120000		ng/l	120000		100	90-110			
Phosphorus	193000		ng/l	200000		96.6	90-110			
Potassium	2.45E6		ng/l	2.5000E6		97.9	90-110			
Rubidium	9980		ng/l	10000		99.8	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Sodium	2.55E6		ng/l	2.5000E6		102	90-110			
Strontium	49900		ng/l	50000		99.7	90-110			
Thallium	484		ng/l	500.00		96.8	90-110			
Thorium	490		ng/l	500.00		97.9	90-110			
Uranium	488		ng/l	500.00		97.6	90-110			
Vanadium	19900		ng/l	20000		99.5	90-110			
Zinc	523000		ng/l	500000		105	90-110			
Calibration Check (2401011-CCV3)					Prepared & Analyzed: 01/04/24					
Aluminum	1.50E6		ng/l	1.5000E6		100	90-110			
Antimony	20000		ng/l	20000		100	90-110			
Arsenic	20000		ng/l	20000		99.9	90-110			
Barium	200000		ng/l	200000		99.9	90-110			
Beryllium	5240		ng/l	5000.0		105	90-110			
Cadmium	20100		ng/l	20000		101	90-110			
Calcium	2.50E7		ng/l	2.5000E7		99.9	90-110			
Chromium	255000		ng/l	240000		106	90-110			
Cobalt	49900		ng/l	50000		99.8	90-110			
Copper	2.05E6		ng/l	2.0000E6		103	90-110			
Iron	2.49E6		ng/l	2.5000E6		99.7	90-110			
Lead	198000		ng/l	200000		99.2	90-110			

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FILE #: 0000.00
REPORTED: 01/09/24 12:34
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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 2401011 - B4A0401										
Calibration Check (2401011-CCV3) Contin				Prepared & Analyzed: 01/04/24						
Magnesium	1.01E6		ng/l	1.0000E6		101	90-110			
Manganese	501000		ng/l	500000		100	90-110			
Molybdenum	50000		ng/l	50000		99.9	90-110			
Nickel	121000		ng/l	120000		101	90-110			
Phosphorus	201000		ng/l	200000		100	90-110			
Potassium	2.46E6		ng/l	2.5000E6		98.5	90-110			
Rubidium	9980		ng/l	10000		99.8	90-110			
Selenium	20100		ng/l	20000		100	90-110			
Sodium	2.56E6		ng/l	2.5000E6		102	90-110			
Strontium	49900		ng/l	50000		99.8	90-110			
Thallium	475		ng/l	500.00		94.9	90-110			
Thorium	483		ng/l	500.00		96.7	90-110			
Uranium	486		ng/l	500.00		97.2	90-110			
Vanadium	20100		ng/l	20000		100	90-110			
Zinc	525000		ng/l	500000		105	90-110			
High Cal Check (2401011-HCV1)				Prepared & Analyzed: 01/04/24						
Aluminum	2.96E6		ng/l	3.0000E6		98.6	95-105			
Antimony	39700		ng/l	40000		99.3	95-105			
Arsenic	39700		ng/l	40000		99.2	95-105			
Barium	399000		ng/l	400000		99.8	95-105			
Beryllium	10200		ng/l	10000		102	95-105			
Cadmium	39200		ng/l	40000		98.1	95-105			
Calcium	4.97E7		ng/l	5.0000E7		99.4	95-105			
Chromium	476000		ng/l	480000		99.1	95-105			
Cobalt	98600		ng/l	100000		98.6	95-105			
Copper	3.95E6		ng/l	4.0000E6		98.7	95-105			
Iron	4.96E6		ng/l	5.0000E6		99.2	95-105			
Lead	396000		ng/l	400000		99.1	95-105			
Magnesium	1.96E6		ng/l	2.0000E6		98.0	95-105			
Manganese	996000		ng/l	1.0000E6		99.6	95-105			
Molybdenum	99500		ng/l	100000		99.5	95-105			
Nickel	236000		ng/l	240000		98.3	95-105			
Phosphorus	405000		ng/l	400000		101	95-105			
Potassium	4.94E6		ng/l	5.0000E6		98.8	95-105			
Rubidium	20000		ng/l	20000		100	95-105			
Selenium	40100		ng/l	40000		100	95-105			
Sodium	4.92E6		ng/l	5.0000E6		98.3	95-105			
Strontium	99800		ng/l	100000		99.8	95-105			

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REPORTED: 01/09/24 12:34
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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 2401011 - B4A0401										
High Cal Check (2401011-HCV1) Continue				Prepared & Analyzed: 01/04/24						
Thallium	986		ng/l	1000.0		98.6	95-105			
Thorium	990		ng/l	1000.0		99.0	95-105			
Uranium	989		ng/l	1000.0		98.9	95-105			
Vanadium	39800		ng/l	40000		99.5	95-105			
Zinc	1.03E6		ng/l	1.0000E6		103	95-105			
Initial Cal Blank (2401011-ICB1)				Prepared & Analyzed: 01/04/24						
Aluminum	-108		ng/l							U
Antimony	1.04		ng/l							
Arsenic	2.89		ng/l							
Barium	0.485		ng/l							
Beryllium	0.249		ng/l							
Cadmium	0.325		ng/l							
Calcium	-524		ng/l							U
Chromium	5.47		ng/l							
Cobalt	0.189		ng/l							
Copper	18.4		ng/l							
Iron	29.6		ng/l							
Lead	12.7		ng/l							
Magnesium	-13.2		ng/l							U
Manganese	6.41		ng/l							
Molybdenum	15.5		ng/l							
Nickel	1.13		ng/l							
Phosphorus	122		ng/l							
Potassium	-1030		ng/l							U
Rubidium	0.297		ng/l							
Selenium	-12.0		ng/l							U
Sodium	-350		ng/l							U
Strontium	0.414		ng/l							
Thallium	0.690		ng/l							
Thorium	0.601		ng/l							
Uranium	0.00365		ng/l							
Vanadium	-32.9		ng/l							U
Zinc	-7.45		ng/l							U
Initial Cal Check (2401011-ICV1)				Prepared & Analyzed: 01/04/24						
Aluminum	1.47E6		ng/l	1.5000E6		98.0	90-110			
Antimony	19700		ng/l	20000		98.3	90-110			
Arsenic	19900		ng/l	20000		99.4	90-110			
Barium	200000		ng/l	200000		99.8	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: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2401011 - B4A0401

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Initial Cal Check (2401011-ICV1) Continu				Prepared & Analyzed: 01/04/24						
Beryllium	5130		ng/l	5000.0		103	90-110			
Cadmium	20400		ng/l	20000		102	90-110			
Calcium	2.46E7		ng/l	2.5000E7		98.3	90-110			
Chromium	242000		ng/l	240000		101	90-110			
Cobalt	49800		ng/l	50000		99.5	90-110			
Copper	2.03E6		ng/l	2.0000E6		101	90-110			
Iron	2.51E6		ng/l	2.5000E6		100	90-110			
Lead	197000		ng/l	200000		98.5	90-110			
Magnesium	992000		ng/l	1.0000E6		99.2	90-110			
Manganese	495000		ng/l	500000		99.1	90-110			
Molybdenum	49500		ng/l	50000		98.9	90-110			
Nickel	119000		ng/l	120000		98.9	90-110			
Phosphorus	192000		ng/l	200000		96.2	90-110			
Potassium	2.50E6		ng/l	2.5000E6		99.9	90-110			
Rubidium	9750		ng/l	10000		97.5	90-110			
Selenium	20500		ng/l	20000		102	90-110			
Sodium	2.56E6		ng/l	2.5000E6		102	90-110			
Strontium	50400		ng/l	50000		101	90-110			
Thallium	488		ng/l	500.00		97.5	90-110			
Thorium	482		ng/l	500.00		96.3	90-110			
Uranium	490		ng/l	500.00		98.0	90-110			
Vanadium	20200		ng/l	20000		101	90-110			
Zinc	527000		ng/l	500000		105	90-110			
Interference Check A (2401011-IFA1)				Prepared & Analyzed: 01/04/24						
Aluminum	1.42E7		ng/l	1.5000E7		94.4	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	9.78E7		ng/l	1.0040E8		97.4	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	1.41E7		ng/l	1.5000E7		94.3	80-120			
Lead	0.00		ng/l				80-120			U
Magnesium	1.49E7		ng/l	1.5000E7		99.6	80-120			
Manganese	0.00		ng/l				80-120			U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch 2401011 - B4A0401

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Interference Check A (2401011-IFA1) Co				Prepared & Analyzed: 01/04/24						
Molybdenum	291000		ng/l	300000		96.8	80-120			
Nickel	0.00		ng/l				80-120			U
Phosphorus	1.55E7		ng/l	1.5000E7		103	80-120			
Potassium	1.41E7		ng/l	1.5000E7		94.0	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 (2401011-IFB1)				Prepared & Analyzed: 01/04/24						
Aluminum	1.60E7		ng/l	1.6500E7		97.0	80-120			
Antimony	19900		ng/l	20000		99.4	80-120			
Arsenic	20000		ng/l	20000		99.8	80-120			
Barium	201000		ng/l	200000		100	80-120			
Beryllium	5040		ng/l	5000.0		101	80-120			
Cadmium	19200		ng/l	20000		95.9	80-120			
Calcium	1.16E8		ng/l	1.2540E8		92.2	80-120			
Chromium	228000		ng/l	240000		95.2	80-120			
Cobalt	48600		ng/l	50000		97.2	80-120			
Copper	1.87E6		ng/l	2.0000E6		93.3	80-120			
Iron	1.68E7		ng/l	1.7500E7		95.8	80-120			
Lead	201000		ng/l	200000		101	80-120			
Magnesium	1.61E7		ng/l	1.6000E7		100	80-120			
Manganese	509000		ng/l	500000		102	80-120			
Molybdenum	337000		ng/l	350000		96.2	80-120			
Nickel	113000		ng/l	120000		94.2	80-120			
Phosphorus	1.62E7		ng/l	1.5200E7		107	80-120			
Potassium	1.70E7		ng/l	1.7500E7		97.0	80-120			
Rubidium	9990		ng/l	10000		99.9	80-120			
Selenium	19000		ng/l	20000		95.1	80-120			
Sodium	1.81E7		ng/l	1.7500E7		103	80-120			
Strontium	49900		ng/l	50000		99.8	80-120			
Thallium	503		ng/l	500.00		101	80-120			
Thorium	522		ng/l	500.00		104	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 2401011 - B4A0401										
Interference Check B (2401011-IFB1) Co					Prepared & Analyzed: 01/04/24					
Uranium	531		ng/l	500.00		106	80-120			
Vanadium	18900		ng/l	20000		94.6	80-120			
Zinc	472000		ng/l	500000		94.5	80-120			
Batch B4A0401 - ICP-MS Extraction										
Blank (B4A0401-BLK1)					Prepared & Analyzed: 01/04/24					
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, 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 (B4A0401-BS1)					Prepared & Analyzed: 01/04/24					
Aluminum	89.9	32.1	ng/m³ Air	82.975		108	80-120			
Antimony	0.493	0.0441	ng/m³ Air	1.3829		35.6	80-120			SL
Arsenic	2.68	0.00955	ng/m³ Air	2.7658		96.8	80-120			
Barium	27.5	0.948	ng/m³ Air	27.658		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 B4A0401 - ICP-MS Extraction										
LCS (B4A0401-BS1) Continued				Prepared & Analyzed: 01/04/24						
Beryllium	1.39	0.00332	ng/m³ Air	1.3829		100	80-120			
Cadmium	1.35	0.109	ng/m³ Air	1.3829		97.4	80-120			
Calcium	629	292	ng/m³ Air	69.146		909	80-120			GC-BS, LJ, QB-01
Chromium	15.9	2.03	ng/m³ Air	13.829		115	80-120			
Cobalt	1.34	0.0156	ng/m³ Air	1.3829		97.3	80-120			QB-01
Copper	31.1	3.00	ng/m³ Air	27.658		112	80-120			
Iron	41.1	24.2	ng/m³ Air	27.658		149	80-120			
Lead	13.3	0.276	ng/m³ Air	13.829		96.3	80-120			
Magnesium	ND	96.4	ng/m³ Air	27.658			80-120			U
Manganese	8.71	1.19	ng/m³ Air	8.2975		105	80-120			
Molybdenum	1.58	0.213	ng/m³ Air	1.3829		115	80-120			QB-01
Nickel	3.02	0.801	ng/m³ Air	2.7658		109	80-120			
Phosphorus	ND	1250	ng/m³ Air	13.829			80-120			GC-BS, U
Potassium	67.9	38.0	ng/m³ Air	55.317		123	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		98.0	80-120			
Sodium	ND	2000	ng/m³ Air	55.317			80-120			GC-BS, U
Strontium	2.20	0.652	ng/m³ Air	1.3829		159	80-120			QB-01
Thallium	0.132	5.03E-4	ng/m³ Air	0.13829		95.2	80-120			
Thorium	0.127	0.00300	ng/m³ Air	0.13829		91.7	80-120			
Uranium	0.128	0.0170	ng/m³ Air	0.13829		92.4	80-120			
Vanadium	2.73	0.0492	ng/m³ Air	2.7658		98.8	80-120			
Zinc	126	97.7	ng/m³ Air	82.975		152	80-120			
Duplicate (B4A0401-DUP1)			**Source: 4010214-02**	Prepared & Analyzed: 01/04/24						
Aluminum	391	52.0	ng/m³ Air		380			2.89	10	
Antimony	0.120	0.0714	ng/m³ Air		0.126			4.58	10	SL
Arsenic	0.175	0.0155	ng/m³ Air		0.198			11.9	10	
Barium	5.88	1.53	ng/m³ Air		5.72			2.79	10	
Beryllium	0.0131	0.00537	ng/m³ Air		0.0134			2.39	10	
Cadmium	ND	0.176	ng/m³ Air		ND				10	U
Calcium	ND	473	ng/m³ Air		ND				10	GC-BS, LJ, QB-01, U
Chromium	ND	3.29	ng/m³ Air		ND				10	U
Cobalt	0.181	0.0253	ng/m³ Air		0.177			2.51	10	QB-01
Copper	25.7	4.86	ng/m³ Air		25.0			2.69	10	
Iron	423	39.2	ng/m³ Air		406			4.07	10	
Lead	ND	0.447	ng/m³ Air		ND				10	U
Magnesium	ND	156	ng/m³ Air		ND				10	U

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Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4A0401 - ICP-MS Extraction

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Duplicate (B4A0401-DUP1) Continued	**Source: 4010214-02**		Prepared & Analyzed: 01/04/24							
Manganese	11.4	1.93	ng/m³ Air		11.1			2.43	10	
Molybdenum	1.46	0.345	ng/m³ Air		1.44			1.55	10	QB-01
Nickel	ND	1.30	ng/m³ Air		ND				10	U
Phosphorus	ND	2020	ng/m³ Air		ND				10	GC-BS, U
Potassium	108	61.5	ng/m³ Air		119			9.76	10	
Rubidium	0.193	0.0296	ng/m³ Air		0.193			0.00967	10	
Selenium	0.0891	0.0178	ng/m³ Air		0.0744			18.0	10	
Sodium	ND	3240	ng/m³ Air		ND				10	GC-BS, U
Strontium	2.75	1.06	ng/m³ Air		2.74			0.452	10	QB-01
Thallium	0.00111	8.14E-4	ng/m³ Air		0.00115			3.88	10	
Thorium	0.0123	0.00486	ng/m³ Air		0.0123			0.351	10	
Uranium	ND	0.0275	ng/m³ Air		ND				10	U
Vanadium	1.03	0.0796	ng/m³ Air		1.01			2.58	10	
Zinc	ND	158	ng/m³ Air		ND				10	U
Matrix Spike (B4A0401-MS1)	**Source: 4010214-02**		Prepared & Analyzed: 01/04/24							
Aluminum	506	52.0	ng/m³ Air	134.31	380	94.0	80-120			
Antimony	1.54	0.0714	ng/m³ Air	2.2385	0.126	63.2	80-120			SL
Arsenic	4.46	0.0155	ng/m³ Air	4.4769	0.198	95.1	80-120			
Barium	49.5	1.53	ng/m³ Air	44.769	5.72	97.8	80-120			
Beryllium	2.27	0.00537	ng/m³ Air	2.2385	0.0134	101	80-120			
Cadmium	2.19	0.176	ng/m³ Air	2.2385	ND	97.8	80-120			
Calcium	607	473	ng/m³ Air	111.92	ND	543	80-120			GC-BS, LJ, QB-01, QM-4X
Chromium	24.4	3.29	ng/m³ Air	22.385	ND	109	80-120			
Cobalt	2.30	0.0253	ng/m³ Air	2.2385	0.177	94.9	80-120			QB-01
Copper	76.4	4.86	ng/m³ Air	44.769	25.0	115	80-120			
Iron	450	39.2	ng/m³ Air	44.769	406	97.2	80-120			
Lead	21.9	0.447	ng/m³ Air	22.385	ND	97.7	80-120			
Magnesium	ND	156	ng/m³ Air	44.769	ND		80-120			U
Manganese	25.0	1.93	ng/m³ Air	13.431	11.1	104	80-120			
Molybdenum	3.70	0.345	ng/m³ Air	2.2385	1.44	101	80-120			QB-01
Nickel	4.88	1.30	ng/m³ Air	4.4769	ND	109	80-120			
Phosphorus	ND	2020	ng/m³ Air	22.385	ND		80-120			GC-BS, U
Potassium	190	61.5	ng/m³ Air	89.539	119	80.0	80-120			
Rubidium	2.29	0.0296	ng/m³ Air	2.2385	0.193	93.7	80-120			
Selenium	4.47	0.0178	ng/m³ Air	4.4769	0.0744	98.2	80-120			
Sodium	ND	3240	ng/m³ Air	89.539	ND		80-120			GC-BS, QM-4X, U
Strontium	4.86	1.06	ng/m³ Air	2.2385	2.74	94.9	80-120			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 B4A0401 - ICP-MS Extraction										
Matrix Spike (B4A0401-MS1) Continued Source: 4010214-02 Prepared & Analyzed: 01/04/24										
Thallium	0.212	8.14E-4	ng/m³ Air	0.22385	0.00115	94.1	80-120			
Thorium	0.112	0.00486	ng/m³ Air	0.22385	0.0123	44.5	80-120			QM-07
Uranium	0.212	0.0275	ng/m³ Air	0.22385	ND	94.9	80-120			
Vanadium	5.35	0.0796	ng/m³ Air	4.4769	1.01	96.9	80-120			
Zinc	204	158	ng/m³ Air	134.31	ND	152	80-120			
Matrix Spike Dup (B4A0401-MSD1) Source: 4010214-02 Prepared & Analyzed: 01/04/24										
Aluminum	503	52.0	ng/m³ Air	134.31	380	91.9	80-120	0.544	20	
Antimony	1.54	0.0714	ng/m³ Air	2.2385	0.126	63.4	80-120	0.252	20	SL
Arsenic	4.49	0.0155	ng/m³ Air	4.4769	0.198	95.8	80-120	0.683	20	
Barium	50.0	1.53	ng/m³ Air	44.769	5.72	98.9	80-120	0.992	20	
Beryllium	2.34	0.00537	ng/m³ Air	2.2385	0.0134	104	80-120	2.83	20	
Cadmium	2.22	0.176	ng/m³ Air	2.2385	ND	99.3	80-120	1.51	20	
Calcium	618	473	ng/m³ Air	111.92	ND	552	80-120	1.68	20	GC-BS, LJ, QB-01, QM-4)
Chromium	24.7	3.29	ng/m³ Air	22.385	ND	110	80-120	1.25	20	
Cobalt	2.33	0.0253	ng/m³ Air	2.2385	0.177	96.3	80-120	1.35	20	QB-01
Copper	81.2	4.86	ng/m³ Air	44.769	25.0	126	80-120	6.18	20	QM-07
Iron	444	39.2	ng/m³ Air	44.769	406	84.9	80-120	1.23	20	
Lead	22.1	0.447	ng/m³ Air	22.385	ND	98.9	80-120	1.22	20	
Magnesium	ND	156	ng/m³ Air	44.769	ND		80-120		20	U
Manganese	25.2	1.93	ng/m³ Air	13.431	11.1	105	80-120	0.521	20	
Molybdenum	3.81	0.345	ng/m³ Air	2.2385	1.44	106	80-120	3.06	20	QB-01
Nickel	4.99	1.30	ng/m³ Air	4.4769	ND	111	80-120	2.28	20	
Phosphorus	ND	2020	ng/m³ Air	22.385	ND		80-120		20	GC-BS, QM-4X, U
Potassium	190	61.5	ng/m³ Air	89.539	119	79.6	80-120	0.185	20	QM-07
Rubidium	2.29	0.0296	ng/m³ Air	2.2385	0.193	93.8	80-120	0.0627	20	
Selenium	4.42	0.0178	ng/m³ Air	4.4769	0.0744	97.0	80-120	1.12	20	
Sodium	ND	3240	ng/m³ Air	89.539	ND		80-120		20	GC-BS, QM-4X, U
Strontium	4.91	1.06	ng/m³ Air	2.2385	2.74	96.9	80-120	0.897	20	QB-01
Thallium	0.215	8.14E-4	ng/m³ Air	0.22385	0.00115	95.5	80-120	1.46	20	
Thorium	0.0947	0.00486	ng/m³ Air	0.22385	0.0123	36.8	80-120	16.7	20	QM-07
Uranium	0.212	0.0275	ng/m³ Air	0.22385	ND	94.6	80-120	0.293	20	
Vanadium	5.39	0.0796	ng/m³ Air	4.4769	1.01	97.8	80-120	0.785	20	
Zinc	207	158	ng/m³ Air	134.31	ND	154	80-120	1.70	20	
Post Spike (B4A0401-PS1) Source: 4010214-02 Prepared & Analyzed: 01/04/24										
Aluminum	423	52.0	ng/m³ Air	44.769	380	95.7	75-125			
Antimony	0.554	0.0714	ng/m³ Air	0.44769	0.126	95.5	75-125			SL

CERTIFICATE OF ANALYSIS

Tetra Tech, Inc.
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PHONE: (703) 885-5495 **FAX:**

FILE #: 0000.00
REPORTED: 01/09/24 12:34
SUBMITTED: 01/02/24 to 01/03/24
AQS SITE CODE:
SITE CODE: Maui fires

Inorganics by Compendium Method IO-3.5 - Quality Control

Batch B4A0401 - ICP-MS Extraction

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Post Spike (B4A0401-PS1) Continued		**Source: 4010214-02**		Prepared & Analyzed: 01/04/24						
Arsenic	2.31	0.0155	ng/m³ Air	2.2385	0.198	94.5	75-125			
Barium	10.1	1.53	ng/m³ Air	4.4769	5.72	97.2	75-125			
Beryllium	0.460	0.00537	ng/m³ Air	0.44769	0.0134	99.9	75-125			
Cadmium	0.258	0.176	ng/m³ Air	0.22385	ND	115	75-125			
Calcium	525	473	ng/m³ Air	44.769	ND	NR	75-125			A-01, GC-BS, LJ, QB-01
Chromium	3.75	3.29	ng/m³ Air	2.2385	ND	168	75-125			
Cobalt	0.605	0.0253	ng/m³ Air	0.44769	0.177	95.6	75-125			QB-01
Copper	48.8	4.86	ng/m³ Air	22.385	25.0	106	75-125			
Iron	455	39.2	ng/m³ Air	44.769	406	109	75-125			
Lead	43.0	0.447	ng/m³ Air	44.769	ND	96.0	75-125			
Magnesium	ND	156	ng/m³ Air	44.769	ND		75-125			U
Manganese	15.7	1.93	ng/m³ Air	4.4769	11.1	102	75-125			
Molybdenum	3.49	0.345	ng/m³ Air	2.2385	1.44	91.7	75-125			QB-01
Nickel	4.86	1.30	ng/m³ Air	4.4769	ND	109	75-125			
Phosphorus	ND	2020	ng/m³ Air	8.9539	ND		75-125			GC-BS, U
Potassium	161	61.5	ng/m³ Air	44.769	119	95.3	75-125			
Rubidium	0.398	0.0296	ng/m³ Air	0.22385	0.193	91.7	75-125			
Selenium	2.22	0.0178	ng/m³ Air	2.2385	0.0744	96.0	75-125			
Sodium	ND	3240	ng/m³ Air	44.769	ND		75-125			GC-BS, U
Strontium	4.82	1.06	ng/m³ Air	2.2385	2.74	93.1	75-125			QB-01
Thallium	0.105	8.14E-4	ng/m³ Air	0.11192	0.00115	92.4	75-125			
Thorium	0.108	0.00486	ng/m³ Air	0.11192	0.0123	85.5	75-125			
Uranium	0.108	0.0275	ng/m³ Air	0.11192	ND	96.7	75-125			
Vanadium	3.13	0.0796	ng/m³ Air	2.2385	1.01	95.0	75-125			
Zinc	ND	158	ng/m³ Air	44.769	ND		75-125			U
Dilution Check (B4A0401-SRL1)		**Source: 4010214-02**		Prepared & Analyzed: 01/04/24						
Aluminum	376	260	ng/m³ Air		380			0.933	10	
Antimony	ND	0.357	ng/m³ Air		ND				10	SL, U
Arsenic	0.195	0.0773	ng/m³ Air		0.198			1.47	10	
Barium	ND	7.67	ng/m³ Air		ND				10	U
Beryllium	ND	0.0269	ng/m³ Air		ND				10	U
Cadmium	ND	0.882	ng/m³ Air		ND				10	U
Calcium	ND	2360	ng/m³ Air		ND				10	GC-BS, LJ, QB-01, U
Chromium	ND	16.4	ng/m³ Air		ND				10	U
Cobalt	0.174	0.126	ng/m³ Air		0.177			1.80	10	QB-01
Copper	25.0	24.3	ng/m³ Air		25.0			0.0484	10	
Iron	406	196	ng/m³ Air		406			0.0535	10	

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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 B4A0401 - ICP-MS Extraction										
Dilution Check (B4A0401-SRL1) ContinueSource: 4010214-02 Prepared & Analyzed: 01/04/24										
Lead	ND	2.23	ng/m³ Air		ND				10	U
Magnesium	ND	780	ng/m³ Air		ND				10	U
Manganese	11.0	9.63	ng/m³ Air		11.1			0.761	10	
Molybdenum	ND	1.72	ng/m³ Air		ND				10	QB-01, U
Nickel	ND	6.48	ng/m³ Air		ND				10	U
Phosphorus	ND	10100	ng/m³ Air		ND				10	GC-BS, U
Potassium	ND	308	ng/m³ Air		ND				10	U
Rubidium	0.187	0.148	ng/m³ Air		0.193			3.43	10	
Selenium	ND	0.0890	ng/m³ Air		ND				10	U
Sodium	ND	16200	ng/m³ Air		ND				10	GC-BS, U
Strontium	ND	5.28	ng/m³ Air		ND				10	QB-01, U
Thallium	ND	0.00407	ng/m³ Air		ND				10	U
Thorium	ND	0.0243	ng/m³ Air		ND				10	U
Uranium	ND	0.138	ng/m³ Air		ND				10	U
Vanadium	1.02	0.398	ng/m³ Air		1.01			1.06	10	
Zinc	ND	791	ng/m³ Air		ND				10	U

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REPORTED: 01/09/24 12:34
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AQS SITE CODE:
SITE CODE: Maui fires

Notes and Definitions

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

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

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-Maui Fire
1999 Harrison St. Ste. 500
Oakland, CA 94612

EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-122123-AB**

Air Volume:	7533.188
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:	0.38718
Analytical Sensitivity: f/cm3:	0.00039
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00039
Concentration of Asbestos (Amphibole) f/cm3:	<0.00039
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00039
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.4

Analyst: Taylor Smylie

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

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

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-122123-AB**

Air Volume:	3921.046
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:	0.74385
Analytical Sensitivity: f/cm3:	0.00074
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00074
Concentration of Asbestos (Amphibole) f/cm3:	<0.00074
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00074
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	2.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.7

Analyst: 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

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-122123-AB**

Air Volume:	7533.188
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:	0.38718
Analytical Sensitivity: f/cm3:	0.00039
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00039
Concentration of Asbestos (Amphibole) f/cm3:	<0.00039
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00039
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.4

Analyst: Taylor Smylie

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

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-122123-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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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 #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-122223-AB**

Air Volume:	7931.31
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:	0.36774
Analytical Sensitivity: f/cm3:	0.00037
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Amphibole) f/cm3:	<0.00037
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.4

Analyst: Taylor Smylie

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-122223-AB**

Air Volume:	6086.993
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:	0.47916
Analytical Sensitivity: f/cm3:	0.00048
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:	<0.00048
Concentration of Asbestos (Amphibole) f/cm3:	<0.00048
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00048
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

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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 #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-122223-AB**

Air Volume:	5918.076
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:	0.49284
Analytical Sensitivity: f/cm3:	0.00049
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:	<0.00049
Concentration of Asbestos (Amphibole) f/cm3:	<0.00049
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00049
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**

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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 #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-122223-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

Maura McAleese
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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-122323-AB**

Air Volume:	7980.742
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:	0.36546
Analytical Sensitivity: f/cm3:	0.00037
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Amphibole) f/cm3:	<0.00037
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.3
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.3

Analyst: Taylor Smylie

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

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-122323-AB**

Air Volume:	6675.376
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:	0.43693
Analytical Sensitivity: f/cm3:	0.00044
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:	<0.00044
Concentration of Asbestos (Amphibole) f/cm3:	<0.00044
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00044
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

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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 #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-122323-AB**

Air Volume:	6335.225
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:	0.46039
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: Taylor Smylie

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-122323-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 #: 3493379
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Receipt Date: 28-Dec-2023
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Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-122423-AB**

Air Volume:	7501.983
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	TS
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.38879
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

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-122423-AB**

Air Volume:	2776.689
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	TS
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.05041
Analytical Sensitivity: f/cm3:	0.00105
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:	<0.00105
Concentration of Asbestos (Amphibole) f/cm3:	<0.00105
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00105
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3.9
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3.9

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-122423-AB**

Air Volume:	2997.767
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:	0.97295
Analytical Sensitivity: f/cm3:	0.00097
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:	<0.00097
Concentration of Asbestos (Amphibole) f/cm3:	<0.00097
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00097
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	3.6
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	3.6

Analyst: Taylor Smylie

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EJ3 Order #: 3493379
Project #: 103S864023141
Receipt Date: 28-Dec-2023
Analysis Date: 3-Jan-2024
Report Date: 3-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-122423-AB**

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

Analyst: Taylor Smylie

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 01/03/2024 & Shanna Vasser 1/4/2024
Laboratory: Eurofins Built Environment Testing – Houston, TX
Analysis date: 01/03/2024
Report No: 3493379

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

Discrepancies:

Total volumes and the analytical method requested for samples MFK-AM01-122423-AB, MFK-AM02-122423-AB, and MFK-AM03-122423-AB are not noted on the CoC. These samples were analyzed for method ISO 10312. No action is required.

Notes: None

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EJ3 Order #: 3495358
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 4-Jan-2024
Report Date: 4-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-122723-AB**

Air Volume:	6989.499
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.41729
Analytical Sensitivity: f/cm3:	0.00042
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:	<0.00042
Concentration of Asbestos (Amphibole) f/cm3:	<0.00042
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00042
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.5
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.5

Analyst: Arnold Flores

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

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EJ3 Order #: 3495358
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 4-Jan-2024
Report Date: 4-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-122723-AB**

Air Volume:	7907.303
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.36886
Analytical Sensitivity: f/cm3:	0.00037
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Amphibole) f/cm3:	<0.00037
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00037
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.4

Analyst: Arnold Flores

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EJ3 Order #: 3495358
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 4-Jan-2024
Report Date: 4-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-122723-AB**

Air Volume:	9694.414
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.30086
Analytical Sensitivity: f/cm3:	0.00030
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:	<0.00030
Concentration of Asbestos (Amphibole) f/cm3:	<0.00030
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00030
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:	1.1
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.1

Analyst: Arnold Flores

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

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

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

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

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

EJ3 Order #: 3495358
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 4-Jan-2024
Report Date: 4-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-122723-AB**

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

Analyst: Arnold Flores

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

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EJ3 Order #: 3495358
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 4-Jan-2024
Report Date: 4-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-LB01-122723-AB**

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

Analyst: Arnold Flores

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 01/08/2024 & Shanna Vasser 1/9/2024
Laboratory: Eurofins Built Environment Testing – Houston, TX
Analysis date: 01/04/2024
Report No: 3495358

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

Discrepancies: None

Notes: None

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: 103S864023141; HDOH Kula Community Air
EML ID: 3495311

Approved by:

Lab Director
Scott Ward

Dates of Analysis:
Asbestos TEM ISO 10312 / ASTM6281-06: 01-05-2024

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.

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Tetra Tech
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EJ3 Order #: 3495311
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 4-Jan-2024
Report Date: 4-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-122823-AB**

Air Volume:	6446.938
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.45241
Analytical Sensitivity: f/cm3:	0.00045
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00045
Concentration of Asbestos (Amphibole) f/cm3:	<0.00045
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00045
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.7

Analyst: Arnold Flores

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

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EJ3 Order #: 3495311
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 4-Jan-2024
Report Date: 4-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-122823-AB**

Air Volume:	4502.584
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.64778
Analytical Sensitivity: f/cm3:	0.00065
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:	<0.00065
Concentration of Asbestos (Amphibole) f/cm3:	<0.00065
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00065
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:	2.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	2.4

Analyst: Arnold Flores

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 #: 3495311
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 4-Jan-2024
Report Date: 4-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-122823-AB**

Air Volume:	7776.869
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.37504
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: Arnold Flores

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 #: 3495311
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 5-Jan-2024
Report Date: 5-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-122823-AB**

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

Analyst: Arnold Flores

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

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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 #: 3495311
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 5-Jan-2024
Report Date: 5-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM01-122923-AB**

Air Volume:	2448.073
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	1.19141
Analytical Sensitivity: f/cm3:	0.00119
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:	<0.00119
Concentration of Asbestos (Amphibole) f/cm3:	<0.00119
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00119
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	4.4
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	4.4

Analyst: Arnold Flores

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

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EJ3 Order #: 3495311
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 5-Jan-2024
Report Date: 5-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM02-122923-AB**

Air Volume:	6461.735
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	0.45138
Analytical Sensitivity: f/cm3:	0.00045
Number of primary asbestos structures:	0
Number of asbestos structures counted:	0
Number of asbestos structures > 5 um :	0
Number of asbestos fibers and bundles > 5 um:	0
Number of PCM equivalent asbestos structures:	0
Number of PCM equivalent asbestos fibers:	0
Concentration of Asbestos (Chrysotile) f/cm3:	<0.00045
Concentration of Asbestos (Amphibole) f/cm3:	<0.00045
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00045
Concentration of Asbestos (Chrysotile), Str/L:	0
Concentration of Asbestos (Amphibole), Str/L:	0
Lower 95% Confidence Limit (Chrysotile), Str/L:	0
Upper 95% Confidence Limit (Chrysotile), Str/L:	1.7
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	1.7

Analyst: Arnold Flores

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

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EJ3 Order #: 3495311
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 5-Jan-2024
Report Date: 5-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-AM03-122923-AB**

Air Volume:	1094.381
Effective Filter Area:	385.0 mm^2
Level of Analysis (Chrysotile):	CDQ
Level of Analysis (Amphibole):	ADQ
Magnification Used for Fiber Counting:	20,000
Aspect Ratio for Fiber Definition:	5:1
Mean Dimension of Grid Openings (GOs):	0.0132 mm^2
Initials of Analyst:	AF
Number of GO's Examined:	10
Analytical Sensitivity: f/Liter:	2.66513
Analytical Sensitivity: f/cm3:	0.00267
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:	<0.00267
Concentration of Asbestos (Amphibole) f/cm3:	<0.00267
Concentration of PCME Asbestos (Chrysotile) f/cm3:	<0.00267
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:	9.8
Lower 95% Confidence Limit (Amphibole), Str/L:	0
Upper 95% Confidence Limit (Amphibole), Str/L:	9.8

Analyst: Arnold Flores

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

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

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EJ3 Order #: 3495311
Project #: 103S864023141
Receipt Date: 2-Jan-2024
Analysis Date: 5-Jan-2024
Report Date: 5-Jan-2024

HDOH Kula Community Air

Sample Number **MFK-FB01-122923-AB**

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

Analyst: Arnold Flores

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

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

Stage 1 Data Verification Checklist – Asbestos

HDOH CAB – Ambient Community Air Sampling – Kula

Task Order No. 23141

Reviewed by:
Trinh Vu 01/11/2024 & Shanna Vasser 1/12/2024
Laboratory: Eurofins Built Environment Testing – Houston, TX
Analysis date: 01/04/2024 and 01/05/2024
Report No: 3495311

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

Discrepancies: None

Notes: None